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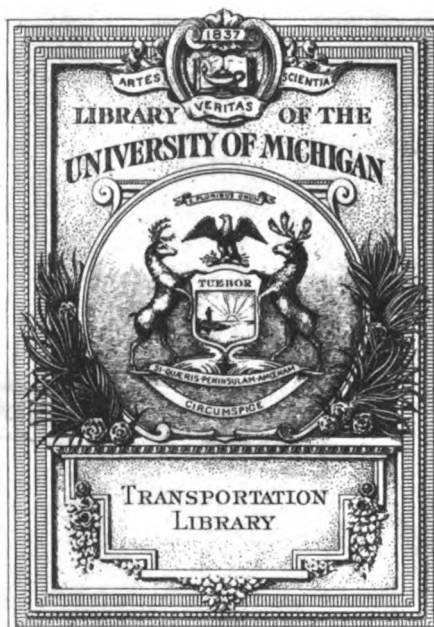




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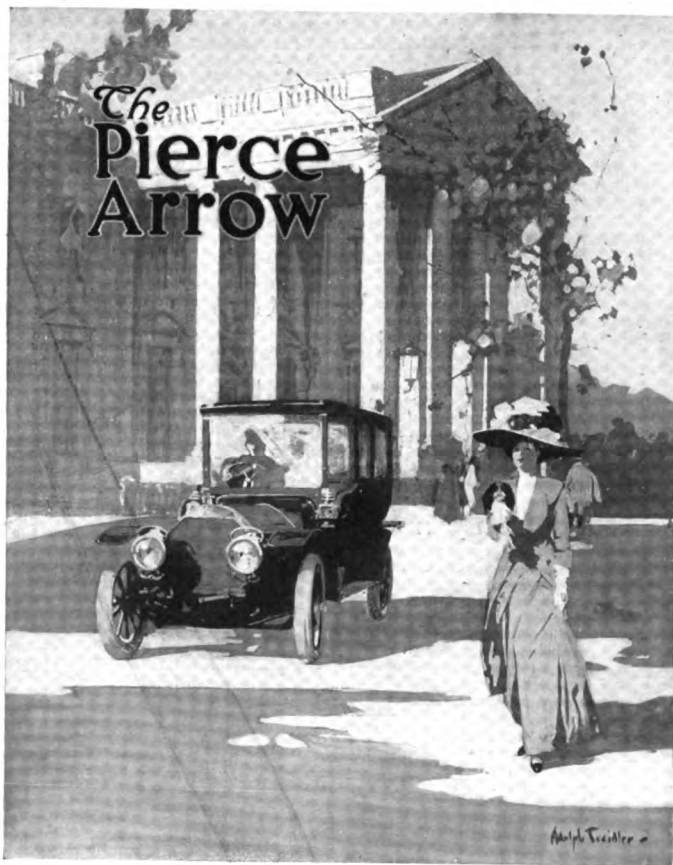


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# THE MOTOR WORLD

A trade paper giving the  
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THE PIERCE-ARROW MOTOR CAR CO., Buffalo, N. Y.  
Licensed under Selden patent.



# HARTFORD

## Wire Grip Non-Skid Tires (Midgley Tread)

**The Tire That Has  
Solved The Problem Tire  
Makers Have Been Working  
On For Years.**

The Hartford Wire Grip Non-Skid Tire is the only true non-skid that is resilient;

The only true non-skid that does not rack and ruin the car;

The only true non-skid that does not mar the easy riding qualities of the car;

The only non-skid that you carry right with you in the tread of the tire itself;

In other words, it is a pneumatic tire and a non-skid tire combined;

Insure your car, its passengers and the public by putting them on your car now.

This tire is made in standard sizes, Clincher and Dunlop, and Hartford Quick Detachable Clincher; also in millimeter sizes.

### **The Hartford Rubber Works Co. HARTFORD, CONN.**

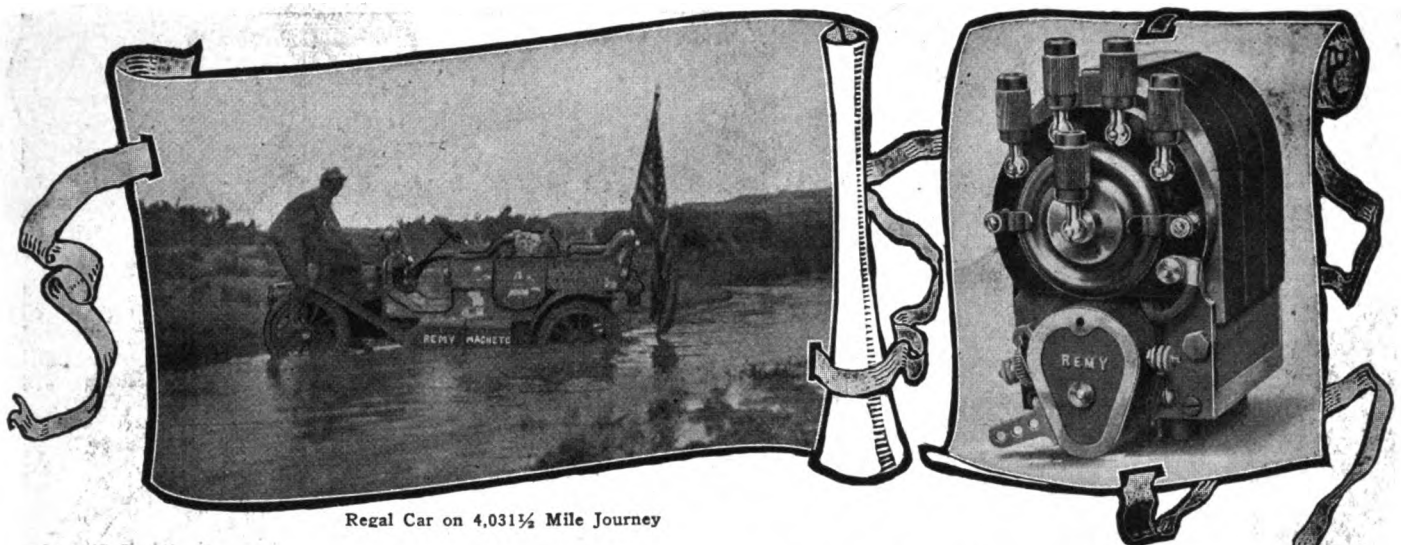
**BRANCHES**—New York, 57th St. and Broadway; Chicago, 12th St. and Michigan Ave.; Boston, 817 Boylston St.; Detroit, 256 Jefferson Ave.; Denver, 1564 Broadway; Philadelphia, 1425 Vine St.; Cleveland, 1831 Euclid Ave.; Atlanta, Ga., 94 N. Pryor St.; Buffalo, 725 Main St.; Minneapolis, Minn., 622 Third Ave., S.; Kansas City, 719 E. Fifteenth St.

**AGENCIES**—The Phoenix Auto Supply Co., St. Louis, Mo.; Mercantile Lumber & Supply Co., Kansas City; Joseph Woodwell Co., Pittsburg, Pa.; Chanslor & Lyon Motor Supply Co., 930 S. Main St., Los Angeles, Cal.; 542 Golden Gate Ave., San Francisco, Cal.; Chanslor & Lyon Motor Supply Co., 916 E. Pike St., Seattle, Wash.; F. P. Keenan Co., Portland, Ore.; The Southwestern Automobile Supply Co., 351 Commerce St., Dallas, Tex.; Compania Mexicana de Vehiculos Electricos, City of Mexico.

See our Complete Exhibit at all the New York and Chicago Automobile Shows.







Regal Car on 4,031½ Mile Journey

## Remy Magneto Under Water for Hours

Required no adjustment. Batteries not needed. Success of this record trip from Coast to Coast largely attributed to perfect results of Remy Magneto.

REMY ELECTRIC COMPANY, Anderson, Indiana.

Gentlemen:—Referring to the trip made with the Regal "Plugger" from New York to San Francisco in which we lowered the touring car record from Coast to Coast. I wish to say that your magneto proved satisfactory in every way; no adjustments of any description were made and no attention paid to it whatever, and yet it never failed to give results.

We used no batteries on the entire trip, starting entirely on the magneto, and although at times the entire engine was submerged in water for hours, we noticed no effect whatever on the magneto, or the result given from the same. We attribute a great deal of our success on this trip to the fact that we had no trouble whatever with your magneto.

Wishing you every success, and trusting that should I again make such a journey I may have a car as good as the Regal "Plugger," and that it will be equipped with a Remy Magneto, I am

Very respectfully yours, (Signed) WILLIAM H. SMITH.



Cobe Trophy Won by the Aid of the Remy Magneto

# Over 100,000 Remy Magnetos Sold for 1910

Not a quantity user who helped make our immense 1909 season but that has adopted the Remy for 1910, besides many manufacturers have adopted the Remy for 1910 who formerly used other magnetos. Our factory is the largest and best equipped plant in the world devoted exclusively to magneto manufacturing. Dept. 11.

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## REMY ELECTRIC COMPANY, Anderson, Ind.

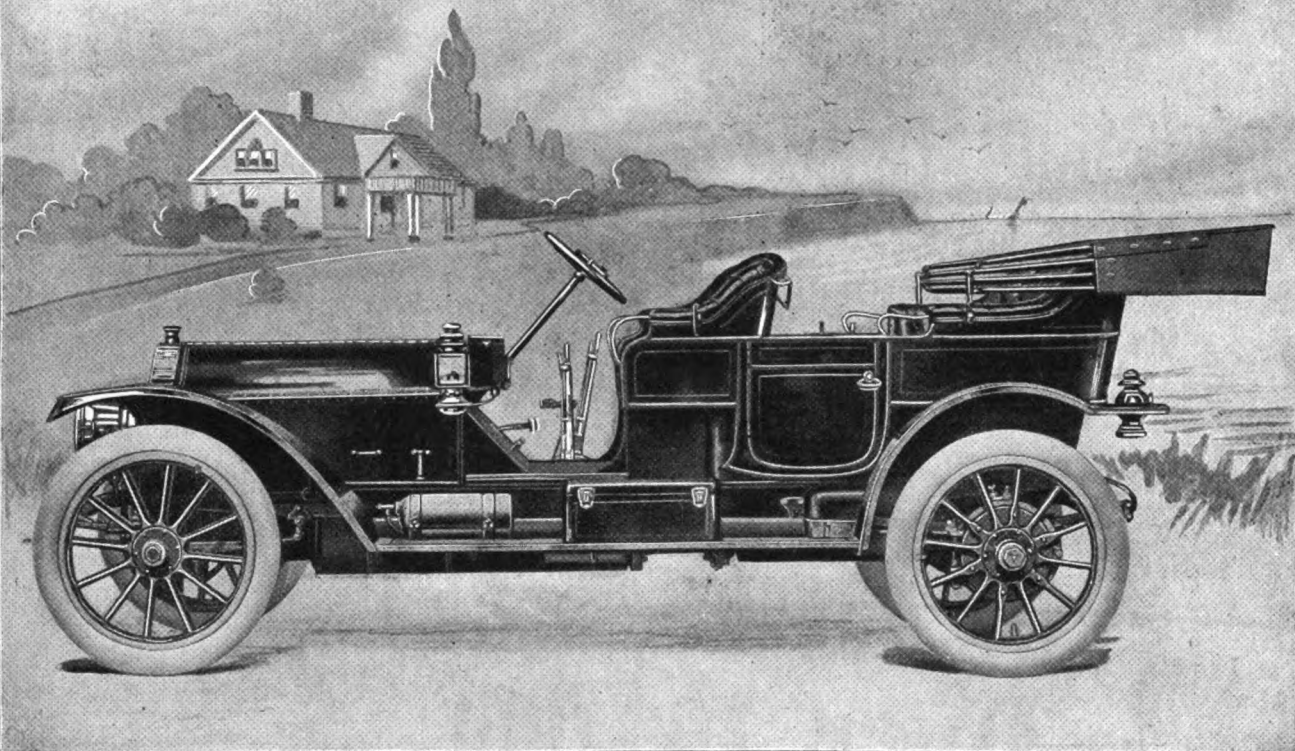
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# STEVENS-DURYEA MOTOR CARS · 1910



MODEL AA 35 H. P. Six Cylinder Touring Car  
PRICE \$3300.00

In standard finish and equipment. Top with slip cover \$150.00.

- ¶ The Model AA is the concentrated result of years of experience, standardized design, and the highest exemplification of manufacturing skill.
- ¶ Each detail represents a maximum of efficiency with the acme of simplicity.
- ¶ The History of the Unit Power Plant supported on Three Points, of the multiple disc clutch and the six cylinder motor is inseparably woven around the Stevens-Duryea name.

## Stevens-Duryea Company

CHICOPEE FALLS, MASSACHUSETTS.

Licensed under Selden patent.



# How can you expect comfort in an automobile that is rigid in construction?

The first thing to be sure of when you select an automobile is comfort.

Look to the springs. If you do not know what is what in springs go to a good carriage man. Study the proposition yourself. You will find that semi-elliptic or other form of springs cannot possibly equal full-elliptic springs. Automobile manufacturers using them do not claim that they do. They use them because their plan of construction will not permit full-elliptic springs.

The Franklin, like the finest carriage, is flexible and easy. It has four full-elliptic springs and a wood chassis frame, the only means by which full comfort can be secured.

**After comfort the first best investment in an automobile is reliable tire equipment.**

There is no tire problem with the Franklin. You have no tire worry; you do not have to carry extra tires.

We make the tire question a straight engineering proposition. We are not afraid, because of cost or any other reason, to do it right. We put tires on that are large enough and strong enough, with margin to spare, to do the work. Such tire equipment costs us more, but the ultimate cost, the cost of using, is less to the purchaser.

Compare the sizes of tires on 1910 Franklins with the sizes of tires on other 1910 automobiles.

Reliable tire equipment pays a big dividend every day in the year. The ordinary tire equipment draws on your capital all the time. It may give you value received in rubber at so much per pound, but not in service. Figure it out yourself. Four-inch tires on a 2000-pound automobile are worth twice as much and last twice as long as the same four-inch tires on a 3000-pound automobile. The reason is that every five per cent increase in weight in an automobile adds fifteen per cent to the wear and tear on the tires. Therefore, the average water-cooled automobile with its rigid construction and extra weight due to water-cool-

ing apparatus, weighing as it does a third more than the Franklin, wears out tires just twice as fast.

**Is water cooling crude and out of date?**

Comfort comes first, but with the scientific construction necessary for easy riding you want scientific motive power—something simple and which is reliable all the time.

The Franklin air-cooled engine is without a rival. Its cooling system is as perfect as it is simple. In comparison water cooling is crude and out of date. No one has ever been satisfied with it. It has been used for want of something better. But you may not be convinced; in that case examine a Franklin engine and a water-cooled engine side by side, and then put both to work on the road, on bad hills or in deep mud. You cannot overheat the Franklin; you can overheat the other.

Franklin air cooling has none of the mechanical working parts of the water system, none of its complication, weight, freezing troubles and liability to get out of order. Franklin air cooling simplifies and lightens the whole automobile. It performs its functions under all conditions. Each cylinder is completely enveloped in a column of rapidly moving air. Fresh air passes over every part of each cylinder, cooling the engine better than is possible with any water-cooling contrivance.

The Franklin new cooling system is the biggest automobile invention of the time.

Franklins are made in three chassis sizes, four- and six-cylinder, with twelve different body styles. The Franklin six-cylinder automobile, Model H, is the lightest-weight high-powered automobile made. The main advantage of a six-cylinder engine is to obtain an increase in power beyond the increase in weight. In Model H the increase in power is thirty per cent greater than the increase in weight. It is the only six-cylinder automobile which obtains the full advantage of the six-cylinder design.

Regardless of what automobile you own or favor, our special edition catalogue de luxe, probably the handsomest automobile book ever made, will interest you. It is sent only on request. Write for it.

**H H FRANKLIN MANUFACTURING COMPANY Syracuse N Y**

Member Association Licensed Automobile Manufacturers

# Dealers! Our 1910 Prices Are Business Getters

Prepare yourself now for Spring Trade. Predictions are that we will have the greatest business year in the history of the Automobile. Now is the time to decide what goods you intend carrying and to acquaint yourself with the reductions in prices. Don't wait.

If you are unaware of the sweeping changes that have taken place and the new goods that are on the market, we would suggest that you send for a copy of our new catalogue and discount sheet. Our prices this year are lower than ever, and we are exclusively wholesale, our business being with the trade only.

## "ARGOS MIRRORS" Prevent Accidents

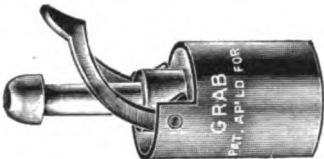


Enables you to "See What's Coming." With it you cannot have any smash-ups. Clamped on the wind shield or limousine of the car, the road behind is distinctly seen. Auto traveling is dangerous unless you can see what is behind you.

Argos Mirror, less hood..... \$6.00  
Argos Mirror, with hood..... 7.00

Can be furnished in brass, nickel or gun-metal finish at the same price.

## The "GRAB" Pump Connection



The quickest, simplest and tightest pump connection on the market. Fits any valve instantly. Simply clamps on and off. Leakage impossible. Nothing to wear out or get out of order.

Price .....25 cents

## The "IMPROVED" Valve Tap and Die



The only one-piece tire valve repairer on the market. Will remove the most refractory valve inside in a minute, besides re-threading outside and inside of valve. Made of drop-forged tempered steel. Positively the handiest little tool manufactured.

Price .....25 cents

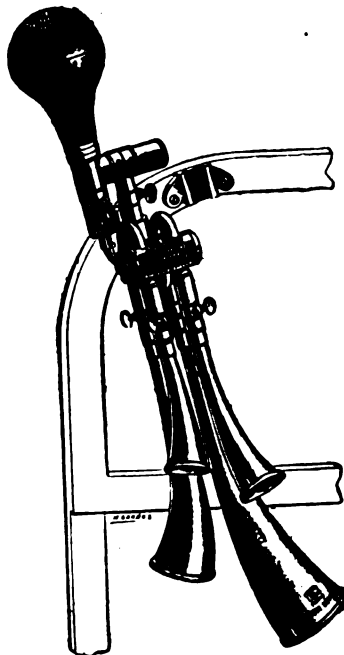
## The Famous English Spark Plug "POGNON"



They have been adopted by all leading motorists and manufacturers abroad, by the British, French and Italian Navies, and for Aero-station, aviation, etc., in the principal countries of the world.

In metric sizes only, each..... \$2.00

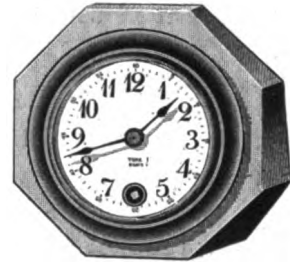
## The Bugle Call Auto Horn "LE TESTOPHONE"



The most popular European horn novelty ever produced. Its sound resembles a military bugle horn, eliciting attention wherever it is heard. It operates like a bulb horn except that each time the bulb is pressed a piston moves out, rotating a ratchet which directs the air to the various tubes in turn. Finished in brass only. Length 26 inches.

Price .....\$25.00

## The "YORK" Motor Clock



A new product in design and movement. Has no projections or obstructions to be broken off or prevent thorough polishing. Is absolutely thief, water and dust proof. Runs 8 days. Size 4 1/2 inches.

Price, each ..... \$7.50

## C. K. AMMETERS and VOLTMETERS



Hand Calibrated, accurate instruments. The magnets are forged from the highest grade of imported magnet steel.

Voltmeters—8 volts ..... \$2.00

Ammeters—9-30 amps ..... \$2.00

Volt-Ammeters—0.8 volts, 30 amp. 2.75

## The "SAVOY" Motor Clock



The best value obtainable. Highly polished brass case. French porcelain dial 3 3/4 in. in diameter. Clear figures, easily read, second hand. Will run 8 days on one winding. Size, 3 3/4 x 4 1/4 inches.

Price .....\$10.00

# THE MOTOR CAR EQUIPMENT COMPANY, 55 Warren Street, New York, N. Y.

Wholesalers, Importers and Manufacturers

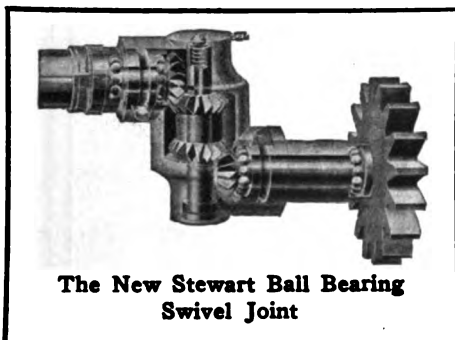
# **THE CRUX**

## **of the Whole**

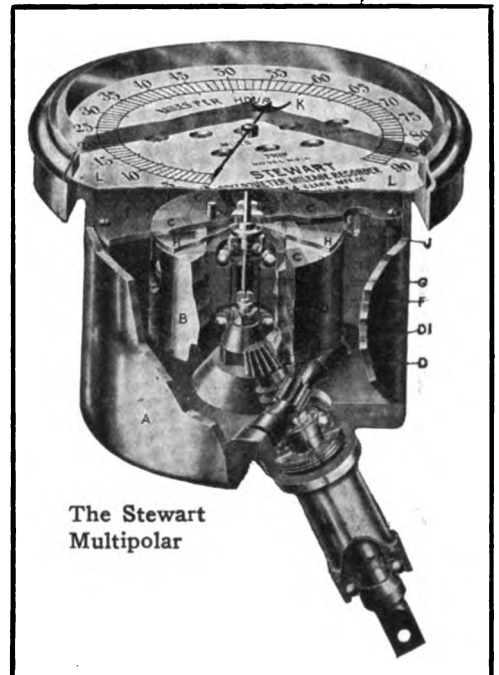
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lies in the fact that the Stewart & Clark Manufacturing Company, by reasons of their superior manufacturing facilities and organization, are enabled to build and market

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The New Stewart Ball Bearing Swivel Joint



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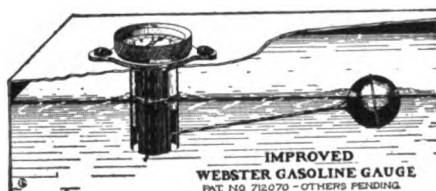
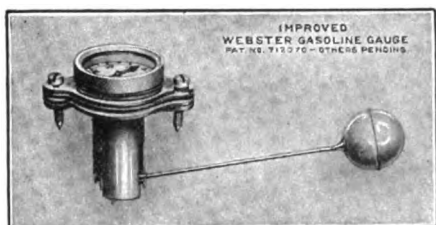
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### **Stewart & Clark Manufacturing Co.**

1848 Diversey Boulevard, Chicago, U. S. A.



# WEBSTER GAUGES



Show accurately at a glance amount of gasoline in tank. Keep out stick sediment. Prevent flooding or overflowing and eliminate all dangers from fire and explosion. Approved by Underwriters' Laboratories, Inc., under direction of the National Board of Fire Underwriters.

Attached without solder to tanks of any depth. Price, \$4.50. Write for Booklet 71.

## "B"-LINE (Oil Grease) GUNS

All metal construction. Barrels and tips of seamless brass. Piston rods of Bessemer steel and every piston ground to fit its barrel. Brass plug allows carrying lubricant in gun. Clean and convenient in action, handsome in shape and finish.

Four distinct types in a variety of sizes with interchangeable tip to reach all lubricating points. Will handle all oils, greases, graphites and gasoline. Prices, \$2 up—capacity 1 to 18 ounces. Ask your dealer or write us for Booklet 70.

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# “BART’S”



Highest grade sheet produced for  
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Steel and Aluminum Alloy.

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Takes its place at one-fifth the cost.

Most wonderful product of the age.

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And now offered in its perfection.

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# THE CELEBRATED

MUST BE SEEN AT OUR

## The Highest Art of

# THE BRAMPTON CHAIN

The *strongest* chain in the world; made of *self-hardening steel* with large spun rivets, chamfered side plates (no sharp edges). All parts of this chain are polished and fit the sprockets (which are properly cut) without friction.

### Imitation, What's the Definition?

All Brampton Chains are stamped with the name Brampton on each outside link; Beware of the imitation and get the genuine Brampton.

**PRICES THE SAME AS OTHER CHAINS**

### American Size Brampton Roller Chain

at American Chain Prices, to *fit all American Cars and Motorcycles.*

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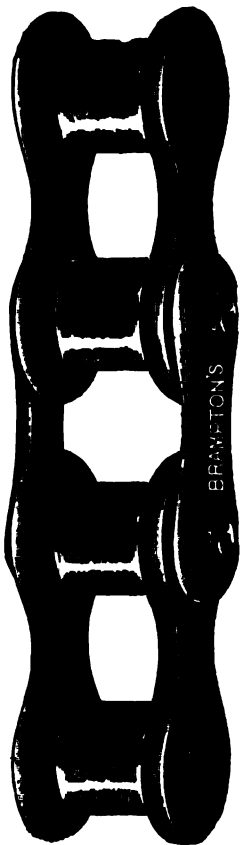
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# BRAMPTON CHAIN

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## Motor Chain Construction

### LARGE SALES

make it possible for us to import the CELEBRATED BRAMPTON CHAIN from England (paying freight and duty) and sell it at the same price at which the several other automobile chains are sold to manufacturers, jobbers, dealers and users.

### Prices Being Equal What Would You Do ?

The price being equal, it's presumable you want the best, and full value for your money. In such cases, the BRAMPTON fills the bill, and the prices are the same to manufacturers, jobbers, dealers and consumers as any other chain of equal size.

We carry in stock the BRAMPTON CHAINS to fit Foreign Cars—Mercedes, Panhard, Martini, Fiat, etc., etc.

**AND DEALERS OR ANY OF OUR BRANCHES** 

*Agents Wanted in Unoccupied Territory.*

HOME OFFICE

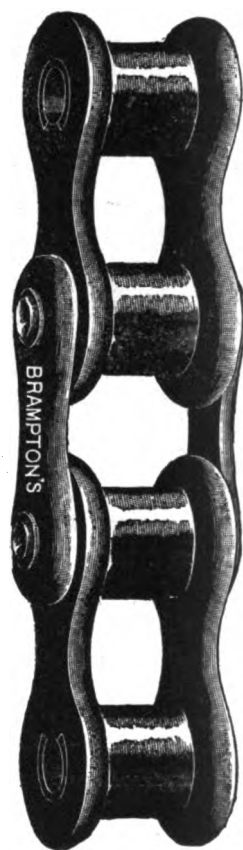
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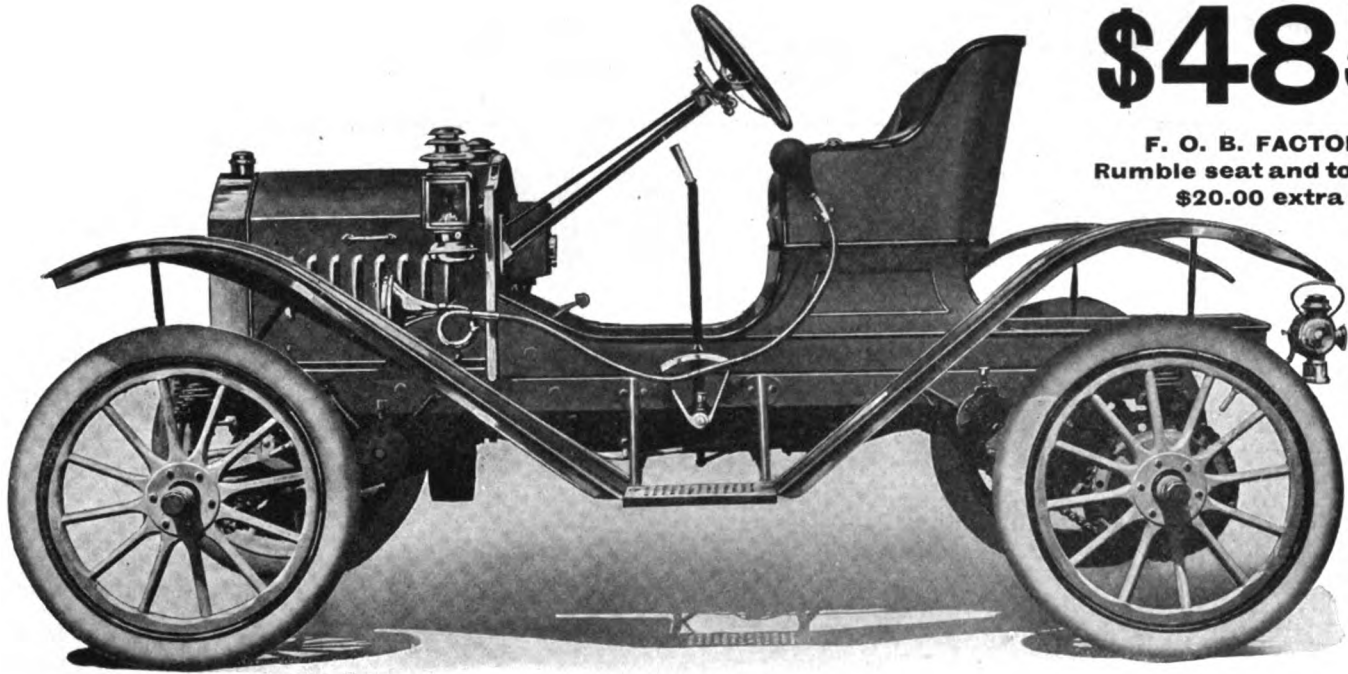
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# Everyman's Car

## \$485

F. O. B. FACTORY  
Rumble seat and tool box  
\$20.00 extra



## The Brush is not an imitation nor an adaptation of any other automobile

It is not a big, complicated car cut down in size to sell at a low price, but is a simple, staunch, reliable runabout—the only motor car built in this country that can properly be called by that name.

It is designed to do the strenuous work demanded of a runabout and its design is such that we can build it as well as any of the large cars are built and still sell at this wonderful price.

Before the first Brush was built, we foresaw the demand for a

reliable automobile which would replace the "horse and buggy," just as the big touring car and limousine have replaced the team, the carriage and the coachman.

The enormous demand for the Brush shows that our judgment was correct—and it is not a demand from any one territory, nor from any particular class, but from sane, thinking people in all parts of the world.

## Everybody Buys the BRUSH

**THE BUSINESS MAN**, who judges it from the standpoint of utility and minimum depreciation.

**THE PHYSICIAN**, who must have absolute dependability and exacting service.

**THE CITY AND COUNTRY SALESMAN**, considering initial cost as well as maintenance expense.

**THE FARMER**, who looks at the Brush as an investment, not a luxury.

**THE SUBURBANITE**, who is at the mercy of inconvenient transportation facilities.

**THE YOUNG FOLKS**, who want a good looking little car and must have simplicity without excessive speed.

Even the manufacturers of some of the larger automobiles are using the Brush in their business. Could we offer you better evidence of the value of Brush cars than the fact that the Chalmers-Detroit Motor Company is using SIX of them? More than a year ago, these people bought one car, which showed such wonderful results that they have since purchased five more.

The six models we are building, in addition to the standard runabout shown above, will meet the requirements of all. The Brush knows no class—recognizes no competition. It is really "Everyman's Car."

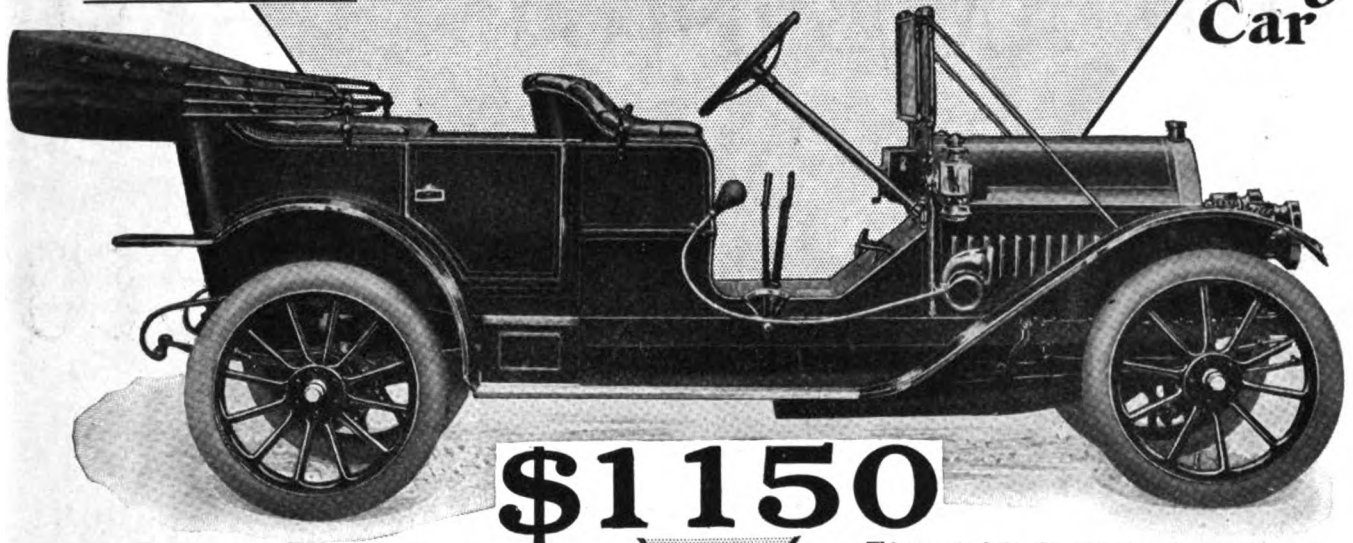
Write for preliminary announcement.

**BRUSH RUNABOUT COMPANY** 1014 Baltimore Avenue  
Detroit, Michigan



The  
**Hudson**

**Touring  
Car**



**\$1150**

"Look for the Triangle on the Radiator"

This price includes three oil lamps, two gas lamps, generator, horn, tire repair outfit, tools and jack.

**Strength—Room**

**Beauty—Refinement**

Think what this car is—110 inch wheel base; four cylinder motor; 32 inch wheels; 3½ inch tires all around; five passenger capacity—and the price \$1150.

Never before has there been offered such a car at such a price. This is not just a hasty statement of our own. Can you think, yourself, of any other four-cylinder, 110 inch wheel base, five passenger car at \$1150 or less?

You will find these features in other cars, but those cars sell for at least \$100 or \$200 more. You will find still other cars selling for less than \$1150, but they do not have our high-grade features. The Hudson Touring Car is the best *value*, the best *buy* yet offered by

any automobile manufacturer. By this, we mean you get relatively more *for your money* than in any other car.

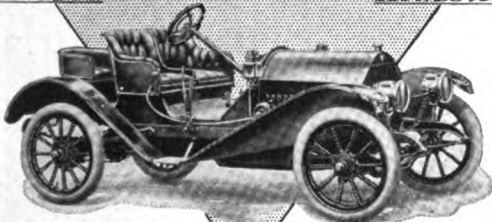
There are certain proved features of motor car construction which any car must have before it can be considered an up-to-date, high-grade car.

The Hudson has those features. To those makers who show you the same features, we point to our price; it is lower than their's. To those who offer cars below \$1150, we point to our high-grade features; they do not have them.

From one class we are set off by our price; from another by our quality.

**Hudson**

**Roadster**



January 1st, the price of the Hudson Roadster was increased to \$1000. This includes 32x3½ tires Front and Rear; three oil lamps; two gas lamps; generator; tire repair kit; tools and jack.

The Hudson Roadster is America's biggest, best looking and best built low-priced car. Several thousand of them are in the hands of owners and giving complete satisfaction.

The Hudson won a 24-hour race in Seattle in September, defeating many high-priced cars. This was its first race.

Mr. E. H. Nelson, a prominent business man of Detroit, drove his Hudson car from Detroit to New Haven, Conn., at an expense of less than one cent per mile for oil and gasoline and without making a repair.

Mr. Geo. D. Smith drove a Hudson Roadster from Long Island, N. Y. to Pleasant City, Fla., without touching a bolt, nut, spark plug or making a mechanical adjustment.

Remember the Hudson Roadster is not an imitation of a big car—it is a big car. It is big in design, in material, in general all-around value. Look at our price on extra equipment. Bosch magneto, Ardentop, Prest-o-lite tank and rumble seat for \$150 extra.

### High-Grade Hudson Features

Its motor is the Renault Type, patterned after the famous Renault motors of France. It is the same type of motor as used in the Hudson Roadster; four cylinders "en bloc;" vertical, water-cooled, long stroke, 20 to 25 H.P. Due to its long stroke this motor pulls quietly and evenly at low engine speeds.

Transmission is selective, sliding gear; three speeds forward and one reverse—the same transmission as found on the highest priced cars.

The spring suspension is the same as used on cars costing up to \$6000. Semi-elliptic front and ¼ elliptic rear, unusually long, mounted with heavy, strong fittings. Clutch is leather faced cone type; rear axle semi-floating, shaft driven. Front axle "I" beam section, drop forged, of carefully selected, high-grade steel.

### Hudson Refinements

When we say the Hudson has refinement, we mean that many little things, of small importance, one by one, but meaning in their total, comfort and satisfaction to the owner, have been put into this car.

See how the rear fenders are inset against the body; how the fenders throughout are absolutely mud-proof. Inset fenders are a feature of very high-priced cars.

The unusual leg room and big 18 inch steering wheel mean *comfort*. No standard touring car at any price provides as much leg room as the Hudson.

Doors are big, hung on heavy curved hinges, allowing maximum entrance and exit space.

The Toe boards, spring steps and running boards are beautiful aluminum castings. The floor board is covered with pyramided white rubber of best quality, except where driver's heels rest and this part is reinforced by an aluminum plate.

The foot accelerator is something entirely new in design and does not tire the foot.

The body is built with wheel-housing, that is, the body curves out over the rear wheels, allowing a big, comfortable, roomy tonneau. Car is finished and upholstered like the best.

### Why You Get More Value in a Hudson

We have been asked how we can give so much for the money and our answer is: "Because we know how." Two engineers could undertake each to build a railroad from New York to Chicago—roads to be of equal length; one man would build a better road for the same money than the other, or the same road for less money than the other. It is so in the automobile business; one set of men will build a better car at less money than another. It is simply a question of ability.

See this car—ride in it—compare it with other cars and you will say that no matter just how we do it, the fact remains that we do give the most at the price.

This also holds true of Special Equipment. Think of a Bosch Magneto, Special Brookfield Top, and Trunk Rack, all fitted on the car for \$125 extra.

The Hudson will exhibit at the Madison Square Garden and Chicago Shows

**Hudson Motor Car Company, Detroit, Michigan**

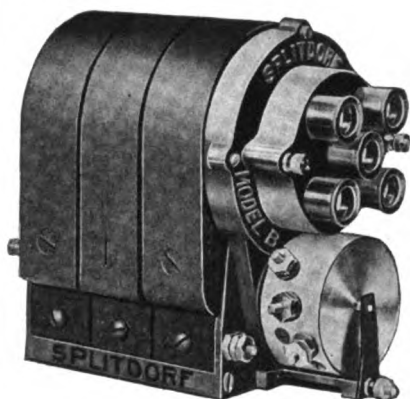
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# THE AMAZING INCREASE

in the number of motorists who have equipped their cars with a

# Splitdorf Magneto

is the most convincing proof of its surpassing merit.



Efficiency, endurance and reliability, coupled with ease of operation and simplicity of construction are the great essentials of automobile ignition, and in the many out-of-the-ordinary and severest contests and endurance runs of the past year the SPLITDORF Magneto has proved in every case to be

## A Marvel of Perfection

The reason why you should equip your own car with a SPLITDORF is because it will give you better ignition and more satisfactory service than any other. Don't fail to see it at the Madison Square Garden Show—Space 102, Elevated Platform.

If interested, we would like to send you our handsomely illustrated Magneto catalog. It's worth having just for the educational features it contains. Send for it today.

**C. F. SPLITDORF** Walton Ave. and 138th St. **New York**  
Branch—1679 Broadway

CHICAGO—319 Michigan Ave.

SAN FRANCISCO—520 Van Ness Ave.

LONDON

PARIS

BARCELONA

TURIN

BRUSSELS

JOHANNESBURG

BOSTON—Motor Mart.

DETROIT—868 Woodward Ave.

# McCord Fans

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**Steel or  
Aluminum**

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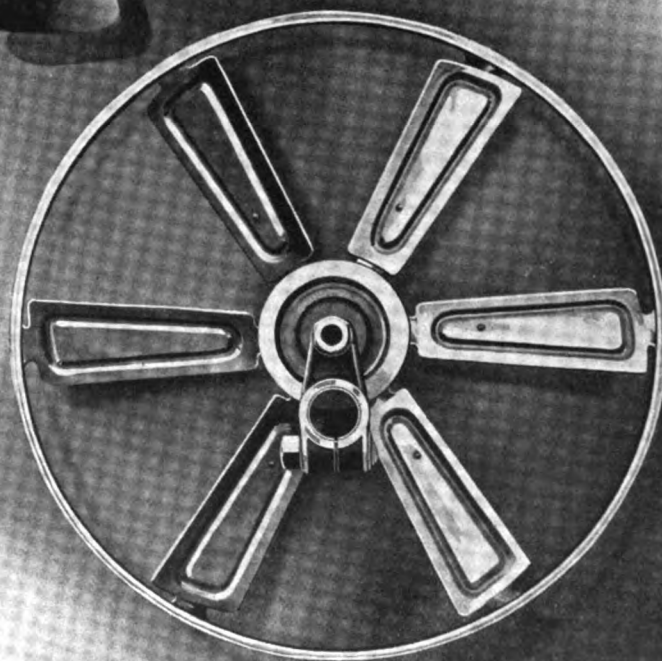
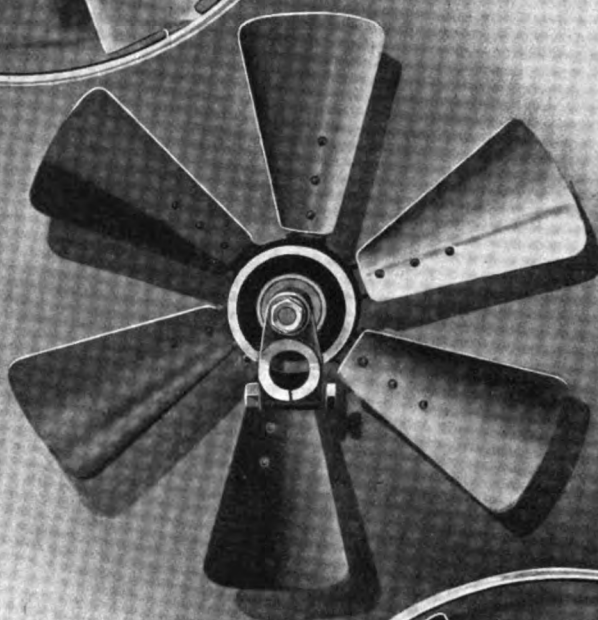
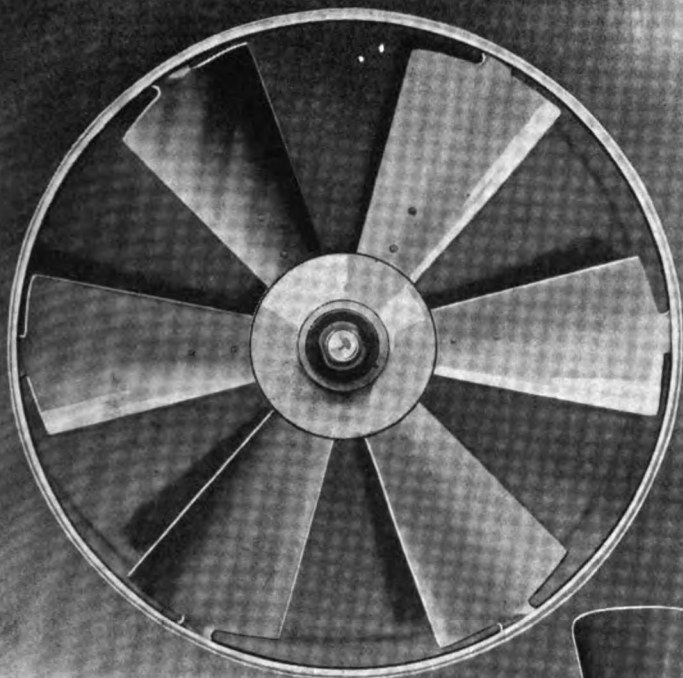
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**Integral Stamped  
Blades and Rims  
or Separate Blades**

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**Ball  
Bearings  
Dustproof  
and  
Noiseless**



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**Standard designs,  
but we make spe-  
cial ones to order**

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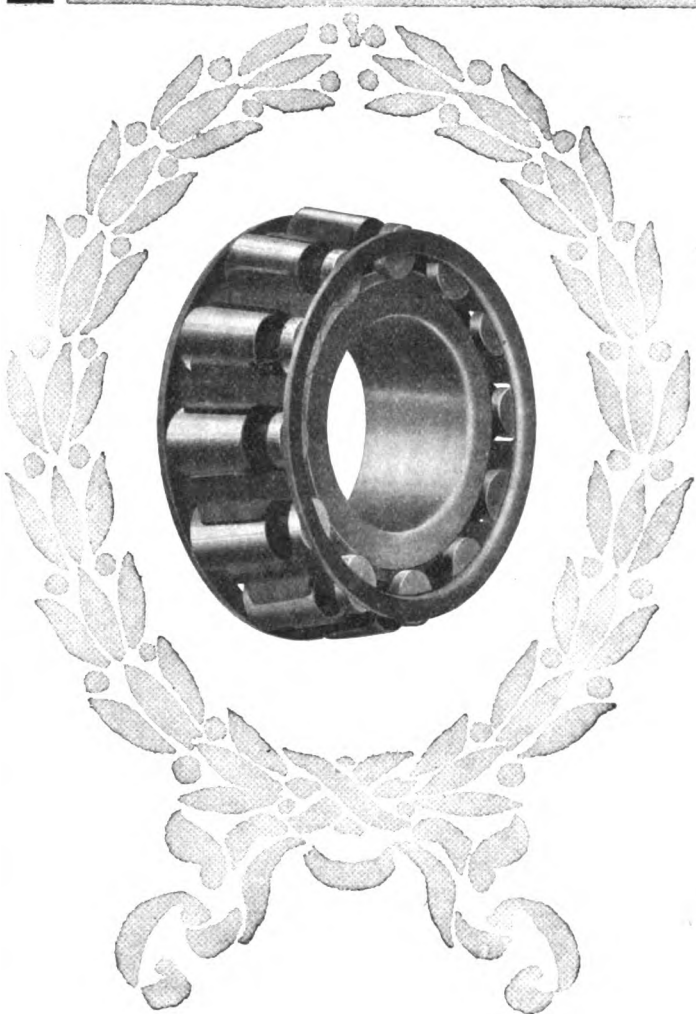
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**QUALITY SUPREME  
— OF COURSE**

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**McCord Mfg. Co.**  
Detroit



# Timken Roller Bearings

Standards of value which determine economy in the purchase of material or parts cannot be governed alone in dollars.

Dollars are but one item. Over against them must be considered the really important measure and that is values. Values made by quality and price.

**The Timken Roller Bearing Company**  
CANTON, OHIO



# THE MARMON

"The Easiest Riding Car  
in the World."



*Winning the Wheatley Trophy in the Vanderbilt. 190 miles in 190 minutes, without a stop.*

## Mile-a-minute Reliability

The success of the Marmon "Thirty-two" stock cars in the big race events of the year is still the talk of motordom. In the Vanderbilt, won the Wheatley Hills Trophy—190 miles in 190 minutes—**without a stop**. Won the Atlanta Speedway Trophy, 120 miles in 109 minutes, **without a stop and without a mechanician**. At New Orleans, won the 20, 50 and 100-mile events at practically a mile a minute on a one mile track—**all without a stop**.

In the Indianapolis Speedway races, made mile-a-minute runs of 100 and 225 miles, **without a stop**.

**No other car has ever shown such stability under the merciless strain of long continued high speed.**

The Marmon is manufactured (not merely assembled) by a company known to buyers of high-grade machinery, the world over, for more than fifty years.

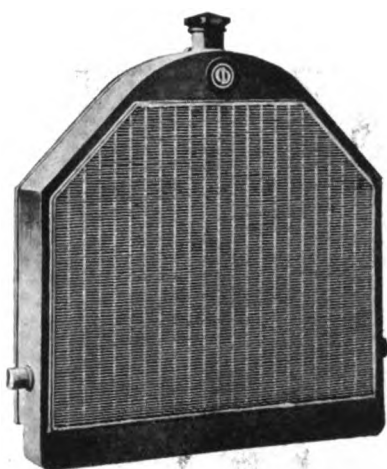
It is pre-eminently the safe choice for the buyer who seeks absolute certainty of service, style, comfort and value.

One chassis only—the "Thirty-two." 32-40 H. P. Option of body. Weight 2300 lbs. Complete, high-class equipment.

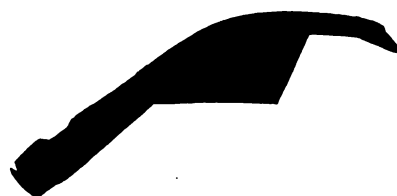
## \$2650

Nordyke & Marmon Co. (Estab. 1851) Indianapolis, Ind.

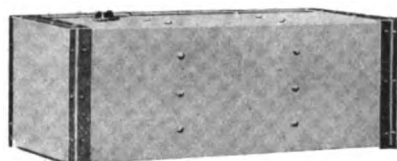
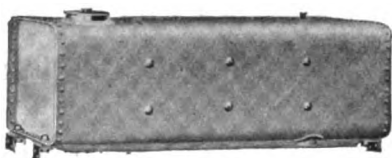
# BRISCOE PRODUCTS



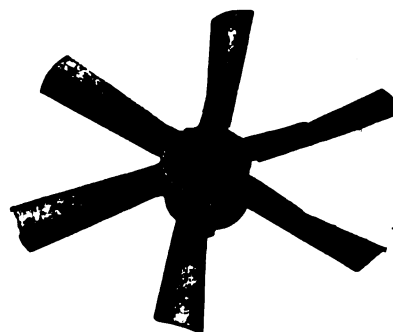
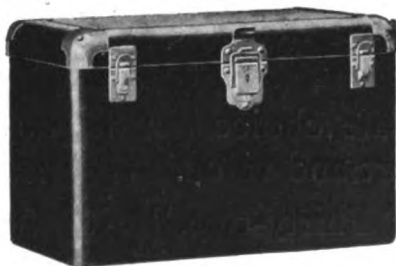
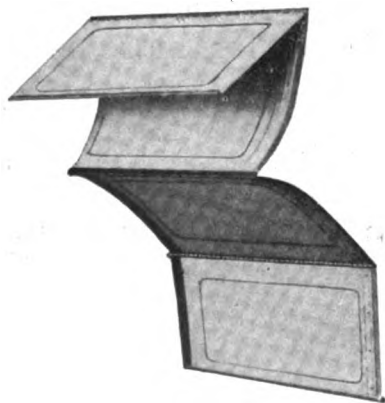
**Radiators of all types**



**Fenders of all shapes**



**Sheet Metal Parts of all kinds**

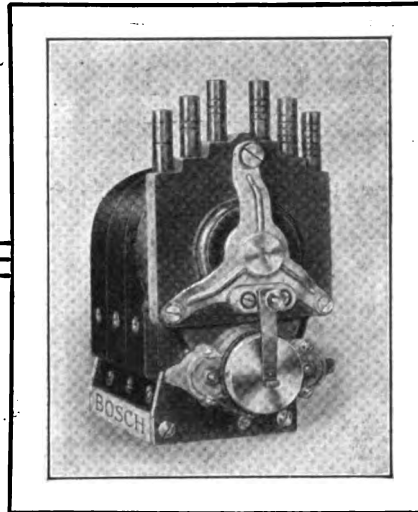


**We can help  
you. May we?**

**BRISCOE MANUFACTURING CO.**

**General Offices—DETROIT  
Factories—DETROIT and NEWARK, N. J.**





## These High Class 1910 Cars will be Equipped with BOSCH MAGNETOS

Acme	Chadwick	Gaeth	Lancia	Palmer-Singer	Simplex
Alco	Chalmers-Detroit	G. J. G.	Locomobile	Peerless	Speedwell
Allen-Kingston	Clement-Bayard	Grout	Lozier	Pennsylvania	Stafford
American	Cleveland			Pierce-Arrow	Stearns
American Mors	Coates-Goshen	Halladay	McCue	Pittsburg Six	Stevens-Duryea
American Napier	Colburn	Haynes	Marmon	Planche	Stoddard-Dayton
American Simplex	Columbia	Herreshoff	Marquette	Pope-Hartford	Studebaker
Apperson	Comet	Humber	Massillon Six	Pope-Toledo	Sultan
Atlas	Corbin	Hudson	Matheson	Premier	Sunset
Auburn	Croxton-Keston	Hupmobile	Mercedes	Pullman	Swift
Autocar		Houpt	Mercer		
	Darracq		Meteor	Rambler	Thomas
Babcock	De Dietrich	Isotta	Mets Plan	Rainier	Tourist
Badger	De Dion-Bouton	Itala	Minerva	Renault	
B. C. K.	Delahaye		Moline	Rider-Lewis	Walter
Belden	Delaunay-Belleville	Kissel	Moon	Rockwell	Wayne
Benz		Kline	Mora	Royal Tourist	Welch
Bergdoll		Knox			White
Berliet	Falcon Ninety	K-R-I-T	National	S. P. O.	Willcox
Berkshire	Fiat			Schacht	Winton
	Franklin	Lanchester	Oldsmobile	Selden	
C. G. V.	Frontenac	La Buire	Otto	Sharp-Arrow	Zust

This remarkable showing is a convincing argument as to the excellence of the BOSCH MAGNETOS and their reputation among expert car makers.

An illustrated book picturing noteworthy automobile events of 1909 and victories of Bosch Equipped Cars will be sent on request. Address nearest office or branch.

See our exhibits at the International and National New York Shows.

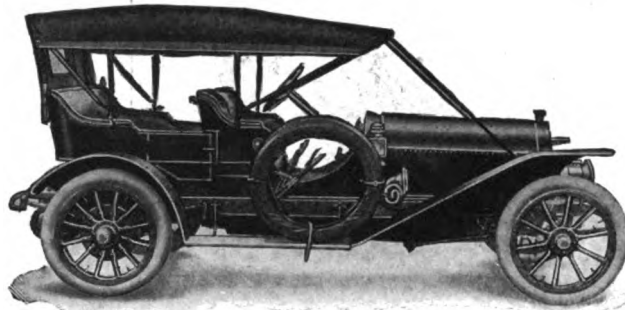
## BOSCH MAGNETO COMPANY

223-225 WEST 46TH STREET, NEW YORK

Chicago Branch: 1253 Michigan Avenue

San Francisco Branch: 357 Van Ness Avenue

THE MOTOR WORLD



Palmer-Singer Six-Sixty, 6 cylinders,  
60 H. P., Sixty-five miles an hour

**\$3500**

TOP EXTRA

**The 1910 models of the Palmer-Singer line are two years in advance of the new models of other and higher-priced makes and here are the REASONS WHY:**

**Features of Construction Common to all Palmer-Singer Models**

The best features of the best 1910 cars were found in the 1908 Palmer-Singer models. The five best other makes have between them for 1910 ALL the features which were leading constructional Palmer-Singer points two years ago—but **no one make** has them all. Still each make very properly exploits these features as the utmost yet achieved in motor-car construction and value. Bear in mind that while adopted for the first time in their 1910 models by other makes, these features have been for two years integral points of Palmer-Singer construction, and have been thoroughly tested out for two years in the hands of private owners—have stood exactly the use you would give them. They have been adopted and refined for two years, brought to the point of perfection not only in themselves, but with relation to every other part of the car. To-day the harmonious whole is, in **design** and value, two years ahead of the other leading makes who are adopting these features or a part of them for the first time.

**See the Palmer-Singer Line  
at Madison Square Garden**

**PALMER & SINGER MFG. CO.,**

1620-22-24 BROADWAY, NEW YORK  
1321 MICHIGAN AVENUE, CHICAGO

# The 1911 IMPROVEMENT for 1910

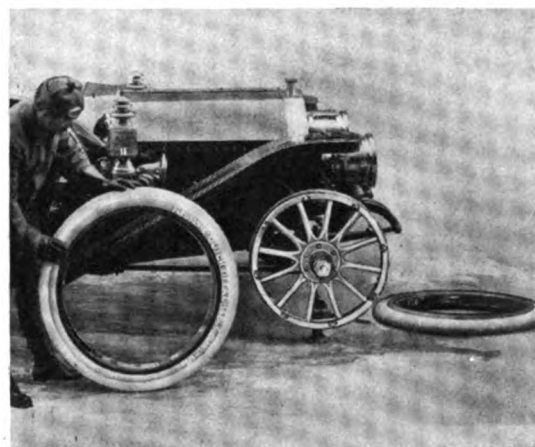
One year ahead of all other devices for quick and easy tire-changing on the road.

## "Firestone" Demountable Rims

CARRYING EXTRA INFLATED TIRES

QUICK DETACHABLE OR REGULAR CLINCHER

EASIEST TO OPERATE ON THE ROAD—SAFEST OF ALL TO USE.



Unlock the rim with damaged tire and substitute a spare rim with already inflated tire. No loss of time; no annoying exertion; no tire pumping.

Firestone demountables are quick detachable, and completely abolish the lug and staybolt nuisance of other rims.

The only demountable that is practical in changing tires on the loose rim.

Make one or a dozen tire-changes on the same trip,

as necessity may require — exclusively Firestone.

Not a show-room proposition, but the rim you want for actual road service.

Specify with Firestone tires on your new car; retain present tires in use upon equipping your present car.

Ask for a personal demonstration and copy of Demountable Rim Book.

## FIRESTONE TIRE & RUBBER COMPANY

"America's largest  
exclusive tire makers."

Akron, Ohio

Branches, agencies  
and dealers everywhere.

### Firestone Non-Skid Tires

The all-rubber tread presents a mass of angles, edges, hollows and points of road-contact that holds your car safe from skid-accident, as no other tire can.



Chalmers-Detroit "30" \$1500

Touring Car  
Roadster  
Pony Tonneau (\$1600)  
Inside Drive Coupe  
(\$2100)  
Limousine (\$2750)

## We Have Been Two Years

**In two seasons of motor contests Chalmers-Detroit stock cars records give Chalmers-Detroits title of Champion**

You do not want a racing car. Neither do we. We have never built one. We have not gone into races merely for the fun of it. It is simply a cold dollars and cents business proposition. We have gone into contests because we believed that was the best way to prove our cars.

We spent last year a good many thousands of dollars in automobile contests. One-third of this amount we charged to advertising expense. Two-thirds we charged to Engineering expense—because this is the best experimental work we know.

We are determined to build the best cars in the world at the price, and so long as we think contests help us do that, we shall remain in contest work.

We have never claimed to make the best cars in the world—but the best cars in the world at the price.

True there are many people who believe Chalmers-Detroit cars the best cars made regardless of price—those people are owners of Chalmers-Detroit cars.

### **FOLLOWING IS SOME EVIDENCE:**

#### **Not a Few Contests, but Many**

In two years Chalmers-Detroit cars in prominent automobile contests have won 89 firsts, 32 seconds, and 21 thirds.

This includes road races, track races, hill climbs and endurance contests.

#### **Our "30" Sets World's Record**

In the past two years there have been in America six—and only six—great road races for light cars. Chalmers-Detroit "30's" have been entered in all six and they have won five firsts, one second and one third. In no race did they fail to show. Here is the full story:

First and second in Jericho Sweepstakes, Long Island Motor Parkway, October, 1908.

Third in the 200 mile International Light Car Race at Savannah, November, 1908.

First in the Indiana Trophy race, June, 1909, when Matson averaged 51.5 miles per hour for 232 miles, making better time than the winner of the Big Car race of the following day.

First in the Santa Monica (California) 202 mile race, July, 1909, where it set a world's speed record for light cars of 55.5 miles per hour.

First in National Light Stock car event at Lowell, Mass., September, 1909. Driven by William Knipper 127 miles at an average speed of 52 miles an hour.

As a climax this greatest of light cars, driven by Matson in the last Vanderbilt race, again set a new world's light car speed record by averaging 58.5 miles an hour, winning the Massapequa Cup. Not once during the race did this car stop, and it defeated the nearest competitor by nineteen minutes.

#### **100% of Victories**

The record of the "30" at the opening of the new Atlanta two-mile motor track last November has never been equaled.

Two "30's", driven by Knipper and Matson, won every event offered in their class. Whenever both cars were entered in an event, second place was taken as well as first.

Both cars finished every event started.

Both cars averaged a mile a minute for every minute they were running on the track.

For the week the Chalmers-Detroit tally stood five firsts, eleven seconds, and eight thirds—the best average showing made. Yet many of the finest cars—foreign and American—were there.

#### **Winner in Glidden Tour**

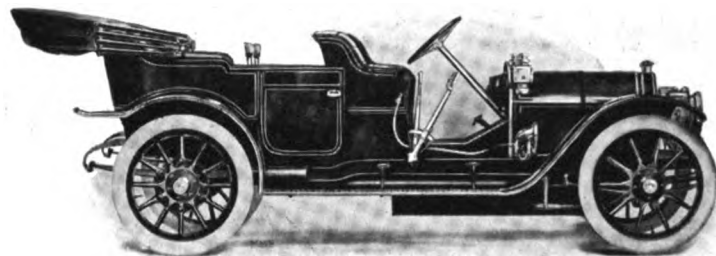
The record of the "Forty" also is wonderful.

"The "Forty" won the Detroit Trophy in

# **Chalmers-Detroit Motor Co.,**

Licensed under Selden patent.

Touring Car  
Pony Tonneau  
Roadster



Chalmers-Detroit "Forty" \$2750



## Writing This Advertisement

have won 89 firsts, 32 seconds and 21 thirds—*Motor Age* cars of the year—Racing not fun but business with us.

the Glidden Tour this year, the longest and hardest automobile touring contest ever held.

It has won twice in succession the Minneapolis Tribune Trophy in the two-day endurance test.

It won the Perpetual Challenge Trophy in the Pasadena-Altadena Hill Climb, the most coveted trophy in California.

Driven by Dingley, it won the Wemme Trophy at the Annual Rose Festival Road Race at Portland, Oregon, doing 103 miles in 104 minutes.

It won in its class at the Sport Hill Climb, and set a new record for the course. At the Dead Horse Hill Climb, Worcester, Mass., the "Forty" won two firsts, one second, and two thirds.

At the Readville, Mass., track, a "Forty" won the ten mile event, and in the race for the Harvard Trophy at 25 miles, covered the distance in 24 minutes, 45 seconds, forcing a specially constructed foreign track racer to establish a new world's record for this distance in order to win.

### Defeats Fifteen Bigger Cars

Driven by Lorimer, the "Forty" won the 100-mile and the 10-mile events in the Point Breeze Races at Philadelphia, also the 100-mile Motor Marathon at the Brighton Beach Track, New York City.

In the 200-mile road race over the Fairmount Park course in Philadelphia, the "Forty" defeated one 90 h. p. car, four 70 h. p. cars, seven 60 h. p. cars and three 50 h. p. cars. It was beaten by only one car—a 90 h. p. giant, more than twice as big and twice the price, and then only by four minutes.

The "Forty" was awarded the "Consistency Prize" because it did not stop a single time during the race.

Bert Dingley has driven a "Forty" all the past season. Of the many road races he started he failed to finish in but one. On this showing *Motor Age* awards him the title of premier American driver of the year.

### How Private Owner Profits

But the prospective owner may ask: what does all of this mean to me?

It means simply that the Chalmers-Detroit Motor Company has proved, for your benefit, that its cars are everything they claim they are—the best cars in the world at the price.

Every car the Chalmers-Detroit Company has entered in an automobile contest has been strictly a stock car. We have never built a racing car.

### Looking to Improve

If there is anything wrong with our cars we want to be the first to find it out. This is another reason we go into contests.

A 200-mile road race at sustained speed of 40 to 80 miles an hour puts a car to a severer test than the average owner could put it to in a whole year's use.

If there is a weak spot in a car it will be discovered under the strain of contests, and the improvement can be made. They show you where improvement can be made.

Therefore—the private owner is the one who gains most from our automobile racing.

We shall be pleased to send you our handsome new catalog, showing our various models reproduced in actual colors, if you will mail the coupon.

A Memo. to

Chalmers-Detroit Motor Co., Detroit, Mich.

Please send me copy of "Flag to Flag" book giving the story of the Denver-Mexico City trip; also send your catalog.

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_

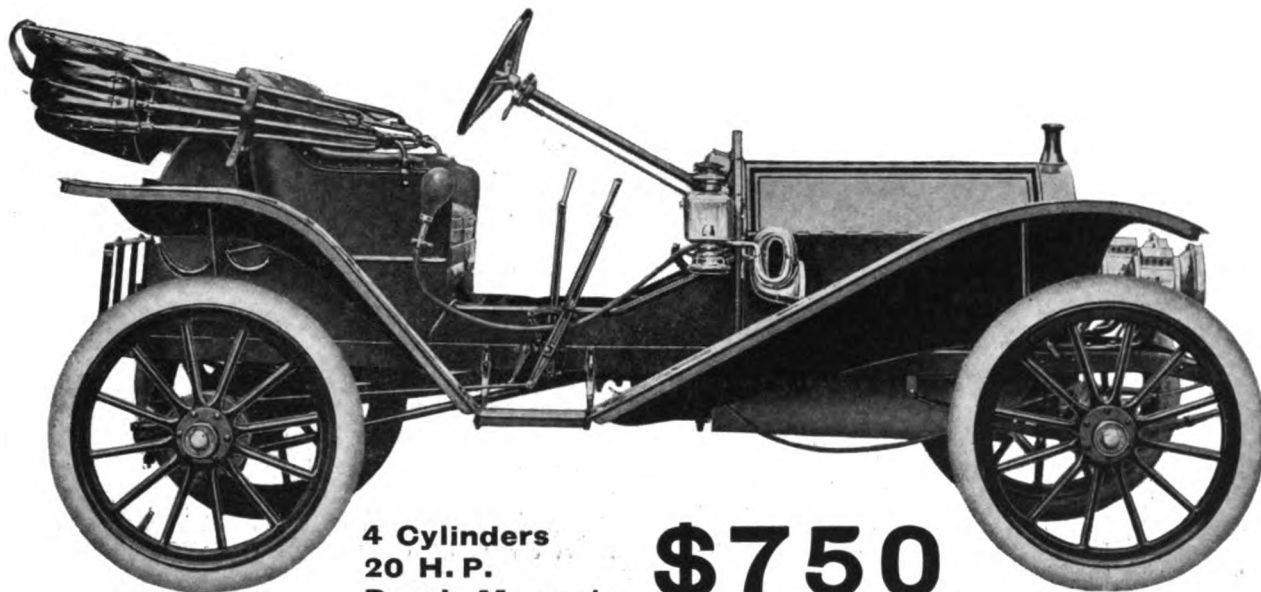
County \_\_\_\_\_ State \_\_\_\_\_

## Detroit, Michigan, U. S. A.

Licensed under Selden patent.

# FIT FOR SERVICE THE YEAR 'ROUND THE SAME AS YOUR \$5000 CAR—THE

## *Hupmobile*



4 Cylinders  
20 H. P.  
Bosch Magneto  
Sliding Gears

# \$750

(F. O. B. Detroit)

**BECAUSE** they found in the Hupmobile the first and only car of its type built with the same unswerving honesty of purpose as the finest large cars extant—the American people have accorded it a place in their esteem shared only by the acknowledged leaders in the costlier class. Like the latter, its position is secure, undisturbed and beyond question. Like the latter, it knows no season of usefulness; it is at your service all through the year. Bear in mind the price—then study these specifications:

### SPECIFICATIONS

**ENGINE**—4 cyl., 20 H. P.,  $3\frac{1}{4}$  in. bore,  $3\frac{3}{8}$  in. stroke; L-head type; water cooled; offset crankshaft; fan bladed flywheel in front; Parsons white bronze bearings; noiseless camshaft.

**TRANSMISSION**—Selective sliding gears in extension bolted to crank case; shifting without noise.

**CLUTCH**—Multiple disc type; self adjusting; enclosed in gear case; running in oil.

**REAR AXLE**—Shaft drive; Hyatt roller and New Departure bearings; shaft and universal joint enclosed and lubricated by oil from crank case through transmission.

**TIRES**—30x3 inches.

**BRAKES**—Two foot and two emergency (internal expanding) lined with Thermoid, on rear hubs.

**IGNITION**—Bosch high tension magneto, doing away with spark coil, batteries and connecting wires.

**WHEEL BASE**—86 inches.

**TREAD**—56 inches.

**SPRINGS**—Semi-elliptical front, patented cross spring rear.

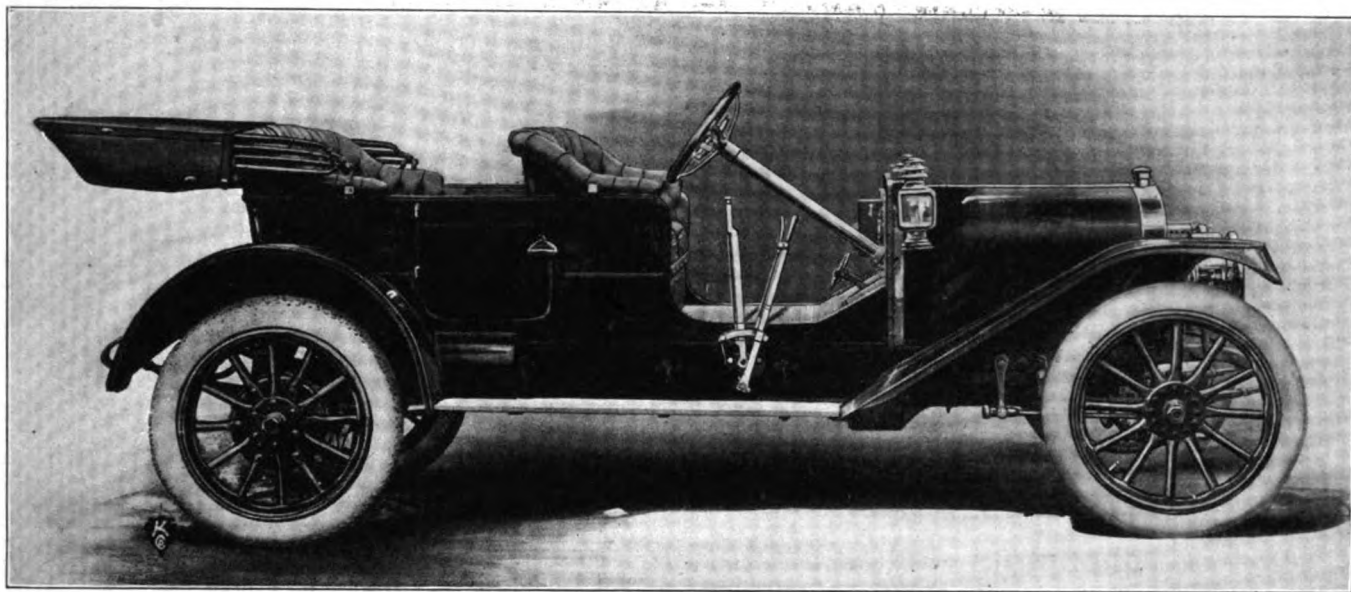
**EQUIPMENT**—Two side and tail oil lamps, dragon horn, tools, repair kit, pump.

**WEIGHT**—1100 pounds, regular equipment.

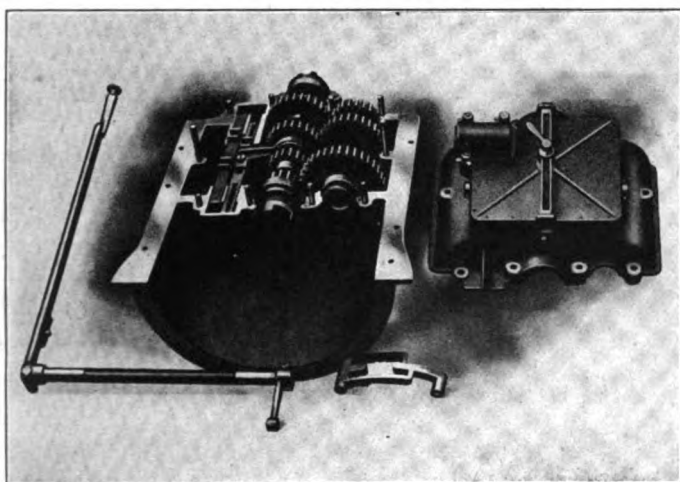
## HUPP MOTOR CAR COMPANY, Dept K, Detroit, Mich.

Exhibiting at Grand Central Palace, New York—Opens Dec. 31

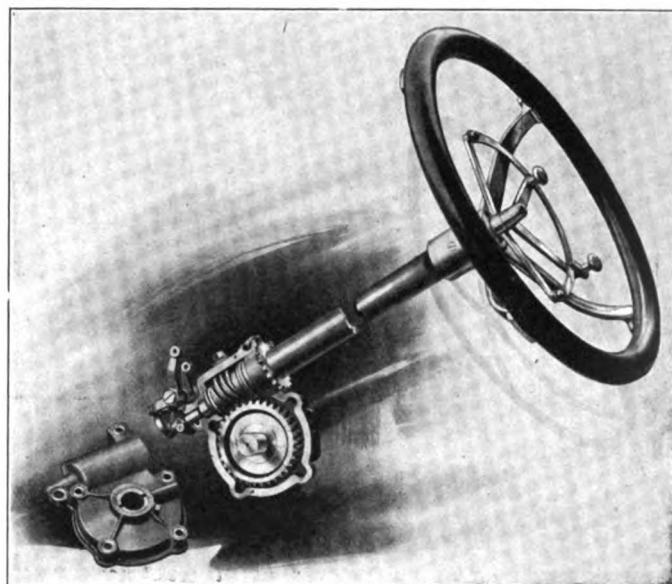


**1910 TOY TONNEAU**

**Touring Car, Toy Tonneau and Runabout, \$2750.** Including full equipment. The 120" wheel-base, three-quarter elliptic rear springs, drop frame, and rear seats ahead of the rear axle give perfect riding qualities, and combined with the well known thirty horsepower Corbin motor makes the ideal car.

**TRANSMISSION**

Transmission exposed in fifteen seconds through large hand hole plate. All shafts and gears mounted on ball bearings and running in grease. Gears, shafts, etc., constructed from special nickel steel. Brake automatically acts on clutch doing away with any clashing of gears.

**STEERING GEAR**

The steering gear is of the worm and sector type of ideal design. Instead of having a sector, a full gear is used in connection with a square taper in the drop arm. In case of wear to one quarter of the gear such as a sector would be, the drop arm can be removed, the gear and shaft revolved to another quarter, and the steering gear is as good as new.

**1910****CORBIN MOTOR VEHICLE CORPORATION, New Britain, Conn.**

Member Association of Licensed Automobile Manufacturers. Licensed under Selden patent.



# Ride On Air

This headline must be observed if you are going to get maximum service from your tires.

Extensive service tests and long experience have so convinced us of the desirability of pumping tires up hard that we are going to devote some space to telling you about tire construction.

As to our construction, we know and you all know, who know Diamond equipment at all, that it is right. As to what constitutes sufficient inflation, there exists so much of unintentional neglect, lack of knowledge and downright indifference, that we can be of no greater service at the beginning of this new year than to say to you all, tires must be pumped up hard if they are to give maximum service.

This is particularly true of the overloaded tire, and four-fifths of all tires are frequently overloaded.

Ample inflation checks the movement within the tire and reduces the element of friction and heating. You will ride, in fact, on a cushion of air and not a cushion of rubber. Every comparative record shows the greatly increased tire service obtained when ample inflation is provided.

# -Not Rubber

As recognized leaders in the march of progress of motor production, we are duty bound to tell you that with Diamond or with any other pneumatic tires you will not get the most for your money if you fail to keep tires pumped up till they stand round under a full load. This is the only safe rule.

For 1910, Diamond casings and Diamond tubes are distinctly better than we have ever heretofore made, but our uttermost efforts in this direction count for vastly less than they should if the user fails to do his part.

We have, in other words, produced casings and tubes capable of delivering greater value and better tire service than you have hitherto considered possible. It rests absolutely on the user to provide air.

He must give his co-operation, and his reward will be in the reduced upkeep cost that must ultimately be of great benefit to the automobile industry as a whole.

**The Diamond Rubber Co.**

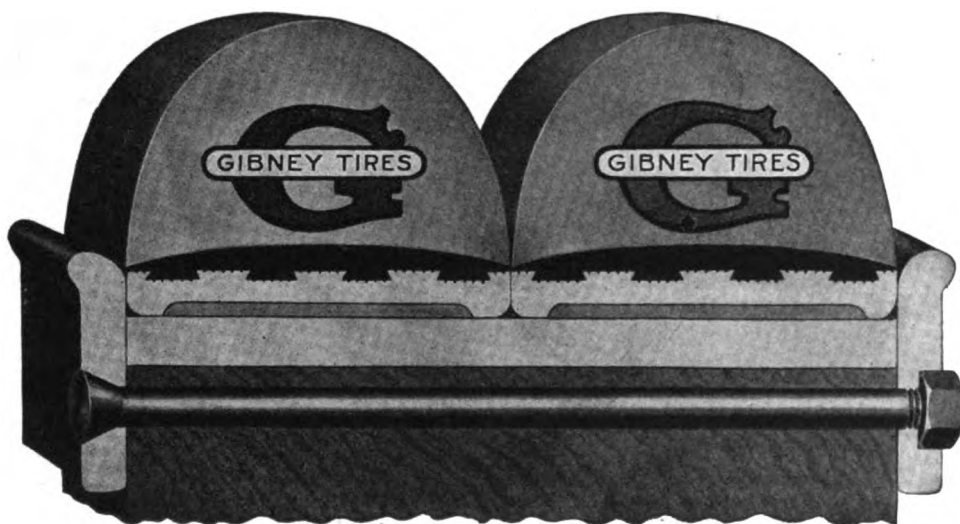
**AKRON, OHIO**

# GIBNEY

## Wireless Tires

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**For Commercial Trucks**



**The most economical tire on the market.  
Reduces tire expense to a minimum.**

☞The ideal tire for heavy service on motor vehicles, fire apparatus, ambulances, etc. Remarkable for its extreme durability and wonderful resilience. It is always secure, absolutely reliable and can be depended upon to render long and satisfactory service. It keeps down repair bills and will give twice the mileage of ordinary tires.

Specify Gibney Wireless Motor Tires on your next truck and motor wagon order. Prices and detailed information on request.

**James L. Gibney & Bro.**  
**PHILADELPHIA, PA.**

# *Continental* **TIRES**

**"The Tire That Starts to Wear When Most Others Are Worn Out"**



**AMERICA'S  
BEST  
PNEUMATIC**

**Showing  
Demountable Rim  
Attachment**

**More Sold Than All  
Others Combined**

**At AUTO SHOW  
Madison Square Garden**

**we will exhibit our  
Tires and demon-  
strate our Rims.  
SPACE No. 177**

**CONTINENTAL CAOUTCHOUC COMPANY**  
**1788-90 Broadway**      **Factories: Chelsea, Mass.**      **New York City**

*Branches and Agents in 27 Cities*

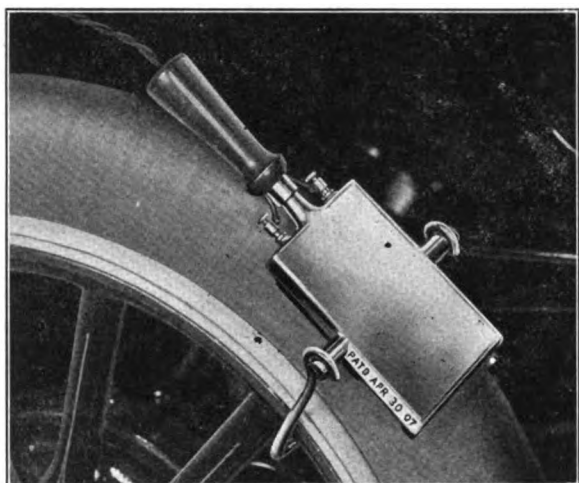


# Cut Down Tire Expense

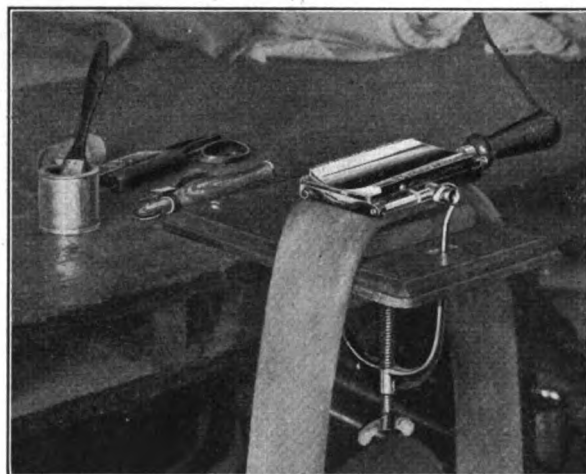
Save money, time and patience by doing your own vulcanizing. It's easy, practical and economical when you use the

## AUTO ELECK-TRICK VULCANIZER

for patching tubes and casings.



It will pay for itself many times over in making repairs that would cost from 50 cents to \$5.00 each at the repair shop and will save you many hours and much trouble.



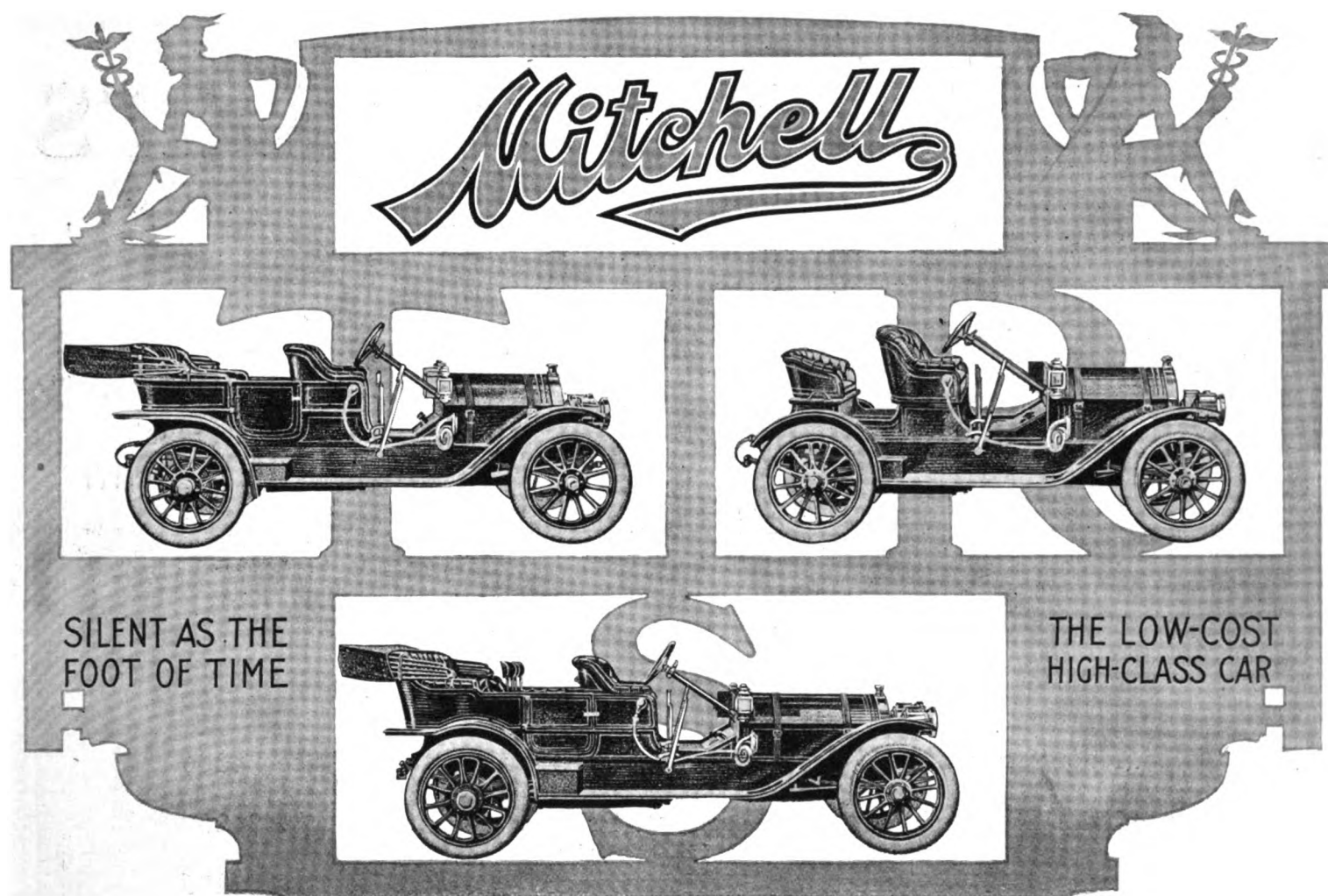
Its use requires no technical skill, the directions are explicit and easily followed. It is practically indestructible and does its work quickly and thoroughly.

It can be used with either **DIRECT** or **ALTERNATING** current

Price complete with  
repair material **\$12.00**

SPECIAL DISCOUNTS TO DEALERS

**JAMES L. GIBNEY & BRO., Philadelphia, Pa.**



**Mitchell**

SILENT AS THE FOOT OF TIME

THE LOW-COST HIGH-CLASS CAR

# THE MITCHELL LINE

The remarkable construction of these cars—the simplicity of motor, strength of frame, beauty of design and finish, utterly noiseless engine, standardization of parts and attention to those things which are dear to the public heart as well as the fact that although sold at low cost, they are made of the very finest materials the world affords, have all served to create enthusiasm of extraordinary character. Hence the demand is far greater than the supply. The output for 1910—6,000 cars—was sold months ago and since then we have had orders for so many more that if we could produce ten thousand we could sell them by wire in 48 hours.

The entire line will be exhibited at the New York Show beginning at the Grand Central Palace, December 31st—Section 6, Space 22, Main Floor.

**Mitchell Motor Car Co.**

MEMBER A. L. A. M.

**Racine, Wis. U. S. A.**

Paris Branches  
20 Rue de Tilsitt  
4 Avenue MacMahon

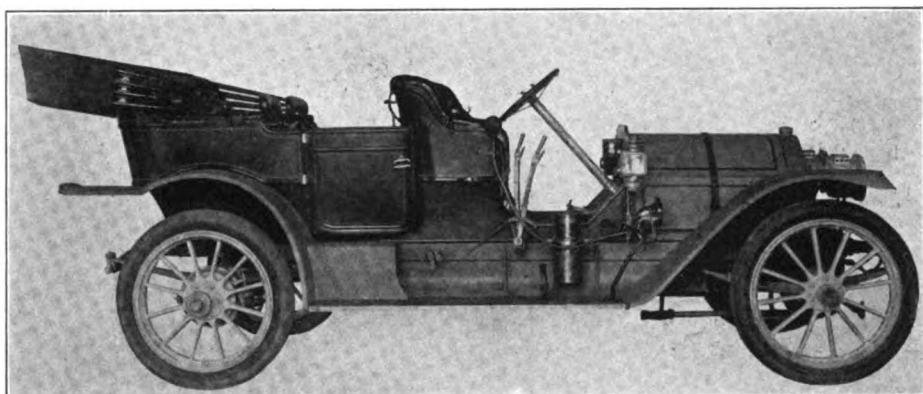
Prices  
F. O. B. Racine.

**The Famous**  
**H A N D M A D E**

# Apperson Cars

**Model Four-Fifty, Seven-Passenger, Price . . . . . \$4200**

The highest grade car in the world. The latest production of America's oldest automobile maker.



**Model Four-Forty**  
**Seven-Passenger**  
**Price, \$3000**

The acme of perfection in medium priced motor cars—superior to all others in its rated horsepower class.

**Model "Jack-Rabbit," Two-Passenger Roadster, Price . . \$4250**

The car that holds the American two hundred miles road record.

**Model "Jack-Rabbit," Four-Passenger, Baby Tonneau, Price \$4000**

The fastest strictly stock car in the world.

**Model Six-Forty, Seven-Passenger, Price . . . . . \$4200**

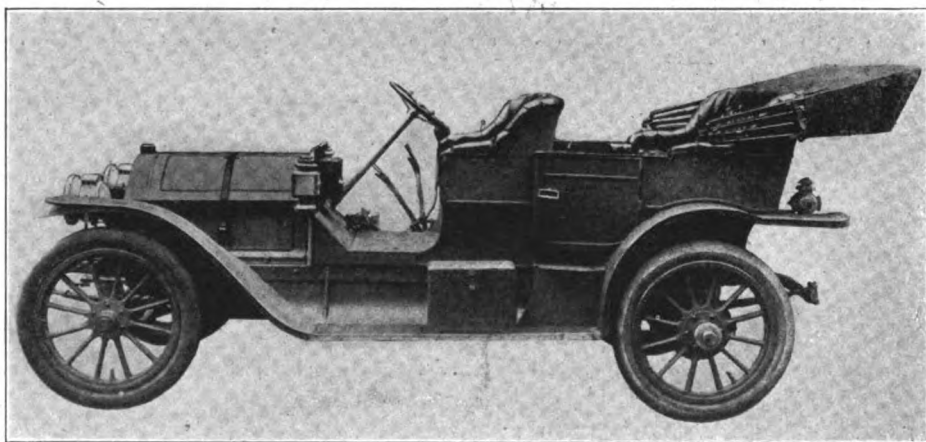
The peer of all six-cylinder cars.

**Model O—Five-Passenger, 30 Horsepower, Price . . . . \$2450**

**Model O—Four-Passenger, Baby Tonneau, Price . . . . \$2450**

**Model Four-Thirty**  
**Five-Passenger**  
**Price, \$2000**

A car in every way superior to any other car on the market at so low a price.



**TO DEALERS**—The Apperson line is the most complete line of automobiles ever placed upon the market by an old, established, reliable maker.

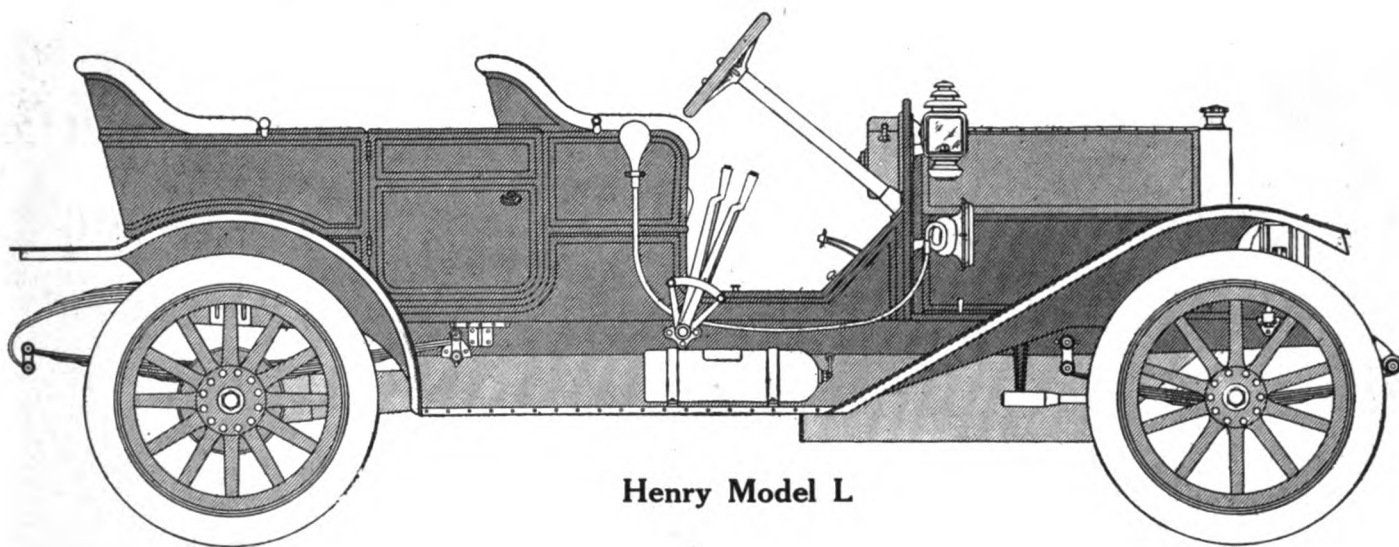
**TO BUYERS**—Every new Apperson car is backed by over sixteen years of experience on the part of Apperson Bros. in the manufacture of strictly high grade automobiles—an asset not to be overlooked. Catalogue on request.

Apperson cars exhibited Space 33, Madison Square Garden, New York, January 8th to 15th.

**APPERSON BROS. AUTOMOBILE CO., Kokomo, Indiana**

Licensed under Selden patent.

# Judge This Car by the Specifications—Not the Price



Henry Model L

## The HENRY 35—\$1750

A car that makes its appeal to the rapidly growing class of buyers whose first consideration is standard construction, and whose second thought is as low a price as is consistent with such construction.

The automobile buying public has come to know the features that make for a car of genuine merit.

To those qualified to judge we submit the speci-

fications below with full confidence that the Henry 35 at \$1750 will be recognized as the biggest value of the season.

Both dealers and purchasers have had their fill of "freak" and "little-while" cars. Things have settled down to cars of merit.

The Henry 35 is made to sell on its merits at \$1750.

### Detailed Specifications

**BODY**—Straight line, standard touring and demi-tonneau. Seating capacity, five. Color: Dark blue throughout, or with cream running gear, if preferred.

**MOTOR**—Four cylinders. H. P., 35-40. Bore, 4 $\frac{1}{4}$ , stroke, 5 $\frac{1}{4}$ . Cylinder, "L" head. Cast in pairs. Valve location, all on one side. Cycle, four.

**LUBRICATION**—System, circulating inside pump. Vertical shaft, spiral driven. Pressure feed to crank case.

**COOLING**—Water cooled, centrifugal pump. Radiator, square tube. Fan, attached to engine, belt driven.

**IGNITION**—Jump spark. System, dual. Splitdorf magneto and dry cells. Control, hand lever on wheel.

**CARBURATION**—Carburetor, special. Fuel feed, gravity.

**CLUTCH**—Multiple disc. Friction surfaces, steel to steel. 63 plate.

**GEARSET**—Selective, located amidship. Three speeds forward and reverse.

**TRANSMISSION SYSTEM**—Shaft drive through torsion tube. Rear axle, full floating.

**BEARINGS**—Crank shaft, three large plain. Camshaft, three plain. Clutch, spindle, plain. Clutch,

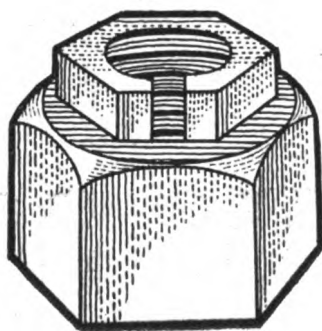
thrust, ball. Gearset, F. & S. ball. Rear Axle, ball, Front Wheels, ball. Steering Knuckle, plain. Steering Gear, ball thrust. Plain Bearings, Parsons white brass.

**RUNNING GEAR, ETC.**—Wheel base, 116". Tread 56. Wheels, 10 spokes front, 12 rear. Tires, front and rear, 34x4 Q. D. rims. Springs, semi-elliptical. Rear Springs (extra long, 49 in.), three-quarter scroll. Front Axle, pressed steel box type. Brakes, service and emergency, internal on rear wheel. Frame, pressed steel; double drop. Steering gear, irreversible worm, sector type; wheel 17 in. Equipment, generator and full lamp equipment, horn, tools, jack, etc. Weight, 2,450.

Twenty-five dealers wanted who are in a position to take a generous amount of territory.

## HENRY MOTOR CAR CO., Station B, Muskegon, Mich.

# **The Truth in a Nut Shell**

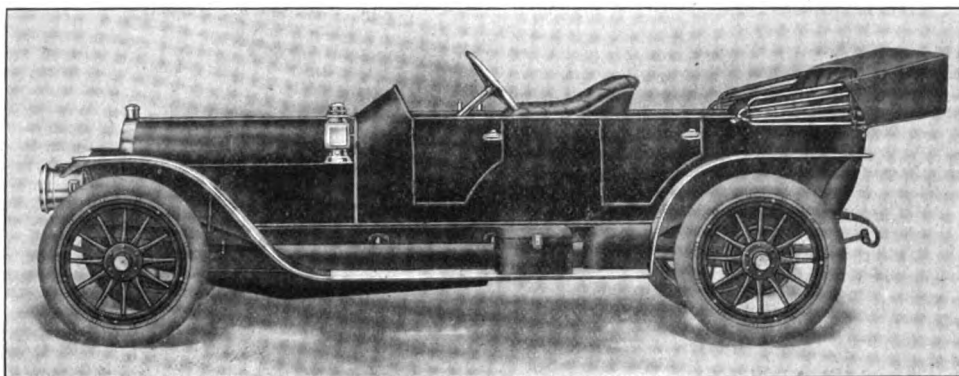


**Columbia Lock Nuts**

## **The safest kind of Automobile Insurance.**

**COLUMBIA NUT AND BOLT CO., Inc., Bridgeport, Conn.**





**TORPEDO**  
**\$3250**

***Knox***

**TORPEDO**  
**\$3250**

**KING OF THE ROAD**

**Power, Speed, Hill Climbing and Efficiency**

When you see a Knox in your tours just note how they travel and the ease with which they negotiate the hills, and we call to your attention that

**KNOX CONSTRUCTION DOES IT**

Unit Power Plant. Three Point Support. Valves in the Head Without Cages. Perfect Water Circulation. Knox Three Plate Clutch. Straight Line Shaft Drive. De Dion Lubricating System. No Smoke. Fisk Bolted-on Tires for Safety and Demountable Rims.

**40 and 48 H. P. Four-Cylinder. 60 H. P. Six-Cylinder.**

Types include 5 and 7 passenger Touring Cars, Close Coupled, Torpedo, Raceabouts, Sportabouts, Limousines and Landaulets.

**ALL MODELS FULLY EQUIPPED**

**Prices \$3000 to \$6000**

See us at New York, Madison Square Garden Show, January 8 to 15, Space 4  
Chicago Show, February 5 to 12, Space E2

**KNOX AUTOMOBILE COMPANY, Springfield, Mass.**

Licensed under Selden patent.





E. R. Thomas Motor Co.,  
Buffalo, N. Y.

12/4/09

Gentlemen:—

It gives me great pleasure to speak in highest words of commendation of my Thomas car.

I have driven it over 20,000 miles, through two Glidden tours and over some of the roughest roads in this part of the country.

The car has given me every satisfaction and I would have no other automobile. I speak this after having had a number of other cars before I purchased a Thomas.

I know of no better way than to say in the words of my company's slogan, "**Eventually**"—

**The Thomas Flyer.**

Yours very truly,

Gus G. Buse,

Washburn-Crosby Co.



# Over 80% of the owners of Thomas Flyers previously owned other cars

They were therefore in a position to judge automobile values—why did they buy



## Because—The Thomas 6-40 Flyer

is the largest, most luxurious, most powerful, easiest riding, most completely equipped automobile constructed.

It is in a class by itself—it has no competitor.

On account of the wonderful flexibility of its six-cylinder motor and its excessive power, it is not necessary to "rush" hills or travel fast over bad stretches of road.

Due to its length of wheel base and splendid spring suspension this car rides over the worst roads and hills without discomfort.

It is possible to travel a greater distance in a day's run—you avoid the frequent necessity of slowing down to change gears.

Except for its reserve power, it is practically the same car that thrilled the heart of every true American by winning the 22,000-mile Endurance Contest Around the World.

If you motor, why not the car that is sure to afford you the most pleasure? That is what you have a car for.

**Price \$6,000 with complete equipment**

## The New Thomas 6-40 "Long Stroke" Flyer

This car is rated at 40 horsepower—it actually develops 60 on test.

Its six-cylinder vibrationless motor has a flexibility which is wonderful—from 2 to 60 miles per hour on high gear.

The price is \$3,500, with complete equipment, including silk mohair top, folding glass front, speedometer, shock absorbers, acetylene headlights, oil side and tail lamps, horn, robe, rail, tire irons, Prestolite tank and a complete set of tools.

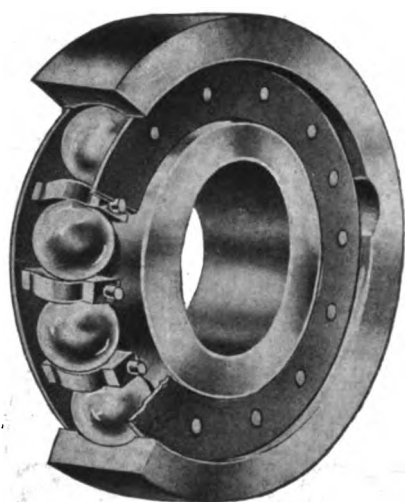
# E. R. Thomas Motor Company

BUFFALO, U. S. A.

Branches in New York City—Chicago—Boston

DEALERS IN ALL PRINCIPAL CITIES

*Licensed under Selden Patent.*



The Pioneers to Employ 92% of Balls  
in the Raceway of Silent Type

The Capacity of our 4 European Plants  
for 1911 will be 850,000 Bearings

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P R O M P T   D E L I V E R I E S   G U A R A N T E E D

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**Schafer Ball Bearings**

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W E   F E A R   N O   C O M P E T I T I O N

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**BARTHEL & DALY, Sole Importers**

42 Broadway, New York City

# FREEZE

## EXTRA HEAVY NON-SKID TIRES

### Defy Winter Storms!

☞ No matter how wet and slippery the pavement, AJAX Extra Heavy Non-Skid Tires will bear you smoothly, safely, and surely to your journey's end.

☞ AJAX Extra Heavy Non-Skid Tires are *actually and absolutely non-skid*, because the rectangular studs have bevelled edges all around and this arrangement positively prevents skidding or slipping whether moving sideways, forward or backward. The weight of the car pressing the bevelled edges on the wet pavement, compresses the air between the rubber studs and creates a positive suction. Steel-studded tires are not non-skid because on wet, slippery pavements they slide like steel runners on skates. Rubber-studs with curved or non-bevelled edges are non-skid only when moving sideways, but not forward or backward.

☞ The scientific construction of the AJAX tread provides *non-skidding insurance*, and the AJAX Guarantee of 5000 Miles or 200 Days' Service provides *service insurance*.

☞ The AJAX Guarantee is your tire insurance policy. Write for a copy and get tire wise.

### THE AJAX AIR GAUGE

☞ Ninety per cent. of all tire trouble is occasioned by under-inflation. The AJAX AIR GAUGE, manufactured by A. Schrader's Sons, Inc., makers of the Schrader Valve, will give you the exact pressure in your tires, regardless of size, simply by placing the Gauge over the valve. Can be carried in the vest pocket. Actual size, 3 1-2 inches long by 1-2 inch diameter. Nickel finish. Price \$1.00. For sale by all dealers. On exhibition at the AJAX booths at the Palace and Garden Shows, New York City.

### AJAX-GRIEB RUBBER CO.

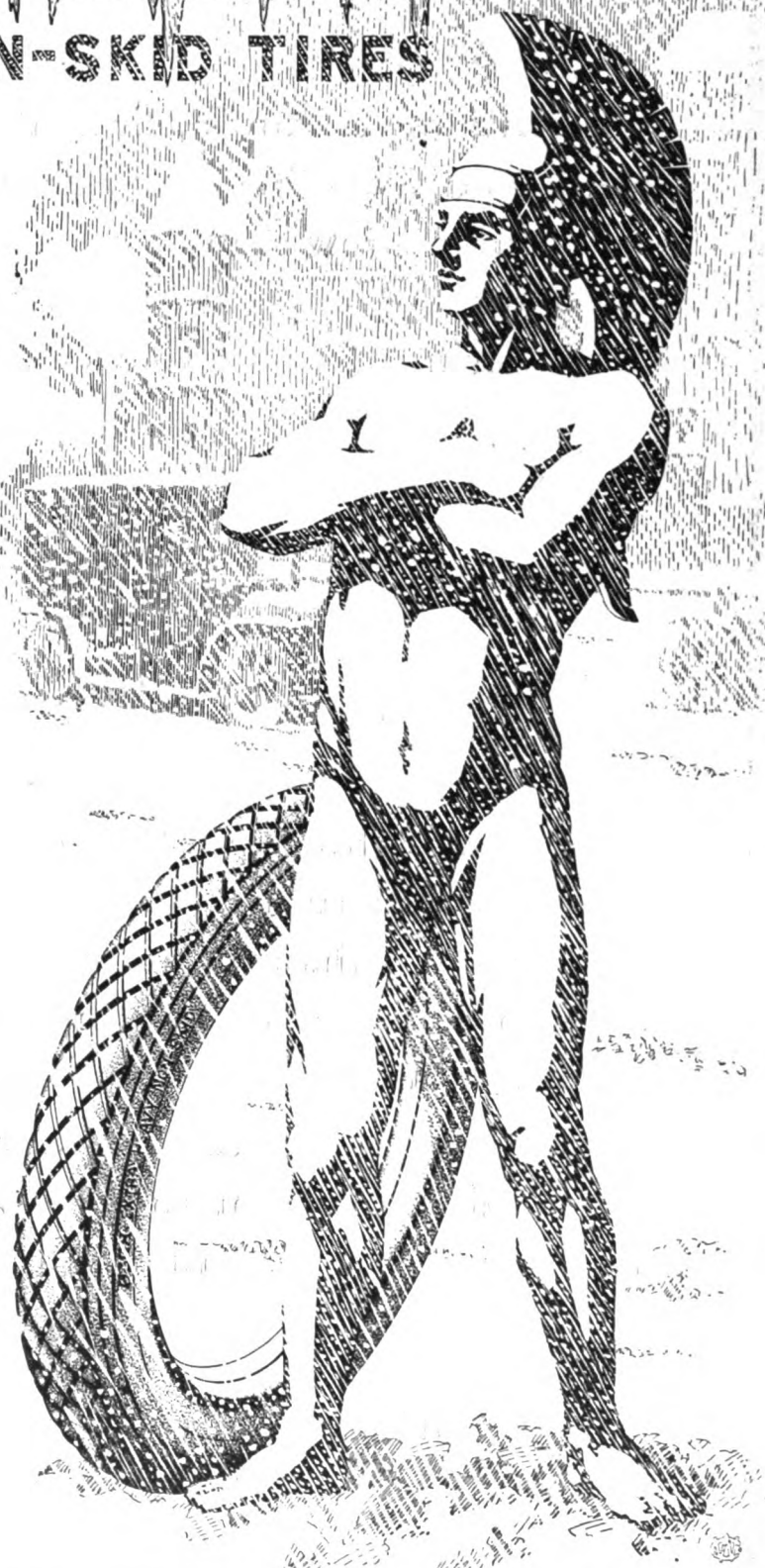
General Offices, 1777 Broadway, New York  
Factories, Trenton, N. J.

Philadelphia, 316 No. Broad St.	Atlanta, 38 Auburn Ave.
Denver, 1529 Cleveland Place	Detroit, 743 Woodward Ave.
Boston, 15 Park Square	Portland, Ore., 142 19th St.
Seattle, 917 East Pike St.	Chicago, 1425 Michigan Ave.
Los Angeles, 1038 So. Main St.	Kansas City, 1422 Grand Ave.
San Francisco, Golden Gate & Van Ness Aves.	Minneapolis, 905 First Ave., South

New York, 57th Street and Broadway

Milwaukee Agents, Goodyear Rubber Company  
St. Louis Agents, Goodyear Rubber Company

☞ See the AJAX Exhibits at the Palace and Garden Shows, New York City.





# Standard Equipment

## **Mr. Motorist:**

You will never know the real enjoyment of motoring until you use Standard Equipment. Each of the accessories shown on the opposite page is an actual necessity. They reduce cost for "upkeep" and bring every car up to maximum efficiency.



Don't pay thousands or even hundreds of dollars for a car and ruin it with poor equipment. Standard Equipment enhances the value of every automobile—adds to its efficiency and appearance. Means double the life, double the service, double the comfort.

Start the New Year right. Buy some portion of Standard Equipment to-day. If you buy a new car ask to have it Standard-Equipped.

---

**UNITED MANUFACTURERS, Inc.**

**BROADWAY AND 76th STREET**

**NEW YORK**



## "GEARED TO THE TRUTH"

The Jones Speedometer has a Direct Drive. The hand of the Jones feels the road—feels the speed—measures it mechanically. The Jones hand is connected with the road by a metal-to-metal shaft-and-gear connection. The Jones is the only speedometer that is mechanically "Geared to the Truth." In all other speedometers direct transmission is broken. The hand feels no gripping speed connection. There is a gap. Direct drive never weakens. Use the instrument that is "Geared to the Truth."

## THIS IS THE STANDARD EQUIPMENT FOR YOUR AUTOMOBILE

Each of these products is a motoring necessity—really essential to the safe and complete operation of a motor car. Our dealers show this sign. It protects you against the shoddy substitute and the shoddy-service price cutter. It's our trade mark and your guarantee that you are getting genuine Standard Equipment

## SOOT-PROOF SPARK PLUG

Soot-Proof Spark Plugs don't prevent the accumulation of soot, but they put the soot where it can't do any harm. You can't short-circuit a Soot-Proof Plug. Get a set to-day.



## MEZGER AUTOMATIC WINDSHIELD

Up or Down with One Hand Without Slackening Speed

Perfect protection in all kinds of weather from wind, dust and cold. No dust. No dirt. Absolute comfort and protection. Get the Mezger Automatic and throw your goggles away.



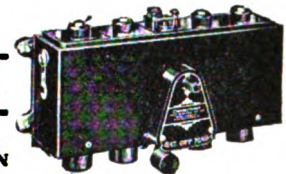
## USE NON-FLUID OILS

for lubricating transmission and bearings and USE MoToRoL for lubricating cylinders. In a recent test by the Sharp Arrow Auto Co. a car lubricated with NON-FLUID OILS ran 20,000 miles without showing any wear. That's about five years' average service! Is your car insured for five years to come? After similar tests, over sixty auto manufacturers have adopted NON-FLUID OILS and recommend them to purchasers of their cars. MoToRoL is the best cylinder oil in the market—use it.



## Ignition Specialties

EVERYTHING FOR IGNITION



We make the famous Connecticut Coil for automobile, motorcycle and motor boat use. Timers, Distributors, Current Indicators, Volt-Ammeters, Terminals, and, best of all, a new Connecticut Magneto and Shock Absorber, which will soon make their appearance. If you want perfect ignition buy "Connecticut" products.

## WEED ANTI-SKID CHAINS

BUY A SET OF WEED CHAINS TO-DAY

They're "as necessary as gasoline." Weed Chains eliminate danger—make motoring safe. Everybody uses them because it's simply impossible to tour over muddy roads, snow-covered roads, slippery or greasy asphalt and wet pavements without Weed Chains. They positively prevent skidding. But we urge you to beware of spurious Weed Chains. Genuine Weeds have brass plated cross chains and the name Weed is stamped in the hooks. Be sure you get 'em.



## THE UNITED MANUFACTURERS

Is the Co-operative Sales Force of five of the oldest and most successful automobile accessory manufacturers, i.e., Connecticut Telephone and Electric Company, The Jones Speedometer, C. A. Mezger, Inc., New York and New Jersey Lubricant Company, and the Weed Chain Tire Grip Company.

We fill mail orders only if you mention your dealer's name and address, so that we can adjust the matter with him.

UNITED MANUFACTURERS, 76th Street and Broadway, New York

Please send me literature about

.....Connecticut Ignition .....Soot-Proof Plugs  
.....Non-Fluid Oils (for transmission) .....Jones Horns  
.....Mezger Automatic Windshield .....Weed Chains  
.....MoToRoL (for cylinders) .....Jones Speedometer  
Name .....  
Address .....  
Dealer's Name .....  
Address .....



# Woodworth Treads

## REASONS FOR TIRE PROTECTION

It is a fact that the great bulk of all delays and annoyances incident to motoring are caused by some form of tire trouble.

The weight of the car, with its occupants rests on a cushion of air and rubber, and any device which tends to prevent the destruction or wear on the latter is worthy of intelligent consideration.

## WOODWORTH TIRE PROTECTORS

Are as necessary a part of an automobile equipment as the tires themselves.

**BECAUSE** they prevent punctures.

**BECAUSE** they will not allow the tires to become worn or cut on the outside surface.

**BECAUSE** the projecting steel studs reduce the danger from skidding on icy or slippery roads.

**BECAUSE** they will not chafe or heat the tire.

**BECAUSE** they can be easily adjusted or removed in a few minutes.

**BECAUSE** they will not allow moisture or dirt to penetrate the rubber and rot the fabric.

**BECAUSE** they lengthen the life of the tire from 5 to 6 times.

**BECAUSE** they are no detriment to the appearance of the tire itself.

**BECAUSE** tires using our treads are good for from 25,000 to 50,000 miles.

LET US TELL YOU ALL ABOUT IT.

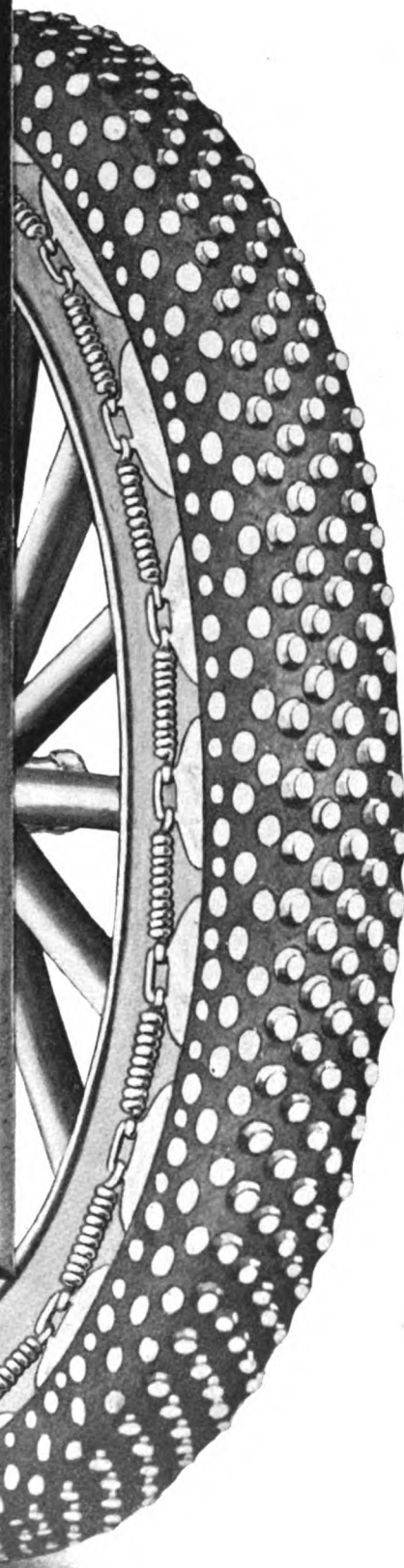
**LEATHER TIRE GOODS COMPANY**  
**Niagara Falls, N. Y.**

Leather  
Tire Goods  
Co., Niagara Falls,  
N. Y.

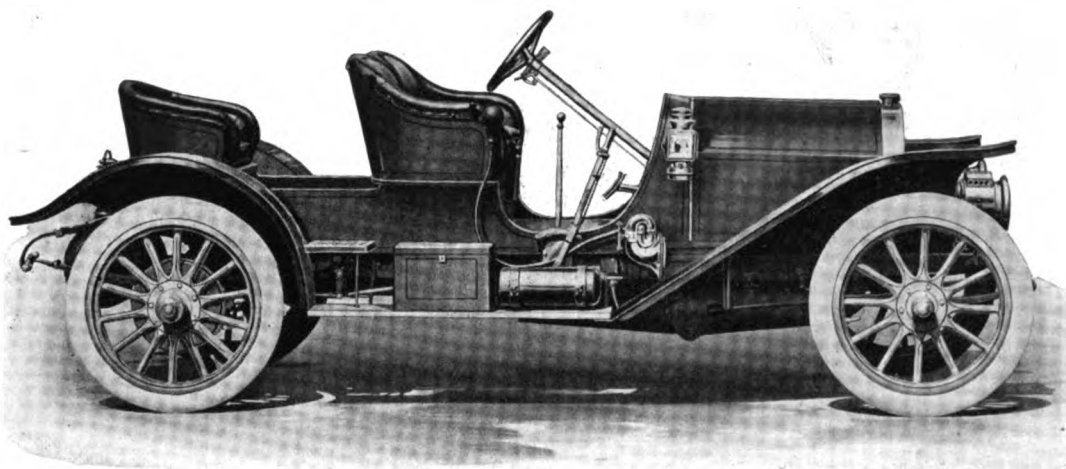
Please send 1910 Catalogue  
and prices to

Mr. ....

.....  
*Motor World.*



# Stoddard-Dayton



## An Excellent Utility Roadster—\$2000 [F. O. B. Dayton]

Built upon identically the same lines which have made "K" familiar to all lovers of a winner, the Stoddard-Dayton 10-C is a Roadster just a bit smaller than its big victorious counterpart. "C" is a spunky-looking car, and really shows in its looks the good stuff that is in it. For the business man who finds the "H" Runabout too small, and the "K" Roadster too big for his purpose, 10-C serves well. It is an excellent utility car for business and a crackerjack among roadsters — plenty big enough to make other cars rated higher in power take its dust. The same rakish body design which makes "K" notable in appearance — no matter in what company it is found — is followed out in the 10-C, which is a 40-horsepower machine. These Stoddard-Dayton Roadsters are up to snuff in any company. They look well. They do well. In all of them, the Stoddard-Dayton never-changing platform of *performance* is carried out. Speed, SILENCE and reliability are certain Stoddard-Dayton assets.

All frames are of pressed steel, made in our own factory. The rear springs, this year are three-quarter-elliptic, tempered in our own spring shops, and made of high-grade crucible steel. These are far superior to the semi-elliptic used last year, as they make for the greatest possible ease and comfort in riding.

The gasoline tank is now placed at the rear being mounted in curved brackets, symmetrical with the upper part of the three-quarter-elliptic springs.

Every possible point requiring lubrication, that is not taken care of by an automatic self-contained oiler, has been provided with a grease cup.

"C," as equipped above, is a three-passenger car. If desired, the rear seat may be double rumble, a duplicate of the front seat, or a single undivided wide, at extra cost.

The wheelbase is 116 inches. Wheels, 34 x 4. The ignition system is Pittsfield magneto and battery. (Dual system.)

The above price includes full equipment—five lamps, Prest-O-Lite tank, etc.

## "Stoddard-Dayton"

Members Association of  
Licensed Automobile Mfrs.

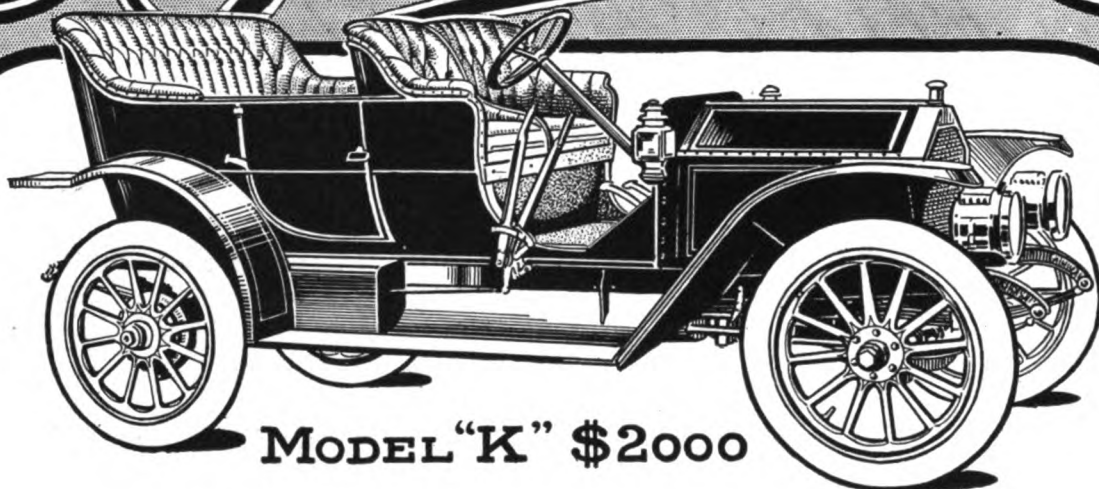
The Dayton Motor Car Co., Dayton, Ohio

Write for catalog  
of all 1910 Models

# Stoddard-Dayton



# Pullman



MODEL "K" \$2000

## Fundamentally Right for Six Years

The motor in the 1910 models is exactly the same in principle and all essential features as the motor in the first car built by this company, thus proving that its original designer, A. P. Broomell, started on correct mechanical lines. The record of the Pullman in private service and public tests has induced a close adherence to these "First Principles,"—throughout six years—though refinements have been made year by year, reaching their climax of perfection in the 1910 models, which were designed by Guillard, formerly of the Clement-Bayard, Mercedes and the Benz factories of Europe.

The body design and appointments, the control, the braking system, the exclusive oiling system, the semi-elliptic springs, the roomy tonneau, and other vital features all combine to make the Pullman a car of exceptional beauty, easy riding qualities and lasting service.

**"Not Only the Best at the Price But the Best at Any Price"**

### Models and Prices:

Model "K"—35 H. P. Touring Car or Roadster	\$2,000
Model "4-40"—40 H. P. Roadster	3,000
Model "M"—40 H. P. 7-passenger Touring Car	3,500
Model "O"—28 H. P. Toy Tonneau and Roadster	1,650

f. o. b. Factory, York, Pa.

*Write for announcement of 1910 models.*

**York Motor Car Co., Inc., Dept. D, York, Pa.**

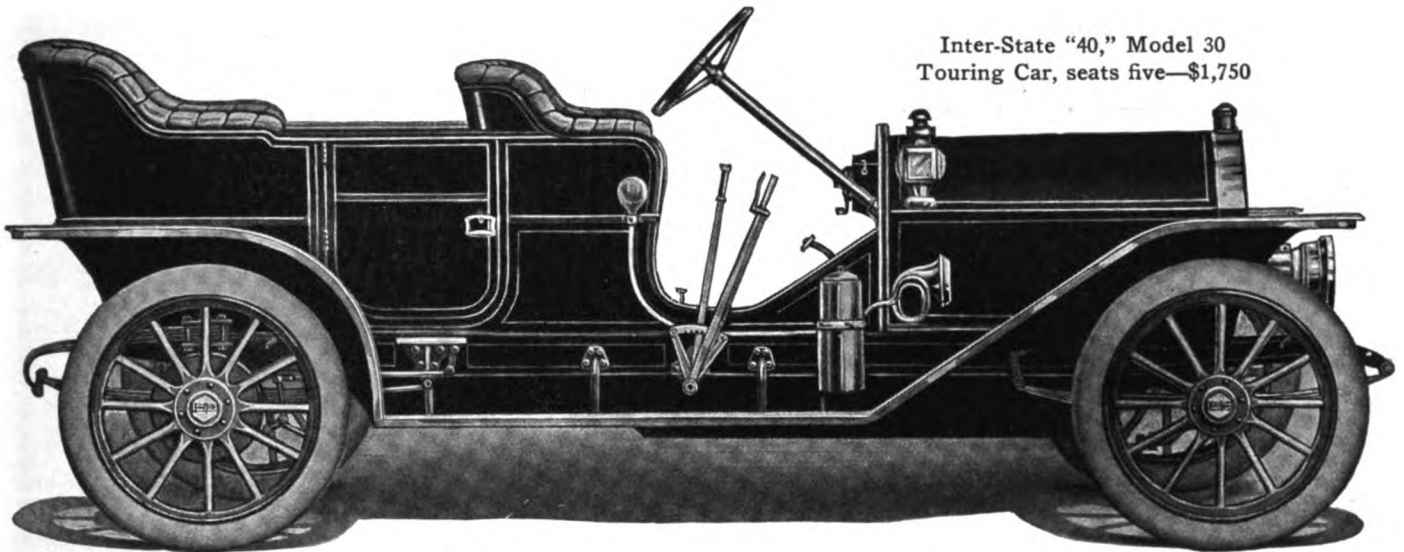
**238 N. George Street**

See Exhibit at New York Show, Grand Central Palace, Dec. 31 to Jan. 7.



# Our First Model Didn't Cost \$80,000

One maker of a car that sells in the one to two thousand dollar class has confessed it cost him \$80,000 to build his first model. It has since cost this same maker many additional thousands yearly in factory changes—in new models. He is still making and selling cars. Can you doubt that every car he now turns out has a certain percentage for experimental outlay taxed against it?



Inter-State "40," Model 30  
Touring Car, seats five—\$1,750

Inter-State "40" Touring Car, Model 30. 118 in. Wheelbase;  $4\frac{1}{2} \times 5$  in. Motor, U. & H. Imported High Tension Magneto; Double Ignition System; Multiple Disc Clutch of 63 tempered saw steel plates; Three-Quarter Elliptic Rear Springs;  $34 \times 4$  in. Tires and many other high priced features.....

**Price, \$1,750**

## The High-Grade ~~Inter-State~~ at a Fair Price

We have no history of costly experiments behind us. We have not been changing models yearly—or abandoning costly machinery.

Manufacturers of the higher priced cars have spent many thousands of dollars in costly experiments.

We do not have to get money spent in such ways back from the people. We began to build the Inter-State after motor car practice and design had been standardized. So we give full value, dollar for dollar.

It can only cost just so much to build the highest grade car. Values of parts and the cost of their construction have a limit. A maker's outlay on a car can be the cost of the best possible in every way, and in construction—that is all.

We spend all that can be spent in making this highest grade car—in both materials and construction.

For instance, we spend all that can be spent on a motor. We get the highest efficiency possible.

The motor in the Inter-State has all the refinements of con-

struction, all the materials that go to make up the best known motors of the highest priced cars.

All the improvements, all the refinements that distinguish the 1910 Inter-State models have been tested and proved out. They fulfill all the requirements of the best motor car practice. They are found only in the highest priced cars—other than the Inter-State.

Yet we can afford to sell the Inter-State for \$1,750—at a fair manufacturer's profit, such as is obtained in other lines. Judging by automobile values as you have known them until now, we could get a far higher price than the \$1,750 we ask for the Inter-State.

Since in the Inter-State you get all you can secure in any car at any price, you'd hardly think we asked too much if we asked far more.

Send for our 1910 catalog so you can see for yourself why you can get no more in high priced cars than in the Inter-State—unless perhaps more power than you can use—for no car at any price can give you more than the Inter-State in material, workmanship, speed, durability, comfort or beauty.

### MR. DEALER: Is this the kind of a Proposition you want?

We aim to treat the dealer who handles INTER-STATE cars with fairness. We make and sell cars which we are prepared to deliver, and our policy is to make only those contracts which we are able to fulfill. We will not accept deposits on more than the number of cars we shall build. We do not need dealers' deposits to help carry on our business, but merely as a guarantee of good faith.

### Or, do you want to finance some Manufacturer's business?

#### TEAR OUT THIS REMINDER.

Inter-State Automobile Co. (27)  
Muncie, Ind.

Without placing me under any obligations, kindly send me your 1910 catalog.

Name \_\_\_\_\_

Address \_\_\_\_\_

(M. W.)

# GRAY & DAVIS

## Unit Dynamo System for Incandescent Arc Lighting of Automobiles

We have realized for some time that electric lighting for automobiles was the solution of the lighting question.

Therefore, we have designed and perfected a system, having constantly before us the experience and troubles of all that are on the market, both here and abroad, and our unit system comprises :

1st. Constant speed dynamo, to be driven from the engine or jack shaft, by gear, belt or chain.

2nd. Governor of extra large capacity to take care of excessive engine speeds.

3rd. Electric cut out to cut out dynamo when running below charging speed and also to cut out dynamo when battery is charged.

4th. Battery to run lights when car is standing or running below dynamo speed.

All above so designed and apportioned as to form one harmonious unit.

With our system we have perfected an

### INCANDESCENT ARC LIGHT BULB

that is a point of light (the ideal for reflecting) that consumes but 1 watt per candle power and when used with our Parabolic mirror will give about three times the light of the strongest acetylene searchlight and light can be turned off or on at will to conform to various city ordinances.

 Will be Exhibited at Both New York Automobile Shows 

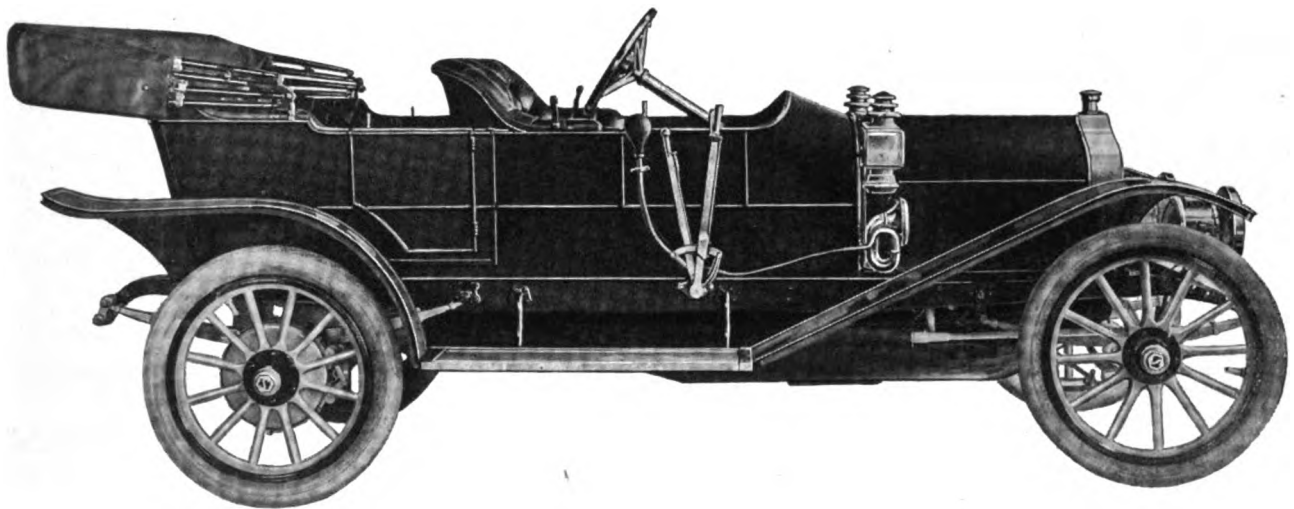
**GRAY & DAVIS** Manufacturers of HIGH GRADE  
**Automobile Lamps**  
**AMESBURY, MASS.**

# THE SELDEN CAR

MADE BY THE FATHER OF THEM ALL

THE SELDEN LINE OF CARS FOR 1910 EMBRACES THE FOLLOWING MODELS:

Model 35-T, Five-Passenger Touring.....	\$2,000
Model 35-R, Three-Passenger Roadster .....	2,000
Model 35-P, Four-Passenger Torpedo Tonneau (with Bosch Magneto).....	2,250
Model 35-S, Seven-Passenger Touring, (with Bosch magneto) .....	2,500
Model 35-L, Six-Passenger Limousine .....	3,000



Our four cylinder motor is  $4\frac{3}{4} \times 5$  (A. L. A. M. Rating 36.1 horsepower); wheel base is 122 inches on the seven-passenger, 116 inches on the others; clearance 10 inches on all; Bosch magneto, Stromberg carburetor; wheels, 36 inch on the seven-passenger, 34 inch on the other. The high quality and faultless construction of every Selden car produced is guaranteed. We do not build cheap cars. The car shown above is the famous "Torpedo Tonneau."

## Here are some fresh ones just off the bat:

I have been so busy demonstrating my car that I have neglected to advise you what the car is doing. We can do anything that any other car can do, regardless of price or name, on hill climbing or on the level, and we have done things on the hills where other cars of twice the price have failed.

W. L. SIMPSON, Punxsutawney, Pa.

December 7th, 1909.

I have received and tried out to a certain extent the 1910 model. I will not criticize it in any point. I will congratulate you. After I have run the car 1,000 miles will give you my opinion of what I consider a remarkably fine car—your 1910 product.

F. A. NICKERSON, Portland, Me.

December 13th, 1909.

We ran your 1910 car from Saratoga Springs to Utica last Sunday over very rough and icy roads in five and one-half hours, never changing the gear the entire distance, which, as you know, is a very hilly country most of the way; the car is running better every day.

W. L. GEE, Utica, N. Y.

December 17, 1909.

I made a trip yesterday over very hilly country roads, and the car gave perfect satisfaction in every way. It was remarkable, the power it developed. The Torpedo has created quite a sensation.

J. H. VAN BRUNT, St. Joseph, Mo.

December 22, 1909.

Exhibitions will be made at Madison Square Garden, New York, January 8-15, and at Coliseum, Chicago, February 6-13.

## AGENCIES WANTED IN UNOCCUPIED TERRITORY.

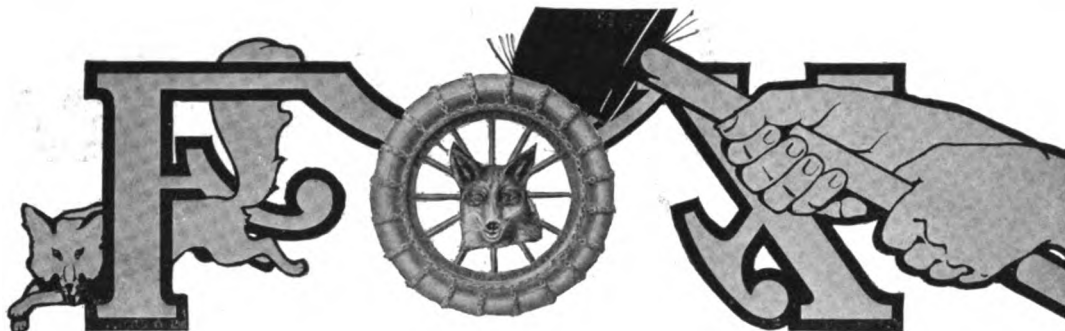
**SELDEN MOTOR VEHICLE CO.,**

**GEO. B. SELDEN,**  
President.

**Rochester, N. Y.**

Licensed under Selden patent.

Members Association of Licensed Automobile Manufacturers.



## You can hammer the cross links of **THIS** Anti-Skid Chain with a sledge hammer, but you **CAN'T MAKE** them cut the tires.

The Fox Anti-Skid Tire Chain prevents skidding absolutely. It is the only chain which does. We stand behind this statement fully—it will keep your car from skidding. It will enable you to use your car on days when you would not dare take it out otherwise.

You are **SAFE**, your car is safe when equipped with Fox Chains, no matter what the condition of the roads—safe on slippery, greasy asphalt, on ice and snow covered macadam, on slimy cobbles, on car tracks—on any road or street. Fox Anti-Skid Chains will enable you to use your car sixty days—**two solid months**—more in a year than you can without them.

### The Fox Chain **WON'T** Hurt Your Tires

Of course you have had perfectly good shoes cut to pieces by chains. Of course you have had great holes gouged in them by the cutting links of the chains, and so ruined in one day's driving, shoe after shoe which would have been perfectly good for a thousand miles more, had not the chains cut them to pieces. Most

motorists dread to put on chains almost as much as they dread to skid.

### The Fox is **NOT** That Kind of a Chain

In the Fox, no edge, no cutting surface of any kind comes against the tire. Nothing except a broad, flat, perfectly smooth metal surface **without edges**, touches the tire. The broad, flat links fit the shoe as harmlessly and as closely as a piece of tire tape. If you should swing a heavy sledge hammer against the links of the Fox Cross Chain, not once, but **many times**, you **could not make it cut into the tires**. If you should do this with other chains, you would quickly drive the links into the rubber and cut a **great hole**, perhaps with the very first blow.


Fox Chains have proven by actual service of the hardest sort in the hands of private car owners that they wear for over three thousand miles where other chains go to pieces in three hundred miles. They cost a little more than other makes but they will wear many times as long and during their life will save you **several hundred dollars** in tire expense over other chains.

**EXHIBITING AT ALL SHOWS. COME AND SEE THE FOX FOR YOURSELF**

## TO THE TRADE

Would you like to have us **GUARANTEE** to you the sale of 1-2 dozen sets of Fox Chains?

Would you like to have us **SHARE** with you a profit we already have?

Then cut out  this coupon and mail to us.

**FOX METALLIC TIRE BELT CO., Broadway, at 68th St., New York City**

*Gentlemen: Kindly send me your New Territory offer.*

Name

Address

(Motor World)

**FOX** Metallic Tire Belt ©

17-19 McKibben Street,  
Brooklyn, N. Y.  
New York Salesrooms:  
Broadway, at 68th Street

# A CLEAN SWEEP

for

# "Firestone"

## TIRES and DEMOUNTABLE RIMS

**FIRST** in *Tires* on American-make cars at the Grand Central Palace Show. (By actual count.)

**FIRST** in *Demountable Rims* by the enormous lead of fifty per cent. more than all others combined. (By actual count).

**FIRST** in *Motor Truck Tires* with the usual proportion of more than twice as many Firestone Side-Wire tires as nearest competition. (By actual count).

**FIRST** in *Non-Skid Tires*, leading the entire field by a wide margin. (By actual count).

**This Clean Sweep Forecasts Another Year  
of Still Greater FIRESTONE Popularity**

*Palace Show Space 113*

*Garden Show Space 141*

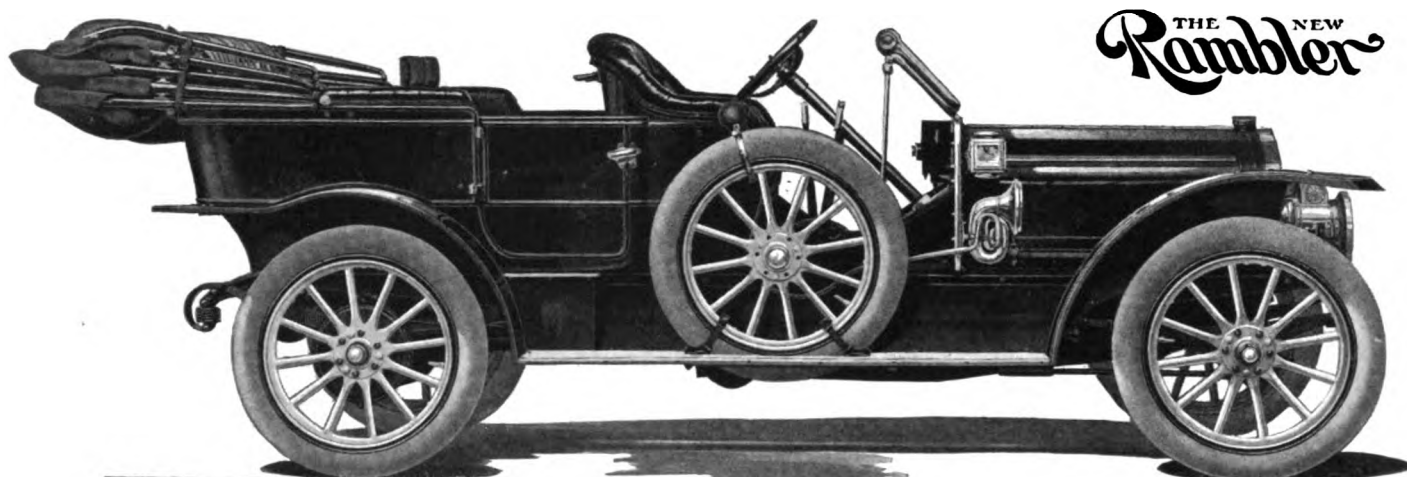
**FIRESTONE TIRE & RUBBER CO.**

**AKRON, OHIO**

*"America's Largest  
Exclusive Tire Makers"*

*Branches, Agencies  
and Dealers Everywhere*





THE NEW  
**Rambler**

Rambler Fifty-five, 45 h. p., \$2,500,  
With Magneto, Lamps, Presto-lite Tank and Tools



*Sheet Metal Department,  
Rambler Factory*

Every important part of the new Rambler is made in the Rambler factory. The skill of each individual workman, acquired through years of application to the details of his own work, is supplemented by an equipment for the accurate and careful production of each separate part, unsurpassed by that of any other automobile factory in the world

**Thomas B. Jeffery & Company**

Main Office and Factory: Kenosha, Wisconsin

Branches: Chicago, Milwaukee, Boston, Cleveland, San Francisco



Volume XXII.

New York, U. S. A., Thursday, January 6, 1910.

No. 1

## METZGER ABSORBS HEWITT ENTIRE

**Detroit Company Finally Attains Its Ends—  
Gets Selden License and Now Will  
Build Trucks, Too.**

Despite the previous positive declaration of E. R. Hewitt, president of the Hewitt Motor Co., New York, that neither his company nor the Selden license which it held, would be sold to the Metzger Motor Car Co., Detroit, which was bidding for the license, both the Hewitt company and the license have been sold to the Detroit concern.

After a long period of negotiation the deal finally was closed late last Friday night and the Hewitt Motor Co. will pass out of existence, the Metzger people having acquired its entire assets. They will continue the manufacture of Hewitt trucks, however, in connection with the production of the Everitt touring car. In fact, the consummation of the deal portends a general development of not only commercial vehicles of all tonnages, but of taxicabs and sight seeing vehicles also.

When, a few months since, the Metzger company was organized by W. E. Metzger and his associates, B. F. Everitt and William Kelly, they anticipated little or no trouble in securing a Selden license, Mr. Metzger having been one of the earlier directors of the Association of Licensed Automobile Manufacturers and being "close" to many of its most influential members. They, however, refused to be swayed by their friendship or personal regard, but not to be denied Metzger, Everitt and Kelly opened negotiations with the Hewitt Motor Co., one of the early licensees, whose output, however, has been limited, and though the Hewitt principals at first declined to sell and instead suggested an alliance that would permit the Everitt car to be produced under their license, the Detroiters pressed their case until, as stated, they brought the Hewitt company to their way of thinking,

and absorbed all its possessions. The consideration involved has not become known.

### Reeves to Become A. L. A. M. Manager.

Alfred Reeves, at present occupying the same office in the American Motor Car Manufacturers Association, will become general manager of the Association of Licensed Automobile Manufacturers, on Thursday next, 13th inst. A meeting of the latter organization has been called to occur on that date "for the purpose of electing a general manager" and that Reeves is the man who will be elected there is no doubt. It is well known that the position was offered to Reeves some time since and that he declined it and had about decided to enter the trade on his own account. Meanwhile, the tender was so insistently repeated that Reeves was induced to change his mind, and it is generally understood that to his acceptance is due the call for next week's meeting. The office of general manager of the A. L. A. M. has been vacant for several years. M. J. Budlong was the last man to fill it, and since his resignation the duties have been performed by two successive assistant general managers.

### Michelin's New Manager Appointed.

Following the retirement several weeks ago of J. C. Matlack from the Michelin Tire Co., J. Hauvette-Michelin has been elected vice-president and general manager, with headquarters at the general offices and factory, at Milltown, N. J. The newcomer is a nephew of Edouard Michelin, head of the varied Michelin interests. He has had long experience abroad, both in the manufacture and sale of Michelin tires.

### Eisemann Magneto in New Hands.

The American rights to the Eisemann magneto have been transferred from Lavallette & Co., New York, to a new company, the Eisemann Magneto Co., which hereafter will handle the instrument in this country. The new concern, which will formally organize next week, already has leased the entire sixth floor at 225-227 West Fifty-seventh street, New York.

## M. A. M. RETAINS ALL OLD OFFICERS

**No Changes Made at Annual Election—  
Notes of Warning Sounded at Both  
Meeting and Banquet.**

At the meeting of the board of directors of the Motor and Accessory Manufacturers, Inc., held in the association's headquarters this (Thursday) morning, all of the incumbent officers were re-elected, as follows: H. E. Raymond, B. F. Goodrich Co., president; H. T. Dunn, Fisk Rubber Co., first vice-president; F. E. Castle, Atwood-Castle Co., second vice-president; Clarence E. Whitney, Whitney Chain Co., third vice-president; W. S. Gorton, Standard Welding Co., treasurer; Peter S. Steenstrup, Hyatt Roller Bearing Co., secretary. A new office was created for W. M. Sweet, who, in the capacity of assistant secretary, has been in charge of the New York headquarters. He has been made general manager of the association.

The annual meeting of the Motor and Accessory Manufacturers, Inc., and the banquet which followed it easily were the largest and most important trade gatherings of the week. Both occurred last evening (Wednesday) at the Waldorf-Astoria.

The most important transaction at the business session was the selection of four three-year directors, but the election resulted in no change being made, the incumbents being chosen to succeed themselves, as follows: D. J. Post, Veeder Mfg. Co.; L. M. Wainwright, Diamond Chain & Mfg. Co.; George Byrne, Byrne-Kingston Co.; H. Winfield Chapin, Brown-Lipe Gear Co.

The report of the secretary disclosed that there are 173 members on the roll, while the treasurer's report showed a cash balance of \$16,714. The total receipts of the fiscal year were \$71,512, and the total disbursements \$54,798.

The report, however, which was most warmly received, and which created the

greatest enthusiasm was that rendered by the president, Howard E. Raymond. It was crisp and to the point and was delivered in a vein which added to its effectiveness. Mr. Raymond sketched the work of the year, which included the establishment of well appointed offices in New York which, among other things, offers personal conveniences to all visiting members.

While the several standing and special committees had rendered notable services, Mr. Raymond said that no department of the organization had proved so satisfactory as its credit bureau. There are 140 members using it and the interchange of information, not between one or two members, but between different groups of members, had proven invaluable. The various credit reports obtained during the year are to be printed in book form.

The one committee which had nothing to do was the Conference Committee, due to the fact that relations with the car builders associations are on a solid basis and to the existence of "warm mutual respect and confidence."

Additional groups are to be added during the current year to those sub-divisions or committees—on tires, lamps, forgings, chains, etc.—which were created last season. Of the work of these groups, Mr. Raymond said: "This is going to be a most important subdivision of our membership for effective work some day. Ahead of this industry is a certain need for cohesive action among the parts makers. It may not be this year or next but it is ahead. Matter is in the making that will tax our ingenuity to meet and meet right. We have a necessity to insure that no hurdle is erected that we may not be able to jump over. It will, we believe, be possible through this organization, to prevent it."

The feature of Mr. Raymond's report, however, was his reference to the show situation, in which he remarked not merely the manner in which show promotion is being overdone, but sounded a note of warning regarding the danger of over-exploitation which menaces the industry.

"We now live in a show atmosphere," he said. "The situation is becoming acute. It is almost a question if we and our sister organizations are engaged in the manufacture of a product and its sale, or a show proposition to be exploited by the various elements who believe in shows for revenue or otherwise. I do not so much refer now to legitimate dealers shows even though they may be growing at an alarming rate until we have hardly a city of any size not on the calendar for one. . . . The board is endeavoring to be protective of your interests in proper restriction of the spread of the show spirit, not harmful. The industry is in greater danger of over-exploitation than under. There is a greater danger of waste in expenditure of money than undue saving. There is a spirit of menace abroad to the selling organizations that unless checked will leave on the shores of time the wrecks

## E-M-F SUES AND IS SUED AGAIN

**Charges Minority Directors with Misconduct and Studebakers Again Seek Injunction—Merger Project Aired.**

All the causes which led to the rupture between the E-M-F. Co. and its selling agents, the Studebaker Automobile Co., to which a few others have been added, are to be threshed out again in the United States Circuit Court at Cincinnati, Ohio, this afternoon, but this time before another judge, Hon. J. W. Warrington, who has consented to hear the case. Two others already have passed on it.

The new proceeding was instituted on Monday last by the Studebaker company and in effect seeks the same end as the previous actions, viz.: an injunction restraining the E-M-F. Co. from selling or delivering its cars to other than the plaintiffs, and from publishing such advertisements as have been published. The complaint practically is an amplification of the one which Judge Swan in Detroit permitted the Studebakers to withdraw last week, subject to certain conditions.

The most sensational feature of the new complain is an accompanying affidavit made by F. S. Fish, chairman of the Studebaker company's executive committee, who also is one of the minority directors in the E-M-F. Co. It confirms the story printed exclusively in the Motor World that a gigantic merger and floatation had been projected, Mr. Fish admitting that he had attempted to promote an enterprise of the sort, but he charges that Walter E. Flanders, president of the E-M-F. Co. was the author of the idea and that at his suggestion he had sought to interest at least one other E-M-F. director in the project. In his affidavit Mr. Fish also declares that Hayden Eames, general manager of the

Studebaker company, had no legal right to bind the company to take 15,200 E-M-F. cars as per the schedule or agreement arranged in August last year. It was the failure of the Studebakers to take the monthly allotments specified by this schedule that caused President Flanders to annul the contract or agreement and thus sever the relations existing between the two companies.

Meanwhile, the E-M-F. directors have held a meeting and by majority vote formally ratified Mr. Flanders' action; Messrs. Fish, Studebaker and Eames, the minority directors were present and sought to have the ratification deferred, but, of course, they were outvoted. But pending the result of the new proceedings, the Studebaker company has advised agents with whom it had executed contracts for E-M-F cars to protect themselves by signing up with the E-M-F Co.; these advices added that all deposits that had been made for such cars would be returned.

The E-M-F Co. has not been wholly idle in respect to aggressive litigation, having instituted suit designed to oust from its board of directors Messrs. Fish, Eames and Studebaker, who immediately after the rupture and in their capacities as minority stockholders, applied for and obtained a restraining order that temporarily tied up the E-M-F operations.

It appears that there is an old Michigan statute which gives circuit courts jurisdiction over the actions of directors in domestic corporations, where bad faith and gross misconduct are charged, and the E-M-F Co. has instituted an action under this law, alleging misconduct on the part of Messrs. Fish, Studebaker and Eames. The various causes leading up to and subsequent to the trouble are recited, and it is alleged that the actions of the three minority directors were parts of a plan by which they expected to get control of the E-M-F Co. and make it part of an \$80,000,00 merger, which they had been fostering.

of what might have been valuable and self-respecting young men. And this organization will have failed in one of its duties should it not strive to alter and amend this tendency."

The banquet which followed the business meeting was largely attended, probably 200 persons being present. Job E. Hedges served as toastmaster and was in rare good form. His wit and epigrams really were the feature of the occasion, of which he struck the keynote when he said: "So conduct and live your business life that when you put out the light and are alone in the dark, you will have no reason to feel uncomfortable." There were but five speakers. H. O. Smith, chairman of the American Motor Car Manufacturers Association, spoke of commercial honesty—honesty of competitors to each other and to the public, and appealed for a

closer understanding between the car manufacturers and the parts producers. Col. George Pope, treasurer of the Association of Licensed Automobile Manufacturers, spoke in behalf of that organization and received a spontaneous and almost affectionate greeting that must have warmed even his warm heart. He said that the A. L. A. M. stood for the good of the industry and against its exploitation, and he, too, told the parts makers that they owed it to themselves to watch their credits and not to assist mere speculation and exploitation. "Shape a safe course and keep to it," he urged. "Do not be carried away by the enthusiasm of today, which so often leads to the regrets of tomorrow." The other speakers were Lewis R. Speare, president of the American Automobile Association; John C. Wetmore, representing the press, and Senator Martin Saxe.

## NOVEMBER EXPORTS MOUNT HIGH

**Increase Amounts to Nearly \$400,000—  
Gains Made in All Directions, but  
Average Price of Cars is Lower.**

Exports of American cars during the month of November show no interruption of the increase noted in the preceding months. Fully five times as many cars were exported during this month as in November, 1908, the two quantities being 464 and 87, respectively.

The average value of the exported cars decreased from \$1,666 to \$1,001 per car. The aggregate value of the 464 cars was \$464,567; that of the parts, \$99,389; the total value of both being \$563,956, compared with \$187,920 in the same period of last year. The gain in car values over November, 1908, amounts to more than 230 per cent.; that in the value of parts to nearly 120 per cent.

The greatest actual gain is shown by Canada, which took \$141,647 worth, compared with last year's \$28,342. The greatest proportionate advancement was made in Australia, where a mere bagatelle of \$666 in November, 1908, had grown to \$54,700 a year later. South America also took a leading place among the buyers of American machines, increasing its quota from \$5,567 to \$52,965. The increase was general all along the line, Italy alone excepted; that country took \$7,000 less than a year ago.

For the eleven months ending November 30th, the aggregate gain amounted to \$2,502,159. During this interval 3,228 cars were exported, as against 2,005 in 1908, the gain in car values amounting to \$2,269,124, while parts values improved to the tune of \$233,035. Twelve of the fourteen countries stand on the plus side, with British North America leading and the United Kingdom, France and British Australasia following in the order named. Italy and the British East Indies are on the minus side, with an aggregate loss of only \$21,130. The report in detail:

	November 1908	November 1909	Eleven Months Ending November 1907	Eleven Months Ending November 1908	Eleven Months Ending November 1909
<b>Automobiles and parts of—</b>					
Automobiles .....	\$145,070	\$464,567	\$4,861,622	\$4,116,476	\$6,385,600
Parts of .....	42,850	99,389	593,918	567,947	800,982
<b>Exported to—</b>					
United Kingdom .....	56,899	63,992	1,671,680	1,661,974	1,903,764
France .....	9,418	28,036	587,886	548,283	817,771
Germany .....	7,337	14,121	170,186	158,804	172,095
Italy .....	16,000	9,140	242,660	237,519	223,570
Other Europe .....	1,467	9,597	272,290	204,178	312,565
British North America .....	28,342	141,647	1,145,564	1,075,366	2,262,247
Mexico .....	34,359	75,084	573,116	283,395	450,237
West Indies and Bermuda .....	22,469	58,787	249,637	159,586	290,924
South America .....	5,567	52,965	220,933	107,244	211,666
British East Indies .....	420	884	35,556	24,077	16,536
British Australasia .....	666	54,700	175,356	75,831	247,037
Other Asia and Oceania .....	3,394	33,990	91,162	118,491	172,206
Africa .....	200	2,877	8,048	7,591	62,000
Other countries .....	1,382	18,136	11,466	22,084	43,964
<b>Total .....</b>	<b>\$187,920</b>	<b>\$563,956</b>	<b>\$5,455,540</b>	<b>\$4,684,423</b>	<b>\$7,186,582</b>

## More Additions to Licensed List.

Before the executive committee of the Association of Licensed Automobile Manufacturers adjourned on Thursday last, they granted Selden licenses to three more manufacturers, viz.: York Motor Car Co., Pullman cars; Regal Motor Car Co., Regal cars; Mora Motor Car Co., Mora cars. The Hewitt Motor Co.'s license was amended to include Everitt cars as well as Hewitt trucks. The following day, the Metzger Motor Car Co., makers of the Everitt cars, acquired the license and other assets of the Hewitt company. Those to whom licenses were granted at Wednesday's session of the A. L. A. M. executive committee, as exclusively stated in the Motor World last week, were the Brush, Bartholomew, Buckeye, Moline, Moon, National and Nordyke & Marmon companies.

## Detroit Men in Canadian Project.

To build automobile engines for the Canadian trade the Dominion Motors, Ltd., has been organized in Windsor, Ont., opposite Detroit, with A. J. Kinnucan, formerly purchasing agent of the Brush Runabout Co., as general manager. The concern has been incorporated under Canadian laws with \$150,000 capital and has commenced the erection of a fireproof factory in Windsor. The product will be a four cylinder car of 35 horsepower, designed by E. W. Winans, who is at present engineer of the Regal Motor Car Co., but who will be engineer and factory manager of the new company. The car will be styled the Royal Windsor and it is expected that deliveries will commence June 1st.

## Poole to Push Electrics in Europe.

John L. Poole, who has made a specialty of export trade and who in that capacity was stationed abroad for several years, first in the interests of the Olds and later for the Buick company, has engaged with the Babcock Electric Carriage Co., Buffalo, N. Y., and will at once organize an export department. Poole believes that there is considerable room abroad for American electrics, and his new mission, of course, is to put them there.

## WHITE'S OPINION OF OLYMPIA

**Afforded Unequalled Opportunities for  
Study, He Says—The Tendencies and  
Designs Very Clearly Defined.**

"As Paris and Berlin did not hold shows this winter the London show in Olympia Palace had no competition and was a much greater affair than many Americans may imagine was the case," says Walter C. White, second vice-president of the White Company, who returned from London a few days since.

"More automobiles were shown in Olympia than ever before were brought together in a single exhibition. To be specific, in last month's London show there were 597 complete cars and chassis, against 575 at the 1908 Paris show and 381 at the last Chicago show. In past years, some of the Continental makers have not exhibited their products in London, and on the other hand some of the English makers have not taken their machines over to Paris, with the result that one really had to visit both shows in order to see everything. This year at Olympia the world's greatest cars were all shown on one floor under one roof, and unequalled opportunities were afforded the critical visitor to study the latest tendencies in motor car construction.

"The car of moderate size, moderate power and moderate price was supreme. It is hardly an exaggeration to say that the leading car of every exhibitor was of that type. As regards details of construction, there was, of course, the widest possible divergence just as there is at any show, owing to the fact that different makers 'stand pat' at different points along the path of progress. But as soon as the visitor to Olympia limited his study only to the cars of world-wide reputation which have from year to year practically set the pace in design, the resemblance was so startling as to demonstrate that the leading designers, in their striving for the ideal car, have all been led by the logic of the situation toward a certain standard.

"The block engine construction—the casting of the four cylinders in one piece—has been adopted by every foreign maker who has brought out a newly-designed car in the last two years, and the same applies to the long stroke engine, as the advantage of these features have been thoroughly demonstrated. With the adoption of the block engine, there is a well-defined tendency to simplify the engine by reducing the amount of piping, wiring and other outside appurtenances. Those makers who have made the most progress along these lines have eliminated all external manifolds and have included the intake and exhaust passages within the engine casting. By this construction, they have gained the further important advantages of heating the intake

gases and water-cooling the exhaust gases, thus making a great stride forward in economy of fuel, besides increasing the amount of power obtainable from a cylinder of a given size. As regards ignition, the majority of the leading makers depend entirely upon the magneto. Another feature which has become practically standard construction is the use of a four-speed transmission in the high grade car of moderate power.

"It was naturally a source of much gratification to me that our new gasoline car was ranked with the five or six leading foreign makes as being of the most advanced design and that our steam car is maintaining its position as one of the most popular cars in England.

"The English industry is recovering from the depression of a year or two ago and has settled down to a stable basis. I visited a number of the English factories and found that most of the well-established makers were prospering, but there has been a great weeding out of the concerns which were launched during the boom times without adequate resources to do business and to look after their customers except in boom times."

#### **Parker Motors Ready for Marketing.**

The first product of the Parker Motor Co., Hartford, Conn.—a four-cylinder motor—has made its appearance on the market. It is of the 4 cycle, water cooled type, 4½ by 5 inches, developing 32.4 horsepower by A. L. A. M. rating. The L cylinders are cast in pairs, offset one inch, the valves all being arranged on one side. Lewis D. Parker, the president and general manager of the new company, formerly was the head of the Hartford Rubber Works Co., and is therefore not a stranger either to the automobile trade or its wants.

#### **Schwartz to Manage Metz's Sales.**

W. H. Schwartz has been appointed sales manager of the Metz Manufacturing Company, Waltham, Mass. Several years ago he was identified with Mr. Metz, when the latter was the head of the Waltham Manufacturing Company, but more recently Schwartz has been acting as manager of the Olds-Oakland Motor Company of Boston.

#### **Stoll Pressed Steel Organized.**

The Stoll Pressed Steel Co. has been organized in Buffalo, N. Y., for the manufacture of automobile frames and metal stampings. Articles of incorporation have been filed under New York laws, giving the concern a capitalization of \$50,000, the incorporators being Daniel H. Stoll, Charles C. Hornung and others.

#### **Connecticut Increases Capital to \$250,000.**

The Connecticut Telephone & Electric Co., of Meriden, Conn., has filed a certificate of increase of capital stock from \$40,000 to \$250,000. The new money will be used in extending the business.

#### **The Week's Incorporations.**

Detroit, Mich.—U. S. Auto Top Co., under Michigan laws, with \$20,000 capital.

• Saginaw, Mich.—Davis Draper Auto Co., under Michigan laws, with \$3,000 capital.

Brockton, Mass.—Pickard Bros. under Massachusetts laws, with \$100,000 capital; to manufacture automobiles.

Auburn, Ind.—Auburn Automobile Co., under Indiana laws; capital stock increased from \$25,000 to \$75,000. President, Charles Eckhart.

Terre Haute, Ind.—Haworth-Cole Auto Co., The, under Indiana laws, with \$1,000 capital. Corporators—A. B. Haworth, H. J. Cole and D. V. Miller.

Indianapolis, Ind.—Ricketts Auto Co., The, under Indiana laws, with \$30,000 capital; to manufacture auto parts. Corporators—R. Ricketts, L. F. Ricketts and E. Ricketts.

Chicago, Ill.—Enterprise Automobile Repair Co., under Illinois laws, with \$2,500 capital; automobile and repair business. Corporators—Charles G. Woll, C. W. Huck, J. E. Hurtubis.

Chicago, Ill.—F. E. Z. Auto Sales Co., under Illinois laws, with \$10,000 capital; manufacturing and merchandizing. Corporators—F. H. Ball, H. L. Blum and Gertrude Herschman.

Detroit, Mich.—General Motors Co., of Michigan, under Michigan laws, with \$10,000 capital. Corporators—W. C. Durant, Flint; W. J. Mead, Lansing; C. R. Hathaway, New York; C. R. Hathaway, trustee, New York.

Memphis, Tenn.—Memphis Automobile Co., under Tennessee laws; capital stock increased from \$50,000 to \$70,000. Corporators—S. T. Carnes, W. E. Perkins, A. H. Dorsey and William B. Gates.

Rochester, N. Y.—Rochester Drop Forge Co., The, under New York laws, with \$40,000 capital; to manufacture dies, plates, etc. Corporators—Louis M. Beattle, L. W. Hostettler and Fred K. Thompson.

Bayonne, N. J.—Bayonne Garage and Automobile Co., The, under New Jersey laws, with \$5,000 capital; general automobile business. Corporators—John C. Guise, Frederick G. Perkins and Arthur N. Hanson.

Milford, Del.—Milford Garage and Repair Co., The, under Delaware laws with \$5,000 capital; general automobile business. Corporators—William H. Robinson, William A. Webb and Louder N. Hearn.

Haverhill, Mass.—Central Garage, Inc., under Massachusetts laws, with \$10,000 capital; general automobile business. Corporators—Harry F. Small, William J. McDonald, Jacob W. Small, all of Haverhill, Mass.

Trenton, N. J.—C. P. Weeden Motor Co., under New Jersey laws, with \$100,000 capital; manufacturing automobiles, motorcycles and other vehicles. Corporators—Claudius P. Weeder, Jane B. Weeder, Jacob S. Valentine.

Grand Rapids, Mich.—Kent Motor Car

Co., The, under Michigan laws with \$2,000 capital; to manufacture and deal in automobiles. Corporators—Fred B. Clark, Roy L. Leigh and Nelson M. Abernethy, all of Grand Rapids.

Garrett, Ind.—Hoosier Auto Co., The, under Indiana laws, with \$80,000 capital; to manufacture automobiles. Corporators—J. A. Moore, T. C. Little, J. B. Mager, Leigh Hunt, A. C. Widmer, I. A. Gingery, W. W. Sharpless and E. C. Reyher.

Meriden, Conn.—The Connecticut Shock Absorber Co.; to manufacture automobile devices, under Connecticut laws, with \$10,000 capital, to begin business with \$1,000. Corporators—E. C. Wilcox, C. Rogers, R. L. Lawton and L. E. Wilcox, all of Meriden.

#### **General Motors Performs More Magic.**

If ever the Michigan authorities entertained serious notions that they would be able to collect a tax on the \$60,000,000 of paper held by the General Motors Co., of New Jersey, the mainspring of which is located in Michigan, they did not reckon on the joint resourcefulness and a near-Napoleon of the automobile business. For those quick-witted gentlemen apparently have found a way to meet the law's demands and emergencies and to relieve themselves of all but a trifling portion of the burden of taxation which threatened. They have organized the General Motors Co. of Michigan, which was incorporated last week, with a modest capitalization of \$10,000, 90 of the 100 shares being held by Wall Street interests. The corporators or "fathers" of this "little brother of the rich" \$60,000,000 trust are W. C. Durant, Flint, Mich., W. J. Mead, Lansing, Mich., and C. R. Hathaway, New York, each of whom holds one share of stock, the other 97 also being held by Mr. Hathaway, but in the capacity of trustee. Several months ago the Michigan authorities became inquisitive and the official machinery was set in motion to discover whether the stock of the General Motors Co., of New Jersey, properly was not subject to taxation. The last heard of the matter was that a conference of the interested parties had been arranged. The incorporation of the "little General Motors" evidently is the answer to the conference.

#### **Excelsior Established Branch in 'Frisco.**

The Excelsior Supply Co., Chicago, which long has done a considerable business in that part of the country, has opened a branch house in San Francisco at 361-363 Golden Gate avenue. It is in charge of T. A. Skinner, previously one of the company's travelers. The branch will carry a general line of automobile supplies and also the specialties of Excelsior manufacture.

#### **Morgan & Wright Add \$700,000 Capital.**

Morgan & Wright, Detroit, Mich., have certified to an increase of capital stock from \$1,800,000 to \$2,500,000. All of the increase has been subscribed and paid in.



**In the Retail World.**

N. D. Cass has a garage under construction in Athol, Mass.

I. W. Semans has a garage under construction on West Main street, Uniontown, Pa.

Michael Haely, of Bolivar, N. Y., is building a two story cement block garage at that place.

O. D. Sherley is having plans drawn for a modern garage to be built on Summit avenue, Hagerstown, Md.

George Brewer, of Athol Center, Mass., has given out a contract for the building of a garage on Main street.

F. T. Kitt has taken out a permit to erect in Sacramento, Cal., a one-story brick garage at Nineteenth and Twentieth streets.

Pawling & Howard have leased property at 1536-40 Race street, Philadelphia, for garage purposes. Extensive improvements will be made.

A. C. Lorce, of Pisek, N. D., and W. C. Palmer, of Grand Forks, have joined forces to build a garage and machine shop in Grand Forks.

The Maxwell-Briscoe Motor Co. has received a permit for the erection of a two-story brick garage at Illinois and Vermont streets, Indianapolis, Ind.

C. G. Carley and L. B. Warren have formed the Austin Co. in Boston, with headquarters at 94 Massachusetts avenue; they will handle the Austin car.

The F. B. Stearns Co. is the designation of the district agency which has been established at Dallas, Tex., to handle the Stearns product. It is located at 303 Commerce street.

Henry Guttman has accepted designs for a five-story garage building on 167th street, west of Amsterdam avenue, New York City. The building will be 50 by 85 feet and is to cost \$65,000.

W. A. Dunlap has invited bids for a contract to erect a three-story garage building at 5913 Baum street, Pittsburg, Pa. It will be 40 by 95 feet in dimensions, and of brick and stone construction.

The Parker Garage, at Tenth street and Mary Place, Minneapolis, Minn., is completed. It is a fireproof building, 125 by 167 feet, which will be devoted wholly to the storage and care of cars.

Insurance involved in a fire which visited the garage of the Lake View Automobile Co., Chicago, on Christmas day, is estimated at \$50,000. It covers upwards of 30 cars on most of which the loss was total.

Evander Williams & Co.; dealers in vehicles and implements at 48 and 50 South Front street, Memphis, Tenn., have decided to "take on" automobiles. They will handle the Oldsmobile and the Oakland cars.

George W. Hawkins, of Houston, Tex., is to occupy the entire ground floor of a handsome building, 100 by 125 feet, at Main and

Walker streets, to be erected by S. L. and F. L. Gender. He handles the Maxwell cars.

Harry R. Schoch has had plans prepared for a six-story concrete garage and office building at 144-146 North Broad street, Philadelphia. Its ground dimensions will be 51 by 83 feet and the cost is estimated at \$75,000.

Cambridge, Mass., is to have a new garage, erected by Messrs. Shotwell, Fiske and Sargent. It will be located on Wadsworth street, and is to be a brick and concrete structure, 166 feet long, 75 feet wide and two stories high.

Ted Anderson, one of the pioneers in the automobile industry in Minneapolis, Minn., has bought the interests of G. W. Caplin in the big brick garage at Fifth avenue and Fifth street. He had been in the Caplin employ since May, 1904.

B. M. Childress, of Dallas, who recently secured the Brush runabout agency for the State of Texas, has organized the Childress-Brush Motor Co., with himself as its president. C. W. Childress is vice-president, and R. M. Hardeman, secretary-treasurer.

The Lord Motor Car Co., of Los Angeles, Cal., has arranged to lease a new building at Pasadena which Dr. F. F. Rowland is to erect for their use. It will be located on South Marengo avenue, and is to be a brick structure, 66 by 215 feet.

R. L. Greene has bought the garage of the E. R. Clark Automobile Co., at Brattleboro, Vt., and has changed its name to the Brattleboro Garage. He will do some remodeling of the premises and will install a vulcanizing plant and new machinery.

Bailey and Watson have filed plans for a two-story brick garage on the west side of Williamsbridge road, Borough of the Bronx, New York. It will be located near Poplar street, will be 55.27½ by 150 feet in its ground dimensions, and will cost \$40,000.

George Brewer, of Athol, Mass., has bought the Woodis shop on Main street, used as a carriage and paint shop, and will remodel it for garage purposes. The improvements will include a one-story concrete building in front of the old structure.

The "Auto Inn" is the name under which the Connersville Auto and Supply Co. has opened a new garage and repair shop in Rushville, Ind. The company recently bought the business of the Rush Auto Co., in Rushville, and has placed John Kuecht in charge of it.

New Orleans is to have three new garages. A. Aschaffenberg will build a large one with a salesroom on St. Charles street; L. H. Fairchild also will build on the same street; and Emilien Perrin has closed a deal for the erection of a two-story fireproof building at Lafayette and Dryades streets.

Ground will be broken during the latter part of the current month for the new build-

ing which the American Locomotive Co. is to erect in Chicago on the southeast corner of Twenty-fifth street and Michigan avenue. The building will be of fireproof construction throughout, and will be four stories high.

The first really modern garage building in Lewiston, Me., is to be erected by a new corporation composed of Lewiston and Auburn men, who have incorporated with a capitalization of \$200,000, to deal in automobiles and agricultural implements. They will provide for the automobile end of their business first, and the building to be erected will be 50 by 100 feet in ground dimensions, and two stories high. Charles F. King, of Portland, Me., is president of the company, with Henri P. Bechard, of Lewiston, as treasurer and Napoleon Hamel, of Lewiston, secretary.

**Warner Adopts Profit Sharing Plan.**

Profit sharing with employees has been decided upon by the Warner Gear Co., of Muncie, Ind., in accordance with a plan long cherished by A. L. Johnson, the president. The board of directors has agreed to an annual distribution of profits by which the net earnings of the company will be shared by the employees in a graduated rate for one, two and three years' service, respectively, the three years rate being double the one year rate, and the two years rate intermediate. Approximately 200 men of the present force of 700 will share the present dividend distribution which amounts to about \$10,000 and is distinct from what is paid in wages and salaries.

**Accessory Jobbers to Meet Wednesday.**

The Motor Accessories Jobbers Association has decided to hold its general meeting on January 12, at 10 a. m., the Hotel Belmont, New York City, being the place selected for the gathering. The conference committee will hold its session with a committee of the Motor and Accessory Manufacturers, at the latter's New York headquarters, 17 West Forty-second street, on January 10, while the executive committee will hold its meeting on the following day at the Belmont.

**National Carbon Absorbs a Competitor.**

The National Carbon Co., Cleveland, O., has acquired the Eastern Carbon Works, of Jersey City, N. J., makers of the Eastern dry cells, and while the identity of the latter will be preserved, it will be operated under the direction of the National officials. The new arrangement becomes effective on the 15th inst.

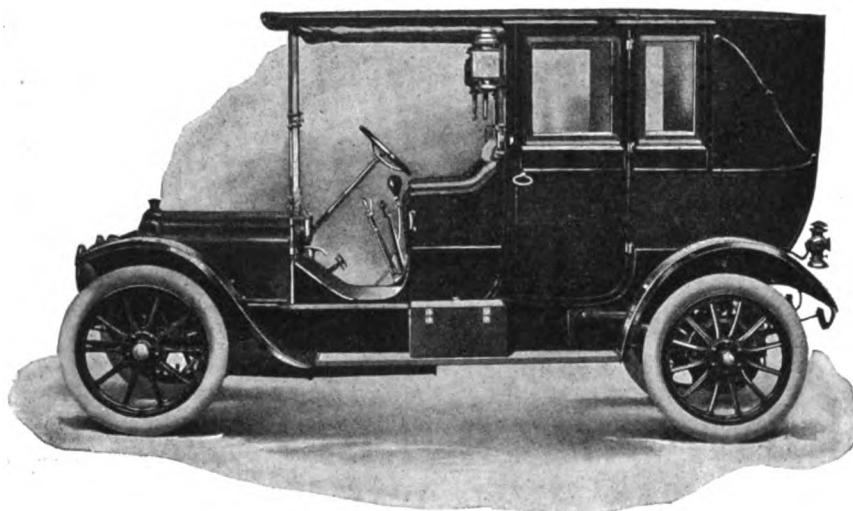
**Dunn Back from Pacific Coast.**

H. T. Dunn, president of the Fisk Rubber Co., returned last week from a flying trip to the Pacific coast. He said he had no cause to complain of the results of his visit, and found the automobile trade on the coast full of optimism and good cheer.

# **SIMPLICITY—ACCESSIBILITY—ECONOMY**

are among the distinguishing features of the

# **White Gasoline Car**



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### Overdoing the Popular Priced Car.

While the "big car" situation, which a year or two ago was a cause for concern, has pretty well settled itself, indications are not lacking that the so-called popular priced car is in danger, if not of being done to death at least of suffering grievous injury.

The faith of the men who are rushing into the manufacture of such cars is admirable, but unless they very considerably curtail their estimates and put more quality and less quantity into their efforts they are likely to reap harvests of barren regrets, to say nothing of the disappointment they will sow. A considerable portion of the public will buy anything "at a price," but it is not apt to buy the same article more than once when it falls short of claims and expectations. There are too many cars in prospect designed to appeal to this portion of the public, the extent of which is purely problematical, and reports from the Pacific coast serve as the first indication that they are

not moving and will not move as freely as their builders anticipated and anticipate will be the case.

There is a splendid selection of good "little cars" from which to choose, but the danger of a glut in the market caused by cars of the type built to "sell at a price," and which look the part, is such that even the established makers have cause for circumspection.

The automobile industry is no place for the "get rich quick" man. It is a serious business, full of pitfalls that will trap the unwary, and the newcomer who would remain and become a part of it had best build well rather than numerously.

### The Garage and the Chauffeur.

In these piping times of prosperity when everyone having anything to do with automobiles is supposed to be swimming in money, this advertisement in a New York paper has an odd sound:

Attention, Chauffeurs! Reward \$100.

Chauffeurs, owners or whosoever can influence the garaging of one or more automobiles we will reward with \$100, if the car remains in this garage for six months; we must fill up at once; we will take you for the first six months on your own terms; if our proposition does not fit your ideas, make your own terms; we must fill our immense modern garage.

While the anxiety of the owner of this "modern garage" and his public offer to "share" with the chauffeur is unusual, his announcement calls attention anew to the prevalence of that form of graft, which at one time was much discussed and vigorously aired. Although most chauffeurs are now rather circumspect in the manner in which they extend their palms, evidence is not lacking that they still are being quite generally "greased" and that the "rake-off" is as potent as ever it was, in the larger cities at any rate. The character of some of the places in which the practice prevails is the most remarkable part of the situation. Within the past week an instance of the sort came to our notice, the establishment being one that is well known and of good reputation and which is engaged in the sale of a high class car, as well as in the storage of such cars. Despite their good reputation, however, the owners are not above paying graft to chauffeurs. In one case, one of those worthies who is paid \$30 per week by his wealthy employer is also receiving \$5 per week for discreetly opposing the latter's inclination to transfer his two cars to a club garage, where graft is unknown. In this same reputable establishment a peep

into the boiler room disclosed eight chauffeurs engaged in a game of poker and about eighteen others "shooting craps."

Of course, man is not his brother's keeper nor the conservator of his morals, but for more or less direct promotion of vice and debasement of young manhood, the average garage-keeper in a large city has much to answer.

### Tire Inflation and Air Gauges.

Having brought their productions to that stage of perfection beyond which the improving hand cannot pass until undiscovered arts or materials shall have become available, it is not strange that some of the tire manufacturers now are lending themselves conspicuously to the prosecution of a campaign of education which ought to be unnecessary. For a campaign designed to teach users of pneumatic tires how properly to inflate them is calculated to bring smiles to the unthinking.

Of course, almost from the very beginning tire makers have laid more or less emphasis on the necessity for inflation of the sort and that the lesson remains so generally unlearned or unheeded at the end of ten years or more affords scope for striking commentary. To discover that the average tire is insufficiently inflated requires simply casual or every day observation. The tire in varying degrees of "softness" is so common that it scarcely excites remark; this is true, even of salesrooms in which high-priced automobiles are displayed or stored. Cars standing with tires "out of round," displayed on floors or in show windows, are numerous in evidence to bear witness that many of those whose very business requires they set a good example still are ignorant or indifferent.

That the bugaboos of tire trouble and tire costs largely are the products of underinflation does not admit of very much dispute and in laying more stress on this fact and in illustrating exactly how the lack of sufficient air in tires causes the trouble and increases the cost, the tire manufacturers are "following a lead" that is likely more effectively to produce the desired results.

There is no part of an automobile subjected to such great abuse as the tires, but hitherto insufficient inflation has not been generally recognized as an abuse within the accepted meaning of that term. But it is an abuse and the one which makes worse the abuses of actual use, which too seldom are attributed to the proper source. The

durability and the service rendered by a tire depends more on the manner in which it is used than is generally supposed and many otherwise careful users are prone to minimize the results of their carelessness by erring on the side of under-inflation. That it requires a sufficient amount of air just as the engine requires a sufficient amount of oil is or should be obvious. Both will perform service even when "starved," but it is not their best service, or service that adds to their longevity or that reduces the cost of their maintenance.

The campaign being conducted by the tire manufacturers should be supported and furthered by all who have to do with the production or sale of motor cars; it will redound to their advantage.

To avoid guess-work in the matter of inflation, the advice of that manufacturer who urges more general use of the air gauge is worth following. The gauge is an inexpensive little accessory of which more deserves to be known and of which very many more would be sold did dealers and garages but call it to the notice of their patrons. Its general sale and use would pay in more ways than one.

Madame Paladino certainly has nothing on the Motor Age. While that would-be sorceress may have called spirits from the vasty deep, our esteemed contemporary has proven itself able to call up and describe an automobile show held 1,000 miles distant long before the doors have opened or a single exhibit has been staged, and even was able to see and describe and picture things which no one saw after the show actually had been inaugurated, although he saw many things which it did not describe. Although it sadly mixed the tenses, Motor Age's alleged show number was as fine a bit of wand-waving as ever caused dollar bills to come from their hiding places. It was a splendid bit of catalog reviewing—so splendid that it is a pity it was marred by the designation "Show Number," even if that designation did give excuse for more than doubling the price. No good catalog reviewer should be ashamed of his work, and when he performs it so well it merits proper recognition and the right label.

Healthy and promising development is evident in the spirit of co-operation with which the various elements of the motor car industry are drawing together for reciprocal action and benefit. A broadened

## COMING EVENTS

January 8-15, New York City—Association of Licensed Automobile Manufacturers' tenth annual show in Madison Square Garden.

January 10, New York City—Conference committee meeting of the Motor Accessories Jobbers Association and the Motor and Accessory Manufacturers, at the latter's headquarters, 17 West Forty-second street.

January 11, New York City—Executive committee meeting of the Motor Accessories Jobbers Association at the Hotel Belmont.

January 12, New York City—General association meeting of the Motor Accessories Jobbers Association at the Hotel Belmont.

January 13, New York City—Second show meeting of the Society of Automobile Engineers at the Engineering Society's building, 25 West Thirty-ninth street. Dinner in the evening.

January 15-29, Philadelphia, Pa.—Automobile Trade Association's ninth annual show in Second Regiment armory.

January 17-22, Kansas City, Mo.—Motor Car Trade Association's show in Convention Hall.

January 24-29, Portland, Ore.—Portland Automobile Club and Dealers Association's show in Armory.

January 24-30, Washington, D. C.—Washington Automobile Dealers Association's fourth annual show in Convention Hall.

January 28-February 5, Edinburgh, Scotland—Scottish Motor Trade Association's annual show in Waverly Market.

January 29-February 5, Grand Forks, N. D.—Northwestern Implement Dealers' first annual automobile show.

February 4-6, New Orleans, La.—New Orleans Automobile Club's annual Mardi Gras speed carnival.

February 5-12, Chicago, Ill.—National Association of Automobile Manufacturers' ninth annual show in Coliseum.

February 14-19, Buffalo, N. Y.—Automobile Club of Buffalo's eighth annual show in Convention Hall.

February 14-19, Hartford, Conn.—Hartford Automobile Dealers Association's third annual show in Foot Guard Armory.

February 14-19, St. Louis, Mo.—St. Louis Automobile Dealers Association's annual show in First Regiment Armory.

February 19-26, Minneapolis, Minn.—Minneapolis Automobile Show Association's exhibition in National Guard Armory.

February 19-26, Newark, N. J.—Associated Automobile Clubs of New Jersey's show in Essex Armory.

February 19-26, Salt Lake City, Utah—Automobile show in Auditorium.

February 21-26, Binghamton, N. Y.—Automobile show in State Armory.

February 21-26, Cincinnati, O.—Automobile Club of Cincinnati's annual show in Music Hall.

February 21-27, Cleveland, O.—Cleveland Automobile Dealers Association's annual show in Central Armory.

February 22-27, Milwaukee, Wis.—Milwaukee Automobile Club's second annual show in Auditorium.

February 24-March 3, Toronto, Can.—Ontario Motor League's show in St. Lawrence Arena.

February 28-March 4, Omaha, Neb.—Omaha and Council Bluffs Automobile Dealers' show.

February 28-March 5, Kansas City, Mo.—Kansas City Automobile Dealers Association's fourth annual show in Convention Hall.

March 5-12, Boston, Mass.—Boston Automobile Dealers Association's eighth annual show in Mechanics Building.

March 12-19, Syracuse, N. Y.—Syracuse Automobile Dealers Association's annual show in State Armory.

March 21-28, Denver, Col.—Denver Motor Club's annual show, in Convention Hall.

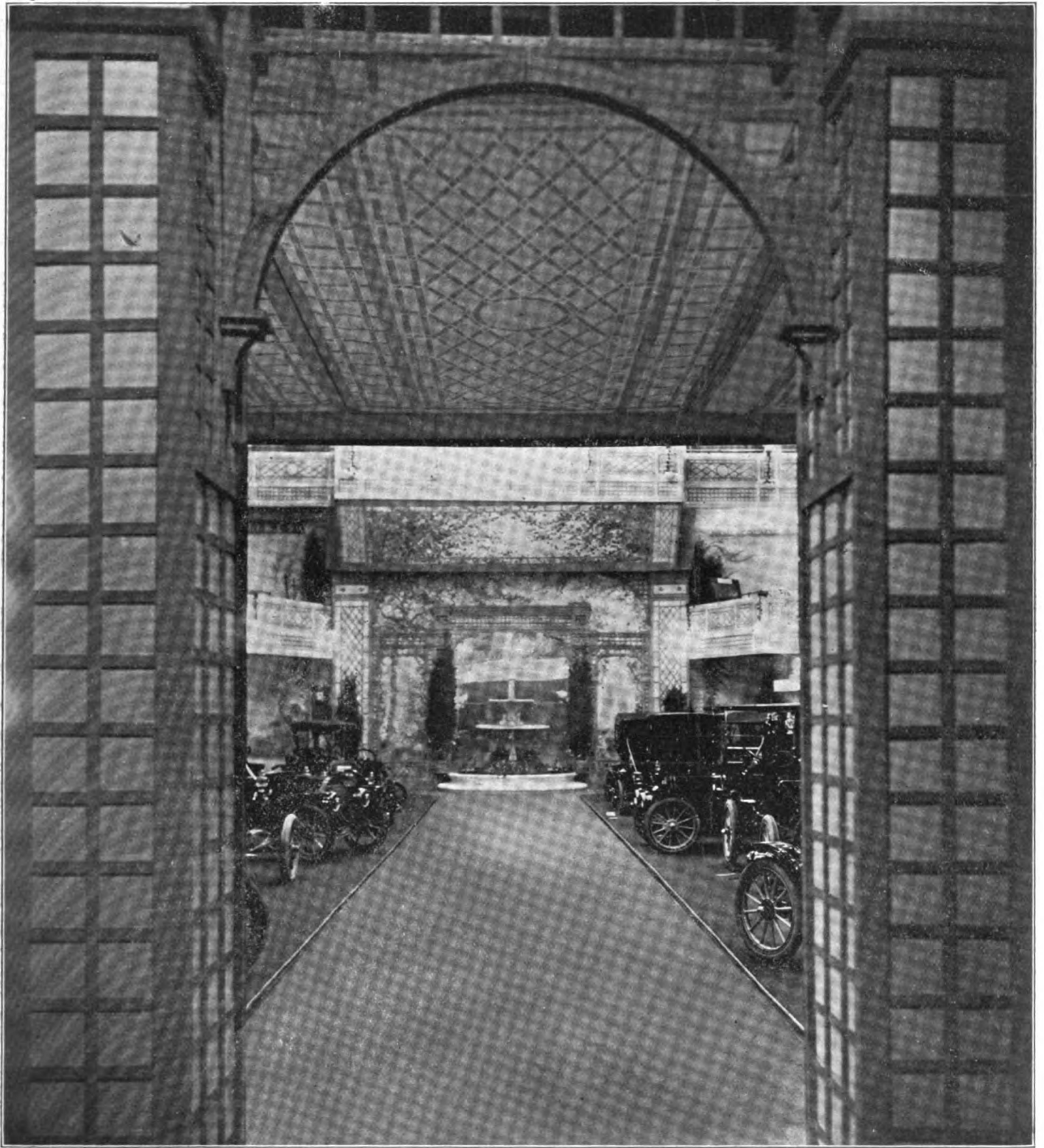
March 26-April 2, Montreal, Can.—Fourth National Automobile and Sportsmen's show.

outlook has enabled each of the separate divisions of the manufacturing and merchandising branches to organize themselves to a greater or less degree into larger units for handling problems affecting their common good. A further extension of the principle is dawning in the communication and commerce of these organizations with one another, in relation to large trade matters involving their mutual interests. In the same sense that individual liberty and prosperity is best conserved by an organized commonwealth, the affair of the preponderating proportion of persons and

companies in the automobile industry will best thrive through the knowledge and action which intelligent and broad minded co-operation makes possible.

Sometimes it is necessary to go to Philadelphia to obtain news. A paper published in that city, which claims to be devoted to the interests of the automobile industry, is circularizing automobilists, informing them, among other things, that "the aeroplane is already as safe as the automobile," which necessary and timely assurance should cause a rush for aircraft.

## The Palace Show and What It Holds



THE FIRST VIEW OF THE SHOW FROM THE ENTRYWAY

Perhaps it was a trellis garden "effect" which the decorative experts planned for the American Motor Car Manufacturers'

Association's show, which now occupies Grand Central Palace, New York; their advance designs certainly made it so appear,

but between the designing and the fulfillment someone or something must have slipped and spilled a considerable portion



of the "effectiveness"; for as a matter of fact, it is only by closing all of one eye and most of the other, and breathing deeply, that the imaginative spectator entering the Palace is able to fancy himself transported to a trellis garden.

Reality does not very well match the advance pictures or preconceived notions; and yet the show and its "dressing" does not suffer because of the fact. The trellis garden idea suggested the theatrical or the strikingly spectacular, whereas the lattice work treatment of the Palace is striking in its simplicity and probably it is more effective because of this simplicity. Of course, if lattice work constitutes a trellis garden, Grand Central Palace just now is several varieties of such garden; the checkerboard effect is everywhere; the railings, the many pillars, the sign-posts and many of the walls all are hidden by lattice work; the roof of the central court is hidden by a canopy similarly treated and on which leaves suggestive of a garden are artistically scattered. It is a green and white show—green lattice work on a white ground. Where there is no lattice work, there is either green bunting or monochrome impressionistic paintings, the monochrome being green also. There are no flags or flowers; no festoonery or statuary. The only thing suggestive of the latter is the white fountain playing in front of the huge, lattice framed mirror, in the central court, which mirror and which frame lend to the court that appearance of "depth" which it does not possess and which so greatly "helps."

The whole effect is one of simplicity—one more in keeping with the character of the exhibition and one which causes wonder that the more theatric "properties" of previous years ever were employed.

The show formally was opened Friday evening—New Year's eve—by the Hon. Patrick F. McGowan, president of New York's board of aldermen, who delivered himself of some statistics pertaining to the industry with which he had been charged and who dropped his title and his office a few hours later. Opening night always largely is "paper night" and, of course, a big crowd was in attendance, but it was not so large as on similar occasions of previous years, and if the whole truth be told, the attendance on the succeeding days and nights plainly has shown a falling off; there has been no marked congestion in the aisles or around the exhibits and it therefore has been possible to traverse the big, many-angled building, and to "see things" with a degree of comfort and without fear of having one's clothes torn off his back or his pet corn trampled upon. There is a large trade representation present, however, and more agents are expected to-day and to-morrow. Most of those who already had not "signed up" for the new year have been "shopping" or "looking around" before closing contracts and as a result the transaction of no great volume of business is reported; to-day and to-morrow, when the show

closes, are expected to prove the real business days, although there are exhibitors of cars who came to the show "sold up" or so nearly sold up that they are exhibiting largely as a matter of form.

The Premier to the left, and the Reo to the right, are the two exhibits which first meet the eye on entering the main hall. There are eight of these central exhibits and as they occupy generous spaces the first effect is pleasing and is "doubled" by the reflections in the great mirror. The exhibits which share pride of place with the Premier and Reo are the Mitchell, Brush, Stoddard-Dayton, Ford, Panhard and C. G. V. These are flanked on four sides by a

#### SHOW WEEK CALENDAR.

##### Saturday, January 8.

Formal opening of Show, 8 p. m.

##### Monday, January 10.

Conference committee meeting of the Motor Accessories Jobbers Association and the Motor and Accessory Manufacturers, at the latter's headquarters, 17 West Forty-second street.

##### Tuesday, January 11.

Meeting Executive Committee, American Automobile Association, at their headquarters, 437 Fifth avenue, 10 a. m.

Executive committee meeting of the Motor Accessories Jobbers Association at the Hotel Belmont.

##### Wednesday, January 12.

General association meeting of the Motor Accessories Jobbers Association at the Hotel Belmont.

##### Thursday, January 13.

Meeting A. L. A. M. at their headquarters, 7 West Forty-second street.

Meeting of directors of New York State A. A. at Hotel Belmont, 10 a. m.

Second show meeting of the Society of Automobile Engineers at the Engineering Society's building, 25 West Thirty-ninth street. Dinner in the evening.

number of other well known cars, among them the Jackson, Maxwell, Lambert, National, Marmon, Pullman and Hupmobile. The newer cars and the commercial vehicles are staged on the floors overhead.

The simplification of the decorative scheme is not the only indication of the changing character of the show. This also is observable in the comparative fewness of what may be called purely "show" cars and "show" chassis. Of the latter there are but two specimens, the Jackson and the Inter-State, both highly finished and Damascened or "mottled." Of "show" cars there also are but two, the American Simplex and the Black-Crow. Both are of the so-called honeymoon type, that is, finished in white with gold striping and with upholstery to match. The Simplex is festooned with ropes of flowers while on the top of the Black-Crow (which is the compounding of two family names) is perched a cupid which, with ribbon reins, is driving a black crow mounted on the radiator. Most

of the "action" is as unusually, contributed by the accessory exhibits, where literally sparks fly, that is, wherever there is a battery, or magneto or other ignition device being demonstrated, but even the snap and flame of the sparks and the movement of the speed indicators appear to hold less attraction than formerly for show goers; such displays did not appear to attract or to "hold" them in such numbers as in former years. The demonstration of Jones's "live map" probably is the center of the most curiosity and real interest; it scarcely requires the services of the negro who, wearing a uniform on which is printed a map of the United States, is employed to give point to the "live map" idea and incidentally to distribute circulars.

While many things connected with the show give evidence of changed or changing conditions, the incompetent or uninformed salesman or attendant remains a numerous attachment or incident of the automobile exhibits; for to their credit be it said, the men in charge of the accessory booths know their goods and know how to explain them and intelligently to answer inquiries. At too many of the automobile displays, however, there are in evidence the young men who, immediately more than general information is sought, express anxiety to have the inquirer "call again when Mr. — will be here." One member of this tribe when asked what changes had been made or what improvements had been effected in the car he was trying to sell, promptly was "stumped," and remarked anxiously that a reading of the catalog would impart the information.

"But that hardly will specify the changes between this year's model and last year's," was suggested.

"Then get one of last year's catalogs and compare them with this one," replied the prize salesman.

"Where can I get one of the old catalogs?"

"Maybe our agent uptown can find one for you."

This may sound like overdrawn fiction, but it really is very much underdrawn fact.

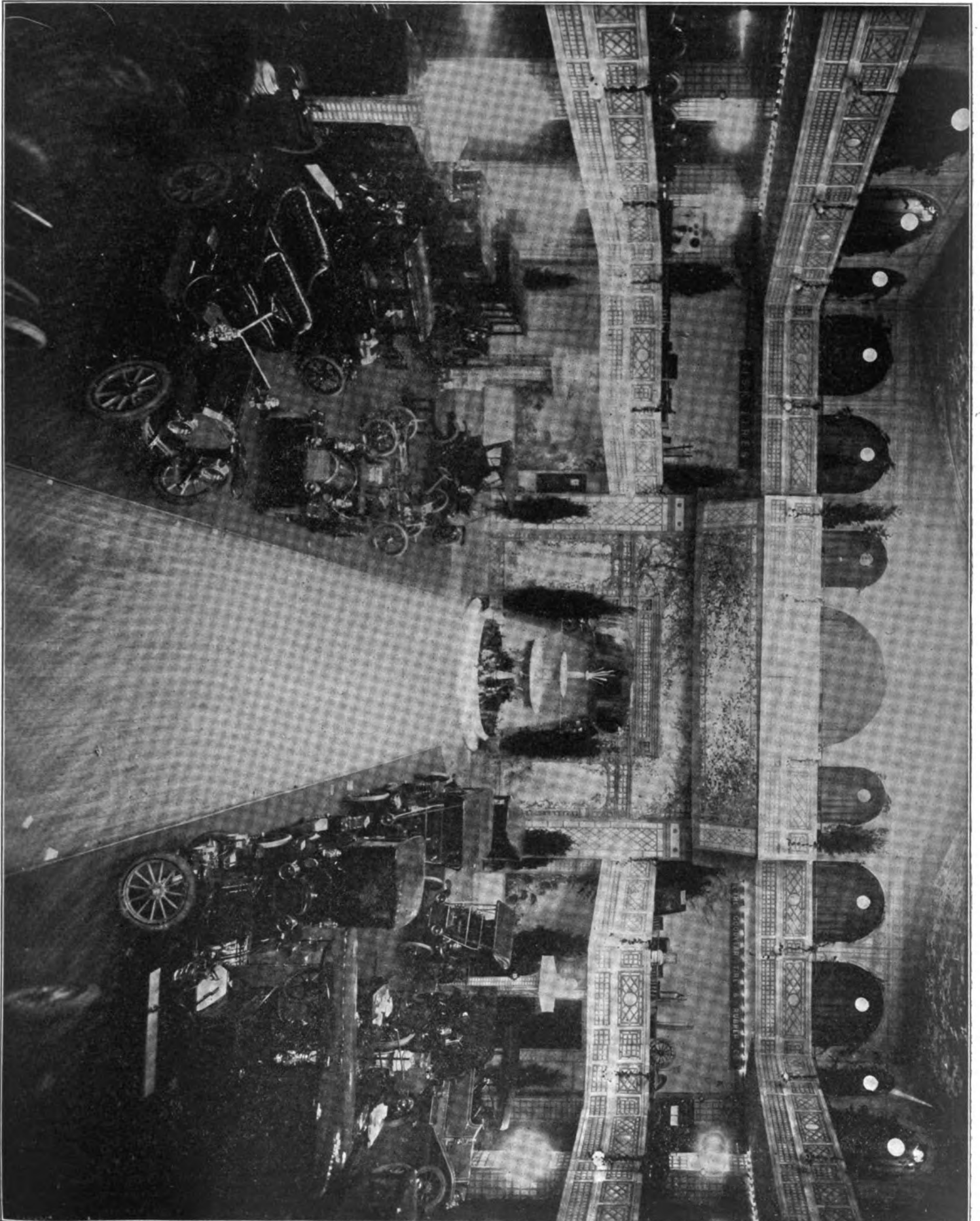
There also occurred another incident which serves to show the novel manner and extent to which salesmanship now is being prosecuted. The show-goer was busily intent on inspecting a particular car when he was approached by one of the attendants.

"Are you interested in the purchase of a car?" politely inquired the salesman. Promptly, undecieved as to the mission of the visitor, the salesman smilingly and in a half-apologetic tone remarked:

"I really thought you were a 'prospect' I've been expecting. You fit his description; in fact, our Philadelphia agent sent me his photograph and you look so much like it that I thought you were the man."

The idea of fortifying salesmen with photographs of prospective purchasers is startlingly novel, even though the shows themselves are growing old.

GENERAL VIEW OF THE CENTRAL COURT IN THE GRAND CENTRAL PALACE SHOW



## Cars Making Their Debut at the Show and Their Features.

Throughout the ten brief years of American automobile show history, pride of place has been accorded to the new cars on view. The number of such offerings fluctuates

from year to year. This year, the number of debutantes at the Palace is greater by four than the aggregation of one year ago, counting only the newly arrived pleasure vehicles. There are 15 newcomers all told, seven of which are newest of the new, in that they never have been exhibited publicly before. The remainder may be said to be new, in the sense that they have not before been exhibited at any New York show, and that they are cars of only recent introduction to the public.

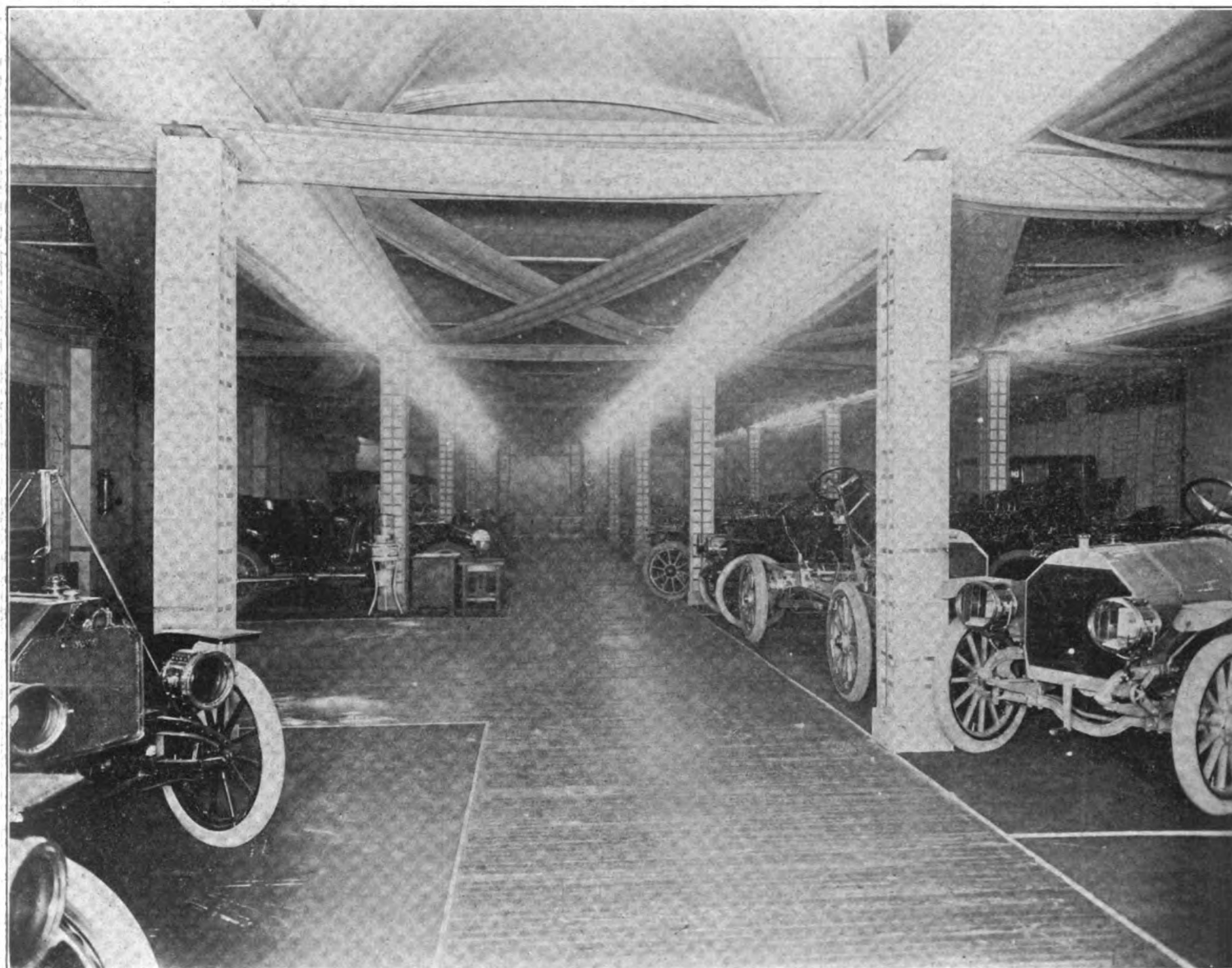
In pianos, houses and lots, beds and books, masterly salesmanship long has thrived on an intricate though seemingly

elementary system of merchandizing known as the instalment plan. Many persons, doubtless have experienced an inclination to apply the same project to the distribu-

tion of automobiles at retail. But one vital objection prevailed against all early plans for putting the scheme into effect. Whereas, an instalment piano is fairly likely to remain in the front room until paid for—that is to say, making a few generous allowances for fires, strikes and acts of Providence—the purchaser of an instalment motor car might be considered something of a risk, in that, if of dishonest proclivities, he might make use of the portability of the machine in side-stepping the final issue. He also might smash the mortgaged car. Such objections to an otherwise acceptable and profitable project, however, were en-

tirely swept away with the conception of the Metz plan.

By the Metz plan, not only the purchase



GENERAL VIEW OF THE "UPSTAIRS" DISPLAY AND DECORATION

but the sale is made in instalments. That is to say, the buyer receives small portions of the car, neatly wrapped and labeled, in return for each advance made on the total purchase price of the vehicle. Directions supplied with the parcels enable him to become his own assembler, thus adding to the interest of the scheme in many quarters, while helping to reduce the cost to moderate proportions. An interesting proposition enabling dealers to assemble the machines for purposes of retail sale, also adds to the attractiveness of the system.

Although this plan has been working successfully for almost a year, the Metz car

has not before been exhibited in New York. Being a distinctive product, it is shown mounted on horses, thereby enabling the curious to twirl the wheels, asking questions as to its construction. A naked chassis in the rear of the booth also permits its mechanical features to be examined directly.

An opposed motor of  $3\frac{1}{2}$  by 3.3 inches cylinder dimensions, and rated at 12 horsepower, is placed cross-wise in the frame, in front. Magneto ignition, and a simple oiling device with a gravity sight-feed leading to each of the cylinders from the dash, complete the auxiliaries. Transmission is by a double disc friction system, drive from the fly wheel to the first disc being accomplished by means of a line shaft, with a flexible driving connection at the fly wheel which takes the place of a universal joint in the shaft. From the counter shaft to the rear wheels, drive is by side chains. Several novel and original devices are exhibited in the little machine, which, by the way, weighs but 650 pounds, among them being the emergency brakes. For braking purposes, the equivalent of a multiple disc clutch is mounted on each of the rear wheels. The discs are not large in diameter; but what they lack in individual surface is made up in numbers, and a most effective braking device is thus secured by simple means. Wire wheels are a stock feature, with good wood ones as an option.

Next larger than the Metz, but still a long way from rivalry with the "speed monsters" to be seen on the lower floor of the show, the Demotcar, another innovation, is displayed in all the glory of top, wind shield and generally elaborate equipment for so small a machine. Investigation reveals the fact that several of the more ornamental and less essential features are optional. This does not in the least detract from their value in "setting off" the lines of the vehicle itself, however, and to tell the truth, it presents a very prepossessing exterior indeed. A peep beneath the bonnet in front, however, discloses considerable unutilized space, and a diminutive opposed motor, which, because it is not only small, but set very low in the frame, produces an impression of inadequacy, which road experience with the car is said to dispel completely.

The cylinders are  $3\frac{3}{4}$  by  $3\frac{1}{2}$  inches, bore and stroke, and the rated output 8-10 horsepower. Magneto ignition is one of the boasted stock features of the machine, while a neat and compact form of unit power plant is used, housing the planetary change gear. Transmission is by double pointed cardan shaft, and the rear axle is modeled closely after a standard type employed in large car practice. Gear control is selective, and the arrangement is such that the single side lever also controls the emergency brakes, which are expanding in form, and mounted on the rear hubs. Service brakes also are provided, similarly mounted

on the hubs. They are controlled by foot pedal.

Novel, in being the only one of them to mount a two-cycle motor, the Paige-Detroit

#### CENSUS OF THE SHOW.

Total Exhibitors .....	286
Cars .....	83
Accessories .....	203

#### PLEASURE CARS.

Gasolene:	
One cylinder .....	4
Two cylinder .....	8
Three cylinder (two cycle) .....	1
Four cylinder (two cycle) .....	3
Four cylinder .....	156
Six cylinder .....	17

Total Gasolene Pleasure .....	189
Electric cars .....	2

Total Pleasure .....	191
Landulet .....	9
Torpedo .....	7
Touring car .....	69
Toy Tonneau .....	19
Demi Tonneau .....	2
Runabout .....	33
Close Coupled .....	2
Roadster .....	17
Coupe .....	10
Racing type .....	3
Town car .....	5
Limousine .....	15
	191

Enclosed cars .....	39
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#### CHASSIS.

One cylinder .....	1
Two cylinder .....	1
Three cylinder (two cycle) .....	1
Four cylinder .....	40
Six cylinder .....	5
Eight cylinder .....	1

Total Chassis .....	49
Air-cooled cars .....	7
Water-cooled cars .....	231

#### COMMERCIAL CARS.

Gasolene:	
Two cylinder .....	19
Two cylinder (two cycle) .....	1
Three cylinder (two cycle) .....	3
Four cylinder .....	13

Total Gasolene .....	36
Electric .....	4

Total Commercial .....	40
Commercial Chassis .....	10
Two cylinder .....	4
Four cylinder .....	6

Air-cooled Commercial .....	2
Water-cooled Commercial .....	8

Total Gasolene Vehicles .....	284
Total Electric Vehicles .....	6

Total all Vehicles .....	290
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is a third addition to the ranks of the new cars which are low in price and built with the definite intention of catering to the demand of economical motor car service. It is put up in neat form, as a racing runabout, that is to say, with a two-passenger body, behind which is mounted the gasolene tank.

Long mud guards, ample hood dimensions, and a hooded dash, serve to add considerable dignity to its outward appearance. The motor is of the three-cylinder vertical, three-port type. Its construction embodies no particularly radical departures from two-cycle precedent, but the assertion is confidently made that the proportion and position of the ports has been correctly achieved, which, as everyone knows, is the whole secret in the design of engines of this type. One point about the engine which is especially noteworthy, is the construction of the screens which are placed in the transfer ports. For convenience in cleaning and replacement, the gauze portion of the device is reduced to a simple sheet of fine screen wire, which is rolled up and slipped into a perforated copper cone, while a second cone correspondingly perforated, afterward is slid into the rolled screen, expanding it into contact with the first cone. Flanges on the large ends of the two cones enable them to be clamped in position beneath a screw cap, which is readily removed.

The flywheel, which is mounted on the forward end of the crank shaft, enables the unit power plant construction to be simplified, while necessary driving power is secured in the relatively small diameter clutch by the use of considerable width of face. Two speed selective gearset of the sliding type, shaft drive, expanding and contracting brakes, thermo-syphon cooling and magneto ignition, are up-to-date features offered. The horsepower rating is 25, on a  $3\frac{3}{4}$  by 4 inch cylinder basis.

Introducing an original form of block motor, not to mention a pressed steel chain housing which also serves as a distance rod for the final driving chains, the Empire, is a small car of several ingenious, and one or two surprising features. For example, the motor construction is such that the cylinder heads, valve pockets and water jacket tops are all closed by means of a single plate, which is held in place by means of 16 bolts, uniformly distributed over the perfectly flat top of the engine in such a way as to resist all possible strain. This makes tinkering with the valves a by no means convenient pastime, nor one easy of accomplishment. At the same time, the arrangement possesses the advantage that once the cover plate is removed, not only all the valves, but the piston heads and cylinder interiors as well are exposed, so that, for purposes of general overhauling, the scheme may be said to be essentially convenient.

The leather-faced cone clutch in the fly wheel is completely enclosed in an extension of the engine base, while the primary driving shaft is encased in a tube which extends well to the rear of the chassis and is joined rigidly to the gear box. The latter encloses a two speed, selectively actuated sliding gearset, which is arranged with the lay shaft parallel to the counter-shaft, and therefore lying transversely of the car. With the differential gearing, the



entire aggregation from the motor backward, is rigidly mounted in the frame. The driving chains, as already explained, are encased in rigid cases, which have a radial action about the axle, and which are flooded with oil. The machine is assembled in two models, differing principally in body mounting and wheel base, one being of the racing type, and the other of more conservative pattern. Magneto equipment is a standard feature, as is battery ignition as a standby. For a low priced machine of 20 horsepower rating, this is an unusual and commendable feature.

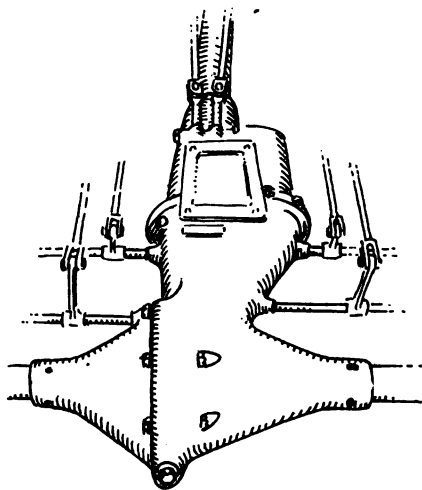
Much more familiar to the average showgoer, by reason of the fact that it has been on the market nearly a year, although never before displayed in the Palace, the Hupmobile is one of the most ingeniously designed of the small new cars. Designed primarily as a light speed car its four cylinder castings, unit type of power plant housing a neat two-speed selective gearset, shaft drive and other features, are especially well worked out. The propeller shaft is of the single jointed pattern, with the forward end of the enclosing torque tube supported in a universal joint on the rear of the gear box. Two diagonal struts, which preserve the alignment of the axle, instead of being jointed to the tube itself, as frequently is done with arrangements of this sort, are carried in independent sockets on either side of the principal universal, and also on the gear box.

Of larger machines, ranging around 30 horsepower, several are in the Palace. Perhaps the most discussed car in advance of the show, was the Everitt "30", of which great things were expected because of its prototype in the widely known E-M-F., two of the original producers of which now are allied in the production of the Everitt. Nor is it in any sense of the word a disappointment. Such features as its block motor, axle-mounted selective sliding gearset, double drop frame, and liberal spring mounting are drawn from the most widely sanctioned and modern practice.

The 4 by  $4\frac{3}{4}$  inch motor displays a most ingenious main casting, which includes in addition to the cylinders, valve pockets and intake and exhaust manifolds, the upper half of the crank case, the crank shaft bearings and the inner half of the housing for the timing gears in front. It is provided with the simplest form of lubricator imaginable, consisting only of a closed tank mounted on the right side of the cylinder casting, over the carburetter, and fitted with a single outlet in the base, running into the crank case, and equipped with a steel ball check.

Visitors who inquire how the vacuum system works, are referred to the neighboring drinking fountain which mounts an inverted bottle, said to deliver up its contents to the thirsting ones in just the same way. After meditatively sampling the contents of

the water bottle and returning to the chassis, non-plussed, the further explanation is given, that under normal conditions, the lower end of the pipe leading from the oil tank to the crank case, is sealed by the oil in the case. Therefore, as no air can en-

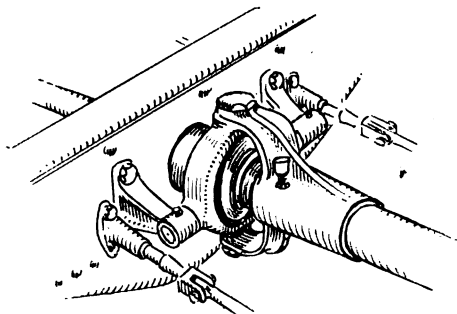


EVERITT "30" TRANSMISSION AXLE

ter the tank, no oil can leave it. When the level becomes too low, the end of the pipe is uncovered, air rushes in, and a sufficient amount of oil is delivered to the case to raise the level to the proper point.

The rear axle construction is strong and neat, and original in several respects. The outer housing is made in three separate castings only, one housing the change gears, the second enclosing the differential, mounting the rear end of the change gear shafts, and forming one-half of the axle housing proper, and the third completing the axle structure. The remainder of the axle, of course, is of plain tubular construction. A novel feature of the arrangement is that the brake rocker shafts, for the double expanding and contracting brakes, are mounted well in front of the axle, with the rockers and connecting rods well inside the frame. The ends of the rocker shafts are carried in the gear box, thus being afforded a simple and strong support.

So new that most of the show visitors readily plead ignorance of its very exist-



OTTO TORQUE TUBE MOUNTING

ance, yet produced by an experienced designer and an old engine building concern, the Otto, represents more than a year's

steady effort, it is claimed. It is equipped with a 35 horsepower motor of  $4\frac{3}{4}$  by  $5\frac{1}{4}$  inches bore and stroke; has the axle-mounted style of change gear, and a leather-faced cone clutch. Both in chassis and body design, its lines are pleasing and workmanlike, and for a machine of generally standard features, it reveals many distinctive qualities which promise well for its serviceability.

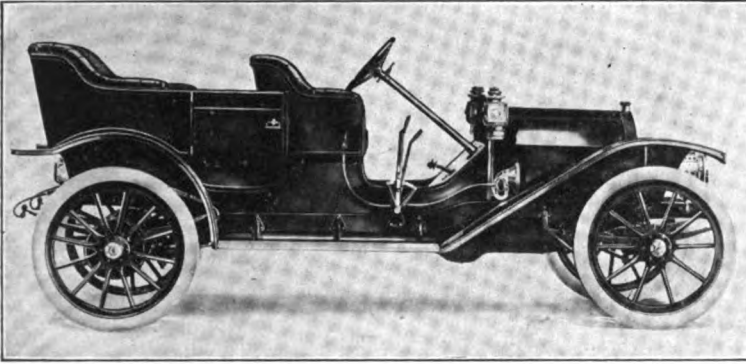
Special details which are noteworthy, are the method of mounting the clutch, which is so arranged that the engaging spring is completely housed, while the driving strain is taken up on the squared transmission shaft; the neat design of the rear axle, and the method of mounting the forward end of the torsion tube and the single universal joint which is introduced into the transmission line. The cross frame member which supports the very important universals of the torque tube and propeller shaft, is reinforced by means of a heavy vertical plate, extending entirely across the frame. Attached to this are the trunion bearings of the floating ring which forms the hook's joint by which the torsion tube is suspended, and which supplants the ball and socket construction which is found on so many cars.

The Fal car, another of the new ones, though not old enough to have weathered a previous show season, already has run through a first model, and now appears in slightly revised form, though not materially altered from the original concept of its builders. A well-built motor of 35-40 horsepower, multiple jet carburetter, forced lubrication through the hollow crank shaft, with overflow returned to the engine base; and dual ignition, are important points in its make-up. A wide faced cone clutch, selectively actuated gearset, and shaft drive, complete the essentials of the power plant.

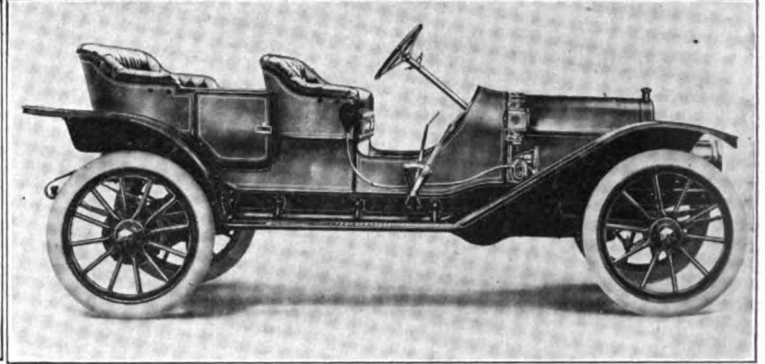
Unquestionably the most pretentious of the new cars is the Speedwell, which, though not previously exhibited at a Palace show, is already well known, and has seen several years of actual service in the hands of the user. It is of 50 horsepower rating, original in several particulars of its design, and solidly built throughout. Specific mention may be made of the method of arching the frame over the rear axle in order to gain adequate clearance for spring action, and of the use of Timken bearing equipment for the wheels and change gear mounting. The use of a special feeding chamber for the carburetter, so placed as to afford a uniform supply regardless of grade inclination, is an exclusive feature.

A new car which has many points to recommend it is the Cole "30," which comes on the scene with a unit power plant, 4 by 4 inch cylinders, cone clutch, selective gearset and propeller drive with single universal construction. The gearset, including the clutch housing, is suspended from the





EVERITT "30" TOURING CAR



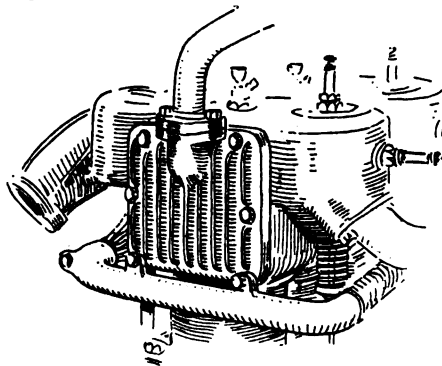
EVERITT "30" WITH TOY TONNEAU

engine base, the latter being carried on four points, and the entire load of the torsion tube is borne by the rear bearing of the transmission.

The Staver, product of a carriage building concern of many years standing, is directly successor to a light vehicle built for either solid or pneumatic tire service; that, in turn, being an outcome of several years endeavor in the high wheeled buggy field. The new car, however, reveals no traces of the abandoned carriage practice, but is thoroughly conventional in every respect, solidly constructed, and embodies many standard parts. It is of the 30 horsepower class, has selective change gear with multiple disc clutch, dual ignition and other modern refinements.

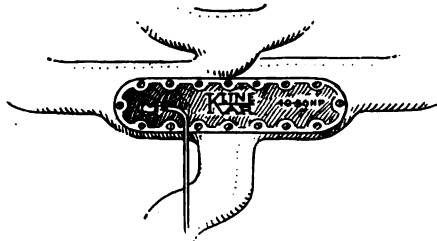
Founded on an entirely new corporation basis, but with a designer of well seasoned experience, the Klinekar possesses several features of noteworthy merit. In both 4-24 and 6-40 models the cylinders are cast separately, but are tied together, forming much the same effect as is obtained with the block method of casting, in that the water jacket runs the entire length of the battery. Each cylinder is cast with large open cored openings on either side of the jacket, the openings being flanged outwardly to form abutting faces. After being assembled, the series is tied together by through bolts, which reach from end to end forming a rigid construction. The other ends of the front and rear cylinders are closed by special cast plates, that in the rear carrying a

connection for the cooling water outlet, while it also is equipped with radiating flanges.



KLINE-KAR WATER OUTLET

Another original feature, is the method of heating the intake manifold on the six cylinder motor, to prevent recondensation of the gas. The manifold is of the triple



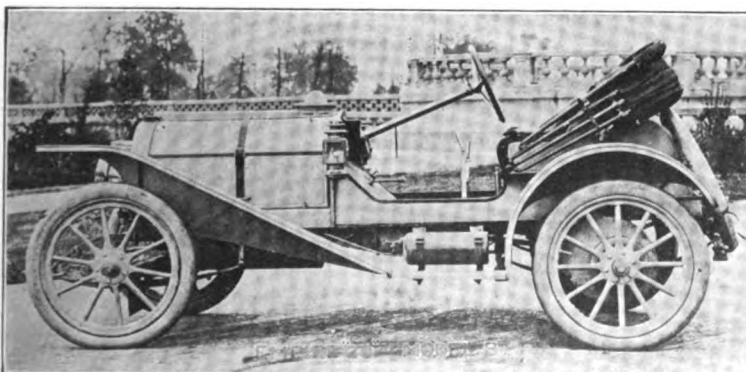
KLINE-KAR WATER JACKETED MANIFOLD

fork pattern, with closed loop inserted for the purpose of distributing the gas uniformly to all the cylinders. It is the horizontal section of this loop which occa-

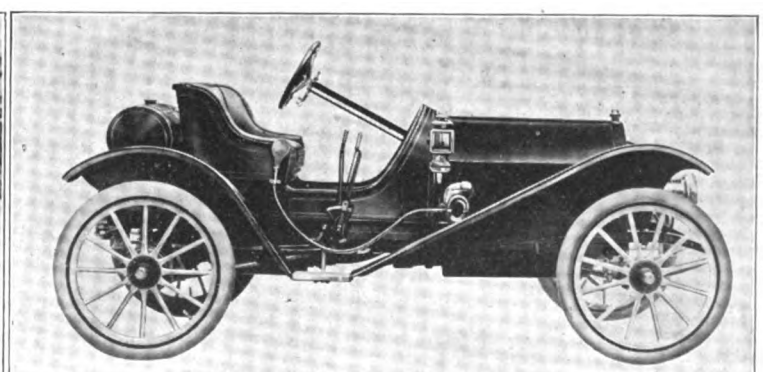
sionally gives trouble in service. In the present instance, it is boxed in by means of cover plates, the entire enclosure thus forming a jacket, into which hot water from the cylinder jackets is introduced by means of a by-pass from the carburettor jacket.

In nearly all other respects the line is of standard form and build, though well proportioned and assembled in a clean manner. A variety of body and chassis combinations are offered, the most pleasing in many respects being the small runabout, which is a remarkably good looking affair, price and power taken into consideration.

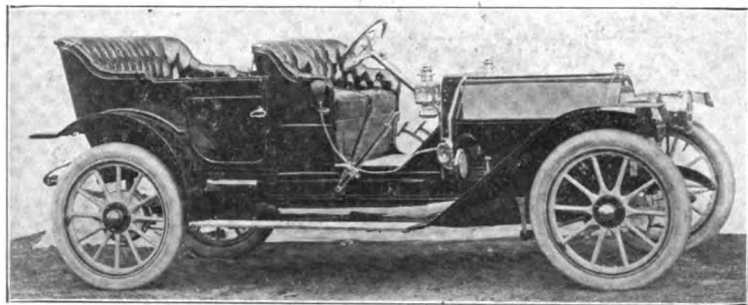
Another carriage building concern which has produced a good looking product for which strong claims are made as to quality, and in which no experimental features have been introduced, is the Patterson. Like so many others at the show, it is of 30 horsepower rating. It has the unit type power plant, with three-speed selective gear-set, cone clutch, double jointed shaft drive, thermo-syphon cooling, and dual ignition. Although the first cars were produced early last summer, the vehicle now is exhibited for the first time, and with the same chassis, is presented in three several styles of body mounting. More familiar in the middle west than in the East, the Halladay makes its first invasion of a New York show at this time. The 30 horsepower model is new this year, though not differing materially in design from either of the other models produced by its builders. The larger model, which is of 40 horsepower capacity, like the 28 model, has been en-



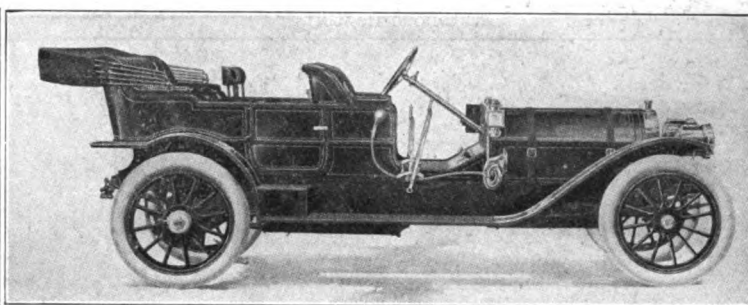
EMPIRE "20" MODEL B



PAIGE-DETROIT ROADSTER



KLINE-KAR SIX CYLINDER MODEL



MITCHELL SIX CYLINDER TOURING CAR

larged as to wheel base, body sizes and tire specifications, in the course of preparation for the new year.

The Ohio is a car which reveals several exclusive features, though no untried principles are applied in its construction. The unit type of power plant is used, while the method of mounting the forward end of the heavy torsion tube is noteworthy. The rear end of the gear box, which otherwise is made of cast aluminum, uniform with the engine base, is of cast steel. It is shaped to form the female member of an immense ball and socket joint, which supports the forward end of the torsion member. The power plant is supported on three points, one on either side, at the rear of the engine. The pressed steel torsion member is unusually long, thus reducing the angular working of the joints to a minimum, while the selective gearset is reduced to small longitudinal dimensions, rendering the assemblage as a whole entirely characteristic.

#### NEW MODELS FROM OLD MAKERS.

Fine opportunity for nice distinction is offered in the "new models" presented by the established manufacturers. In some instances the adjective new, is applied merely as a matter of nomenclature, the vehicle itself actually showing few points of difference from previous machines of the same general class. In others, totally new cars have been developed. The Jackson, Maxwell, Pullman and National stands are among those on which are shown new cars which follow pretty closely the standard practice of the respective manufacturers.

The Jackson "30," which is the novelty

in that particular line, has the unit power plant and valve-in-the-head motor, which is now universal on all models. Inclined valve chambers in the heads, afford ready means of mounting the cam shaft over the tops of the cylinders and of actuating the valves by means of short and neat rocking tappets. In the new car, a slight divergence is introduced in the method of actuat-



BRUSH RUNABOUT

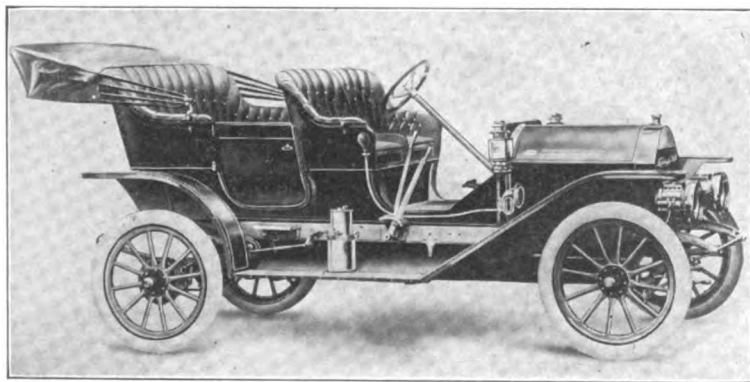
ing the cam shaft. Instead of a vertical shaft in front of the cylinders, with bevel driving gears, the timing gear is actuated from the rear of the motor, a chain and sprocket mechanism, completely housed, serving the purpose effectively, and permitting a most compact arrangement of the motor.

In practically all respects, the new Maxwell Model "O," which is produced with a variety of body equipments, including the "Sportsman," is essentially the same in unit power plant and other respects, as the older members of the line. It has the three-quarter elliptic rear suspension, and the new oiling system, which has been adopted for the entire line, and is essentially a remarkable product, price considered.

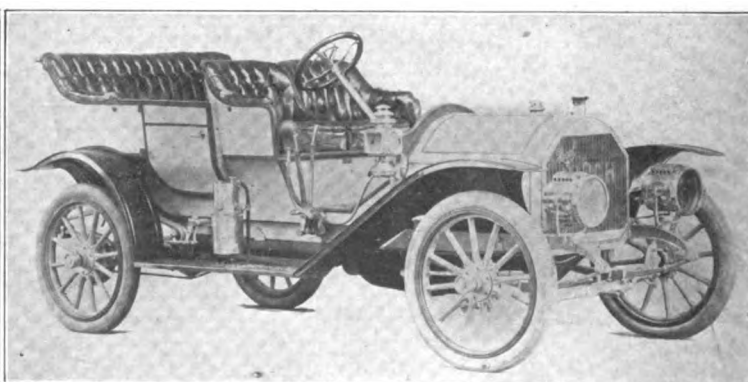
The new 28 horse power Pullman, while in many respects in close harmony with the remainder of its line, has a slightly different appearing motor, the effect being due to the method of casting the cylinders in pairs. As is well known, casting the cylinders individually with water jackets open on the ends, and bolting the group together in block style, has been a Pullman characteristic. It is retained in the other sizes of engine. The new model also possesses a number of cleanly designed features which add to the impression of its mechanical aptitude.

The new National is an exemplification of the sort of industrial progress which permits manufacturing economies, such that a large and pretentious looking car can be marketed at a figure formerly applicable only to machines of much lower grade. The characteristic T-head cylinder construction, cone clutch, selective gearset, and, as a matter of course, shaft driven, are among its outstanding features.

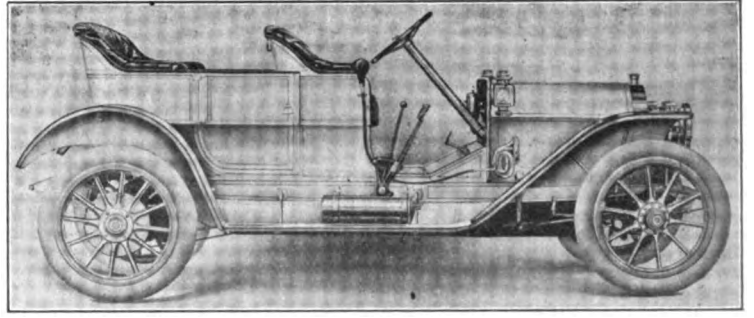
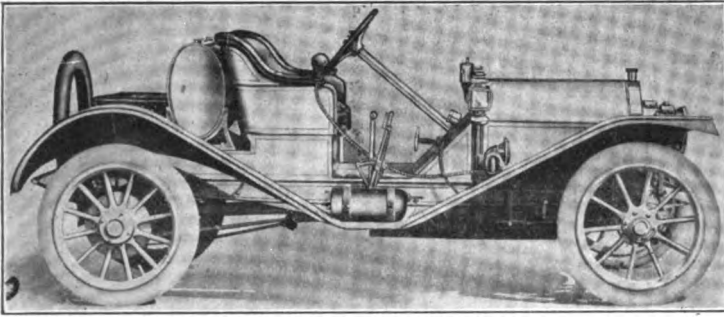
The new four-cylinder Reo, which is the first quadruple engined successor to the little twin cylinder car which has been such a successful product, is more than an average achievement in its class, judged on the basis of design alone. It is distinguished by the left-hand arrangement of the control, which still is a conspicuous feature despite the gradual increase in the number of makers applying it. As revealed by a sectioned moving model, the motor has inlet valves in the head and exhausts in offset pockets on the right; crank case lubrication, with plunger pump to ensure circulation; dual ignition, with low tension magneto; and multiple disc clutch, with universal connection to the selective gearset, which is



COLE "30" TOURING CAR



REGAL "30" TOURING CAR



MARMON "THIRTY-TWO" IN RUNABOUT AND CLOSE-COUPLED FORMS.

mounted in the waist from sub-frame support. Every line of the design reveals modern tendencies, though few radical departures. One possible exception is the steering gear, which is of the bevel gear and sector type, and which is left entirely unenclosed.

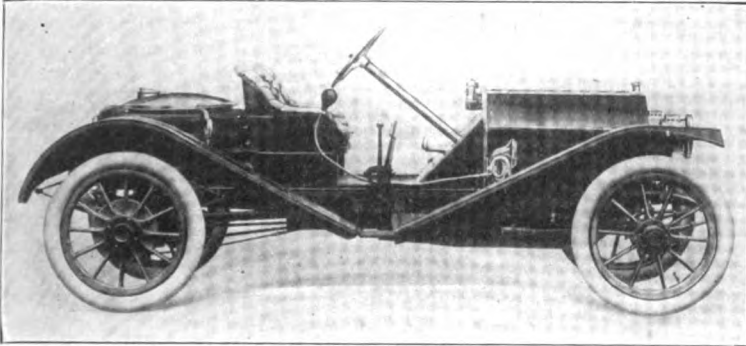
While the entire Mitchell line is new this year insofar as the design of the cars themselves is concerned, attention naturally centers about the \$2,000 six-cylinder model, which is one of several examples of close

tion for the propeller shaft housing, and an unusually sturdy method of mounting and articulating the forward of the tube on the central cross frame member.

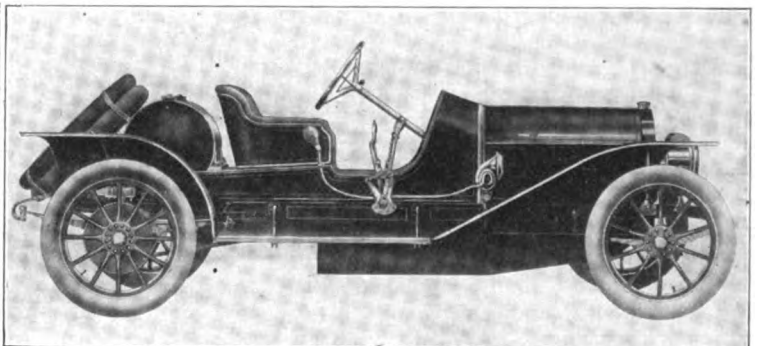
The Pierce, another new car, is in much the same class, though radically different in construction, having the centrally mounted gear box, multiple disc clutch, and other standard features. Although directly a successor to the Pierce-Racine of former show exhibits, it is practically a new car from the ground up, and is produced by a reor-

type of vehicle, the extensive McIntyre product has now been standardized so far as visible features indicate. The 30 horse power model has such impressive specifications as selective gearset, 112-inch wheel base, full elliptic rear springs and 36 by 3½-inch tires.

Another graduate from the high-wheeled persuasion of former shows is the Black Crow. The white Black Crow, being presented to view directly on the front of the stand, the visitor is led around to the rear



PREMIER "4-40" ROADSTER.



MARMON ROADSTER WITH ROUND TANK.

calculation in production and high-grade construction, which the show acords. Coming in the six-cylinder class, however, it is somewhat out of the ordinary in this respect. It has 4½ by 5-inch cylinders, cast in pairs, selective gearset, 130-inch wheel base and 36 by 4½-inch tires. Technically, it possesses several ingenious and effective details.

The new Moon, another of the 30 horse power class, is of solid construction, possessing the rather uncommon band clutch, which is a distinctive feature; axle mounted change gear with torsion tube construc-

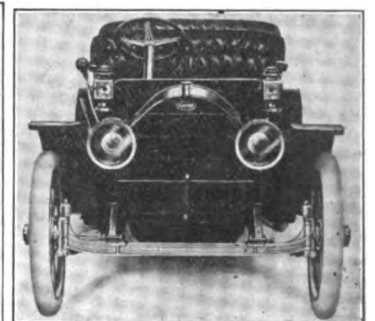
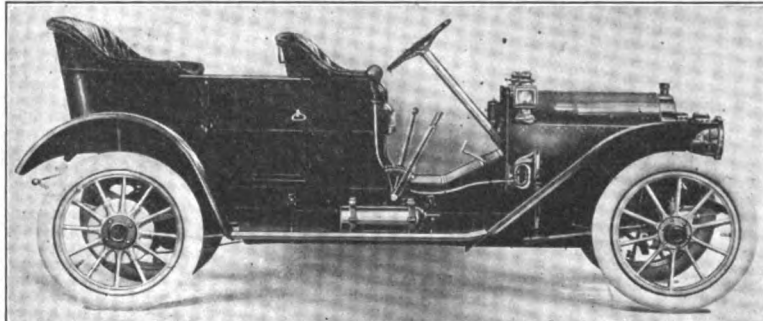
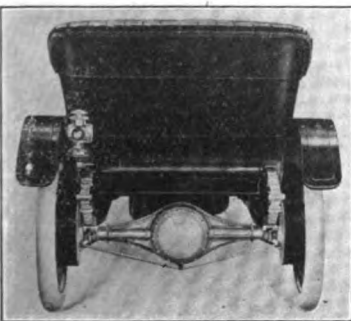
ganized and rejuvenated company of recent organization.

More or less prominent by reason of its Renault type hood and radiator, the newest Mora, which is of 20 horse power, is of the runabout order, designed for two passenger service of the modest and conservative order. The motor is quadruple, with cylinders cast in pairs and measuring 3¼ by 3½ inches. Expanding clutch, two-speed progressive change gear and three-quarter platform suspension behind, are its leading features.

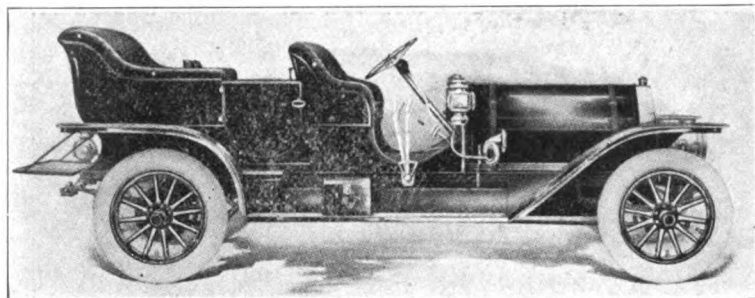
Formerly produced only in the buggy

if he wishes to inspect the vital mechanisms intended for its propulsion. The motor is rated at 25 horse power. Axle mounted change gear and full elliptic rear suspension constitute the main "talking points"; it being explained that the machine is so thoroughly standardized that its specifications are the only points about it which need to be discussed in any way.

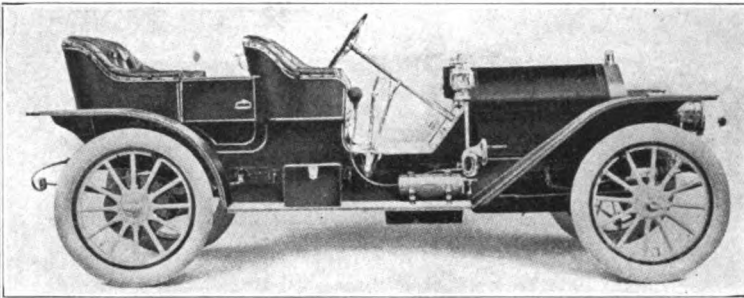
The Schacht, which also formerly was made in high-wheeled form, likewise is presented as an entirely new vehicle. It is made in several styles, the basic chassis details being practically the same in each case,



MARMON "THIRTY-TWO" FIVE-PASSENGER TOURING CAR.



NATIONAL "60" SIX-CYLINDER TOURING CAR

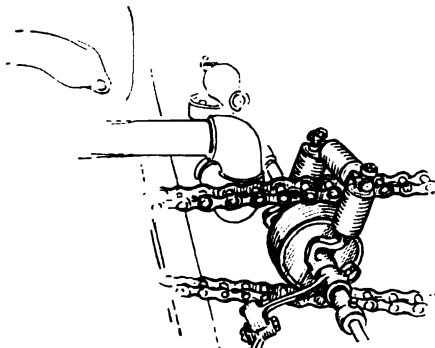


NATIONAL "40" FOUR-CYLINDER TOURING CAR

however. Original and unusual ideas are displayed in the arrangement of the power plant. The motor, which is of the double-opposed pattern, is placed under the hood in front, but fore and aft of the car, instead of transversely, as in the common rule with this type of motor. Transmission to the countershaft, well in the rear, is accomplished by means of a driving chain and sprockets. The clutch is of the "dishpan" type, which is to say that it is a combined cone and disc, the conical rim engaging first and softening the action of engagement. The driven sprocket is mounted on a sleeve loosely carried on the differential counter shaft. The sleeve itself constitutes the driving end of the planetary gearset, the inner shafts transmitting the final drive to the rear wheels through side chains. An unexpected though necessary feature of the forward section of the transmission is the rubber-covered idler, which prevents the chain from whipping and ensures constant working conditions. Although only with pneumatic equipment, solid tires are an option, said to be in considerable demand.

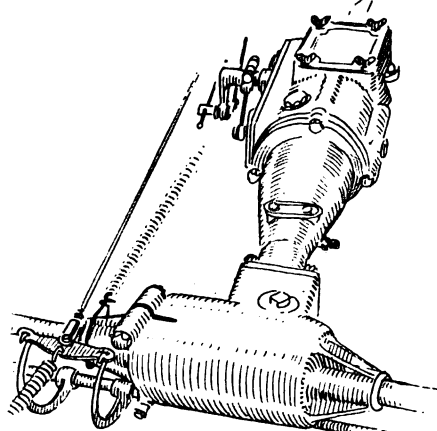
With one entirely new model, in addition to the considerably modified 30 horsepower car of last year, the Firestone-Columbus now appears in a particularly neat little 24 horsepower chassis, which is made either with left or right-hand control, the levers being placed outside the car in either case; and which is offered in a wide variety of body styles. The same selective sliding gearset and cone clutch are used on both types of car, but otherwise they are distinctive. The smaller, which is shown in torpedo runabout form, has a floating axle construction, embodying the use of duplex ball

bearings in such a way that, even with the effect of the usual hub cap drive, obtained



SCHACHT IDLER.

by a special form of clutch, the hubs are of small size and short length. The rear

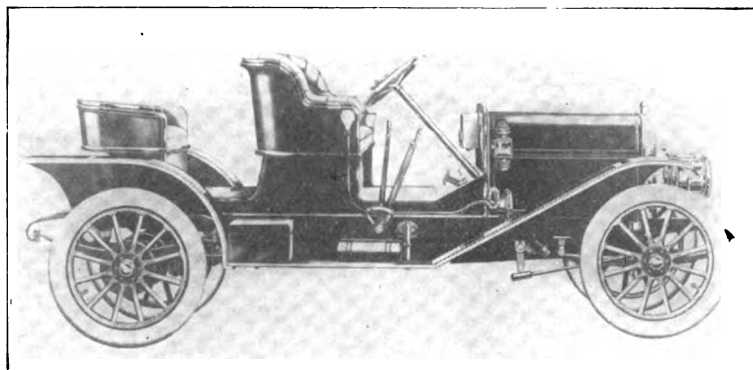


BRUSH TRANSMISSION.

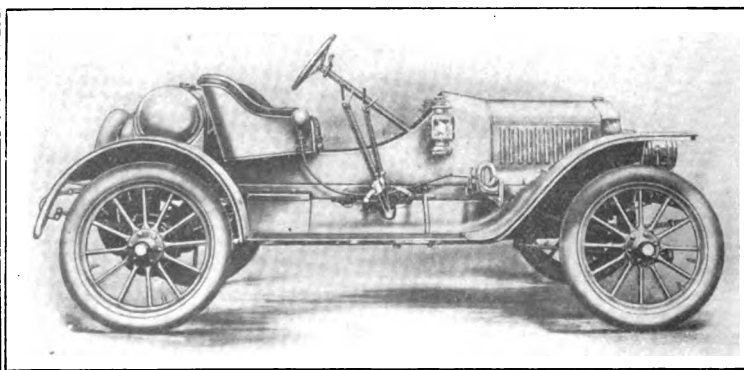
axle on this chassis also is equipped with an original form of shock absorber, which the

untutored visitor is apt to mistake for some sort of brake. When he has been set right on this point, he is made to understand that the location of the two drums, one on either side of the differential housing, is to resist the plunging of the chassis directly under the load, instead of at either side of it, while the big drums, pinch straps surrounding them, and levers linked to the under side of the body, are contrived to provide easy and adjustable resistance to shock, without necessitating repeated and frequent tinkering, or excessive wear. Several ingenious minor details are worked out on both cars, as in the mounting of the clutch throw-out yoke without the use of independent brackets bolted to the frame. The larger machine is equipped with a particularly strong and impressive looking axle equipment, which is one of its new features at this time.

Among the cars which, while exhibiting relatively few alterations, yet are known by new model designations, is the little Brush. Appearing for the first time with an extended line of body equipments, this peculiarly attractive little machine remains mechanically about as first designed. One new feature added at this time, which is of considerable importance, particularly in a single cylinder machine, is the addition of an extra balancing counterweight on a special shaft which is housed in the crank case. The device is the same as was applied a couple of years ago to a twin cylinder model, now obsolete. The crank shaft is counterweighted to balance the "beat" of the piston and a part of the connecting rod, as well as the vertical oscillation due to the crank itself. The extra balance weight is introduced for the purpose of overcoming



BLACK CROW MODEL "C."



MAXWELL MODEL "Q" SPORTSMAN.



the effect of the crank balance in a horizontal plane, and is not only highly scientific but practical as well. The transmission mechanism of these cars, like the helical spring mounting, all wood frame and axles and many other features, is notably ingenious. The housing for the planetary change gear, differential and countershaft, is in a neat casing, suggestive in a general way of the conventional rear axle mounted gearset. The change gear now has disc clutches for the low and reverse speeds, in

the crank shaft will be revolved through a sufficient arc to throw one of the pistons over the compression and firing point. Successive thrusts on the pedal, of course, permit any desired number of impulses of this sort to be given to the shaft.

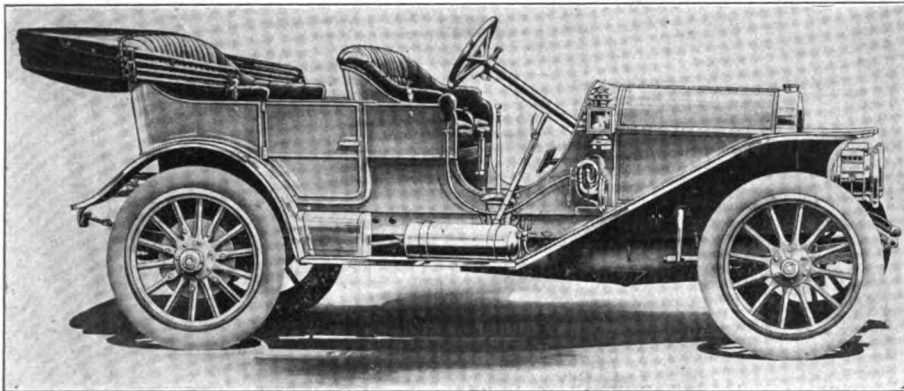
That the device possesses an added feature of interest, is demonstrated to the skeptical by any willing demonstrator on the stand, who is able to prove that by the exercise of proper muscular effort and patience, it is possible to propel the car by

viously of original design throughout. Its two-cycle, four-cylinder motor, with cylinders of 5 by 5 inches dimensions, cast in pairs, so far as is known, is the largest two-cycle automobile motor now on the market, as well as one of the most striking and most successful.

The substitution of a selective gearset for the progressive system which has been used hitherto, constitutes the principle alteration in the Gaeth. The new gear-box, it may be mentioned, is so designed that its cover plate, which is inclined toward the left side of the car, may be removed, and the gears inspected, without removing the body. Midlands now are equipped with a unit power plant of new design, together with a three-plate, all-metal clutch, which includes a long torsion tube. The unit power plant of the Moline is retained, along with other characteristic features, as is the rear axle transmission system which is peculiar to the Regal.

New Premier models have longer stroke motors, longer wheel bases and sundry refinements of a minor nature. The method of supporting the motor and gear box on the sub-frame, is distinctive, the sub-frame being virtually a reinforcing plate applied to the side frame member. At its rear end, where the gearset is mounted, it is separated from the frame, but in front, it is brought close to the side member, and bent down and to one side to form a stay for the saddle on which the radiator is carried.

Continued application of the under-slung frame principle on the American, appears to be a matter of unquestioned assurance. The unusual form of the car entails end-



STODDARD-DAYTON "10-K" TOURING CAR.

addition to the high; the selective control mechanism has been revised; a universal coupling has been added to the transmission; an improved commutator installed, and the wheel base lengthened six inches.

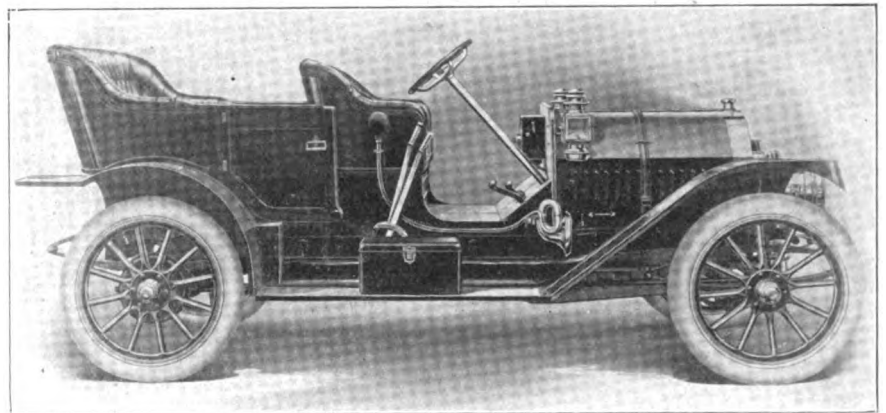
Stoddard-Dayton cars, uniform in design throughout the three chassis sizes produced, have a redesigned motor now, with single rocking levers for operating both sets of valves, which, as before, are mounted in the head. The arrangement of the cylinders has been altered, changing the position of some of the auxiliaries, and otherwise improving the power plant. The gasoline tank now is hung in the rear of the chassis, bringing it entirely clear of any possible contact with the rear axle, while the cylindrical tank form with convex ends, has been adopted.

Such cars as the Marmon and the Glide reveal but few alterations. The former has a little longer stroke and a little longer wheel base than formerly, and otherwise is improved in a few minor respects. Its characteristic lubricating system, rear axle change gear and other features, however, are retained. The Glide has a new cut-under body design, drop sill frame, which lowers the body about 3 inches; larger tires, and, in the case of the roadster, longer wheel base.

Exclusive in exhibiting the only pedal motor starting device in the show, the now crankless Lambert is an object of considerable interest to the mechanically inclined. The motor starter, which is a clutch-lever device taking hold of a flange on the front side of the driving disc of the friction transmission, is so contrived that a release dog is tripped in the event of a back-fire from the motor. In operation, it is necessary merely to press forward on the pedal, when

foot power alone. This is done merely by engaging the friction drive and opening the engine petcocks, when little jabs at the pedal suffice to inch the car along the stand and out into the aisle. This exercise is not recommended for people with weak ankles or those who desire to exceed the speed limit.

Full elliptic springs now are employed on



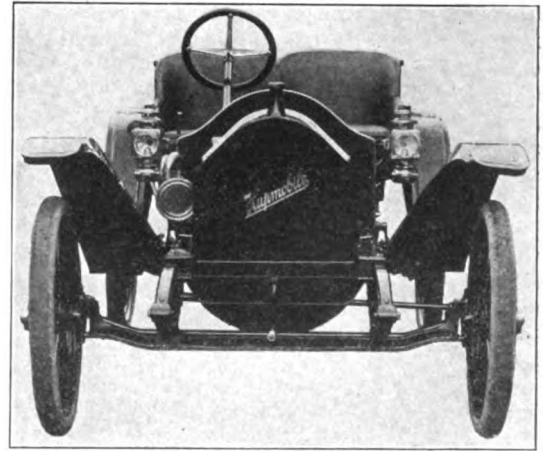
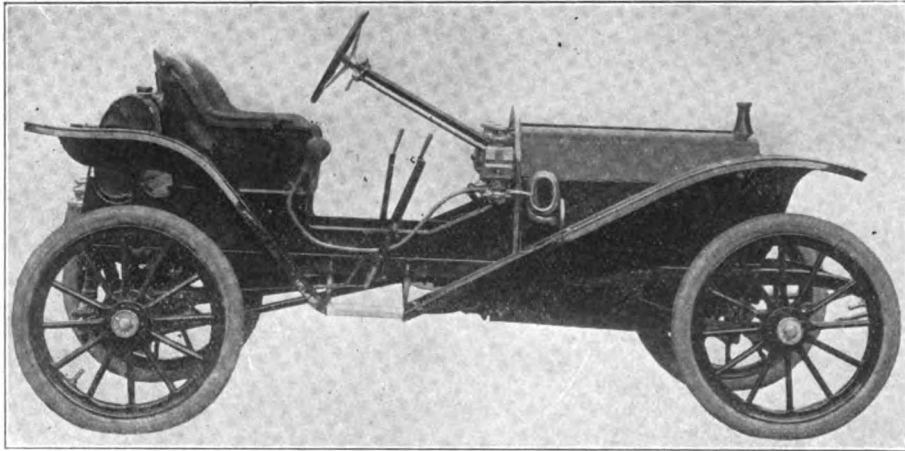
JACKSON "40" TOURING CAR.

the standard chassis, which has otherwise been improved in a number of minor points affecting the transmission and control mechanism. In addition to this, the latest models are equipped with a new form of block motor, which has several interesting characteristics.

Among the cars of stable characteristics, in a general way are the Ford, Pennsylvania and the American Simplex. The latter vehicle, making its second appearance at the Palace this year, is of impressively solid and workmanlike construction, and ob-

less surprise among visitors who are experiencing their first show, but the structural details of the machine are such as to give every assurance that its arrangement is not the result of a mistake on the assembling floor, as some might suppose. Another car which is a trifle out of the ordinary in one or two particulars is the Atlas, which is now produced in three and four-cylinder form, and in outward proportions which annually grow more imposing. Its two-cycle motor is a promising member of that limited class.





SIDE AND FRONT VIEWS OF HUPMOBILE ROADSTER.

Universal joints on all connecting linkages, are a feature of the Coates-Goshen, as are also its rather unusual form of torque resisting mechanism and the double drop frame. Now produced in two models, which differ mainly in horsepower and wheel base, the larger of the two is driven by a 45 horsepower motor of original construction, which is entirely new this year. A new motor installed in the smaller of the Crawford models, brings its power rating up to 28 horsepower. Otherwise there are few material alterations in its construction. The larger model has been changed only to the extent of fitting a new set of special springs, and enlarging the body to unusually large dimensions, as a result of which it is made of eight-passenger carrying capacity; an extra seat being adapted to fit in between the two forward tonneau chairs on occasion.

A slight alteration in the construction of the valve enclosing piping on the inlet side, making for great convenience in repair work; a new engine oiling system; and enlarged truss rods on the rear axle system, constitute about the only modifications to the Cameron line. The Middleby is reproduced exactly from last year. Kisselkars have longer wheel bases, new brakes, lower frames, larger wheels and more roomy bodies. These are the more important alterations of a general nature. In addition to

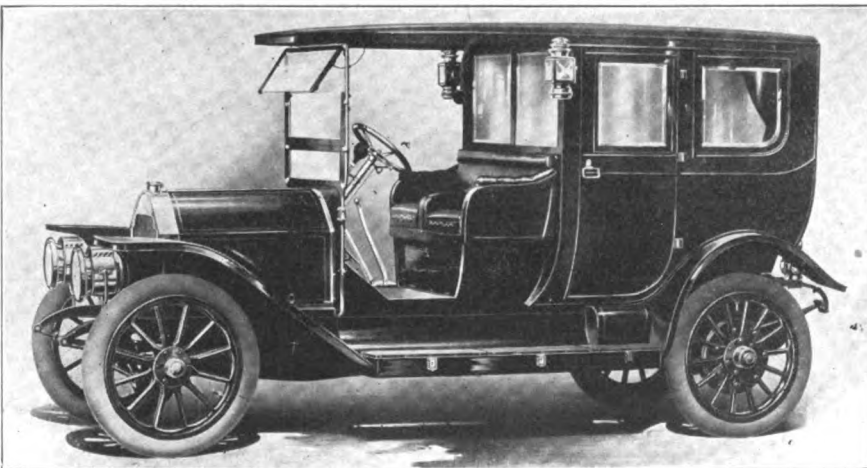
this the motor sizes have been increased, and a four-speed gearset with direct drive on the third speed has been adopted.

The characteristic arrangement of the torsion tube and transmission mechanism of the Inter-State is retained. Sundry minor changes in its assembly, such as the rearrangement of the engine auxiliaries and the rear suspension of the three-quarter elliptic pattern which have been adopted, enhance its value to the user without affecting the characteristics of its design in the least.

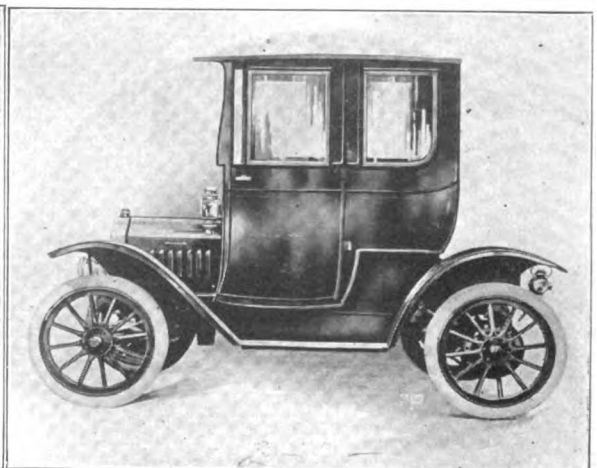
Now equipped with a Parker motor, and mounting the peculiarly sturdy pressed steel rear axle, which is a boasted product of its builders, who long have been known as parts producers for the automobile and carriage trades, the latest McCue model embodies several original not to say striking features. Among other details which display considerable forethought is the method of mounting the brake equalizing levers in the frame. The levers in question are in the form of flat bars which extend entirely across the chassis. Their ends are guided in a slotted housing on either side of the car, which contains the releasing springs. The springs act in compression, and being completely housed in the manner indicated, are protected from any chance injury, while the release of the brakes is rendered certain.

Of the foreign cars displayed, there is but one that really merits the distinction "new"—the Isotta-Franchini Voiturette. It is the smallest four-cylinder car in evidence, if not in existence. It is every inch an automobile, however, but it is so small and so low that it appears like a toy or a vehicle for a rich man's child. It is of the racing or roadster type, and except that it employs a block motor, instead of one with independent cylinders, it incorporates all of the Isotta features. Despite its juvenile size and appearance it is listed at a full grown price, \$3,500. To many investigators the wire and lead seals attached to the gear boxes, carburettors and other parts of the Isotta cars appeared curious, indeed, and caused considerable inquiry. The seals, however, are due not to custom house practice, as some people supposed, but to the fact that the cars are sold under a maintenance agreement, that is, if anything goes wrong, it will be repaired without cost, provided the seals are unbroken.

The De Dion-Bouton exhibit is notable as containing the only eight-cylinder car, one with a V-shaped motor of 50 horsepower. The frame is flat or level, the rear axle being curved rearwardly to provide room for independent shaft transmission, the shaft being bolted instead of having universal joints.



STODDARD-DAYTON LIMOUSINE.



BRUSH COUPE.

The Panhard, for the first time in this country, shows a car having a block motor, a practice at variance with the makers' long championship of cylinders in pairs. The Panhard people have also cleared the steering wheel of all switches and levers, the ignition being stationary and the throttle being operated by a set lever on the dashboard and a pedal accelerator.

The Lancia is another car which has been converted to the use of block motors.

The C. G. V. models are distinguished as being the only imported cars having left-hand drive; the levers incidentally are positioned in the center of the cars.

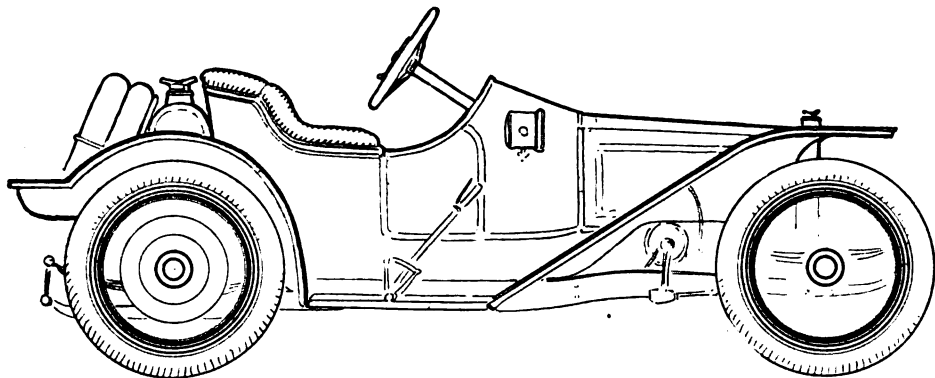
#### Bodies and Striking Finishes.

Unless it be the so-called torpedo or gun-boat type, there is no radical development in bodies shown at the Palace, though the use of larger and roomier bodies is, of course, one of the most pronounced tendencies of the times. But the torpedo body really is the only new design in evidence, and it is fair to say that seated in some of them, a short person looks not unlike a pea in a quart measure.

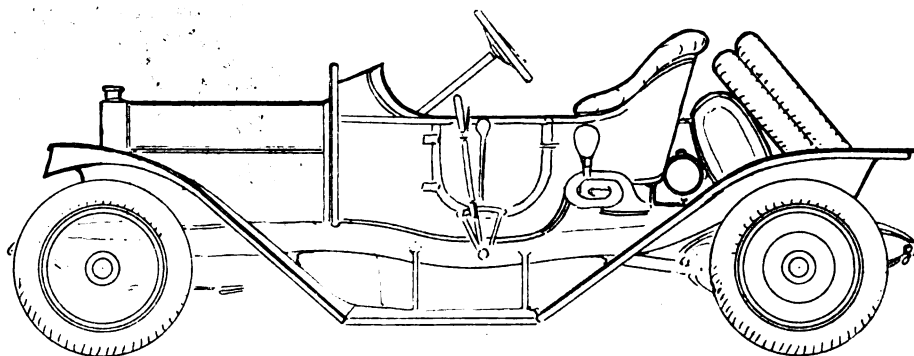
Of this new type six examples are shown. A general description covering all of them would include: Sides higher than in the standard touring model; dashboard is curved forward and upward for about 12 inches to form an effective wind shield, and driver's seat is as completely enclosed as the rear seats. In several instances the doors on one side of the front seat have been omitted. Special features not included in this general description are: In the Marmion, the space above the running board on the left of the tonneau is utilized for the storing of spare rims and tires. In the Speedwell the double doors in front and rear are retained, and the levers arranged inside. In the Stoddard-Dayton the tool boxes, instead of being placed on top of the running board, are riveted to the underside of the same and opened the same as drawers in a desk. These boxes, or drawers, are very shallow (about 2 inches deep) and as nearly invisible as possible. In the Fiat the sides are very high, reaching above the shoulders of the passengers.

Among the "standard" touring cars that are much discussed at the show is the big Delaunay-Belleville, fitted with a Brewster body. This roomy seven-passenger car can be changed from an open touring model to closed landaulet in a minute merely by raising the front and side windows and letting down the pantasote flaps in the rear. It is luxuriously upholstered and has a wheel-base of 140 inches.

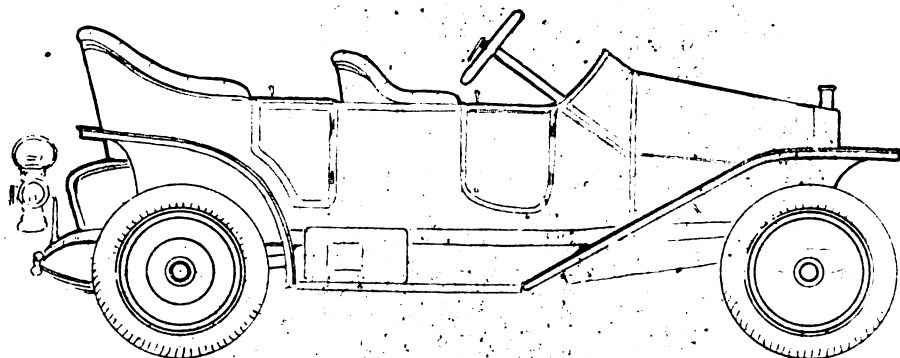
Another striking touring car is the brown finished Pullman, the effectiveness of the finish being heightened by upholstering to match. In limousines the tendency towards greater size is more pronounced than in any other type. The Stoddard-Dayton cars of this type easily can be recognized by their high doors and window casings, lending to them an air of marked distinction.



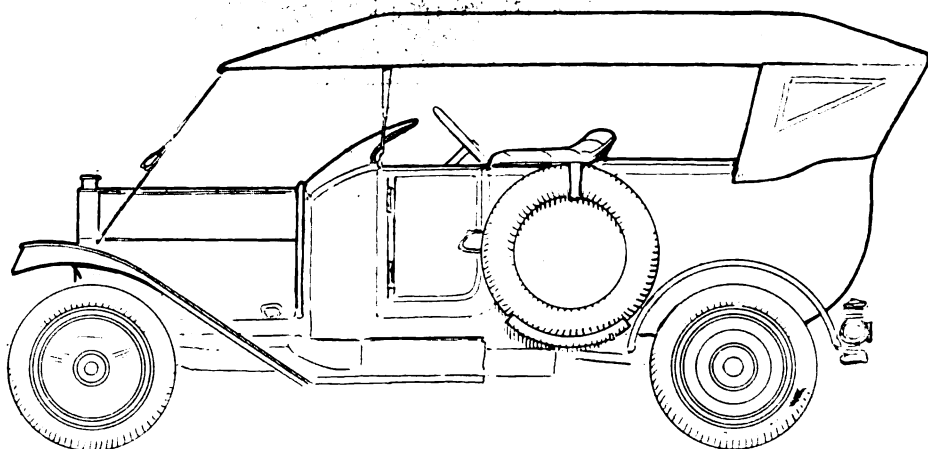
AMERICAN ROADSTER.



FIRESTONE-COLUMBUS.



SPEEDWELL TORPEDO.



MARMON TORPEDO.

The coffee-brown finish of one of them is extremely odd and said to be serviceable.

No really striking features are visible in the laudat type of cars. Greater luxury in the inner finishings and upholstery, larger tires and heavier body, are the slight changes apparent. But in another class of closed cars, the inside-driven coupe, a number of innovations are evident. In the Fiat coupe, for instance, there are two full-size seats and a small corner seat inside, and a small rumble seat in the rear for an attendant. It is one of the roomiest cars of this type. Another foreign coupe, the Lancia, offers a novelty in the folding back of the driver's seat so as to allow ingress from the right side as well as from the left. The body of this car was made in London for the Lancia chassis.

Among the roadsters there are a number which merit mention, among them the National, a powerful white roadster credited with 72 miles an hour. It probably is the raciest-looking machine in the Palace. The two seats are extremely roomy and comfortable—a factor not to be despised in a fast machine—and the gas and oil tanks in the rear are especially capacious, affording a great touring range.

The Inter-State roadster, though comparatively a small machine, provides a roomy rumble seat in the rear by a clever arrangement of the gasoline tank in the back of

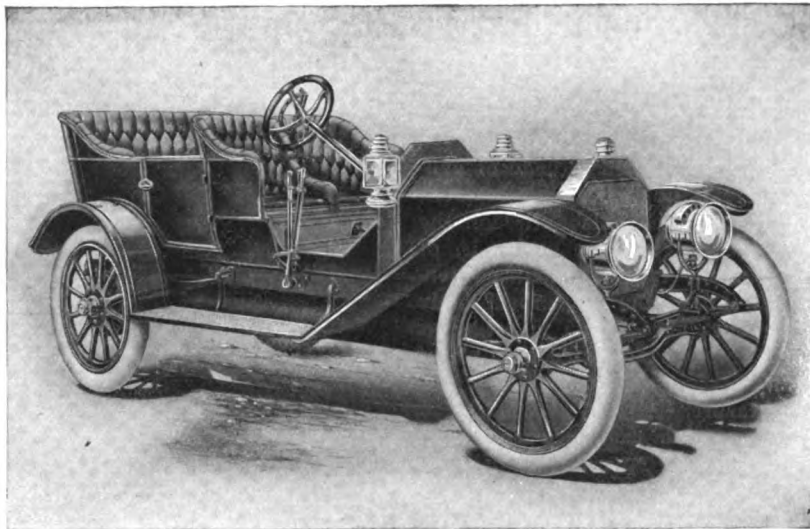
folding rumble seat, complete cover and bright red finish make an attractive looking machine.

#### Springs and Their Mountings.

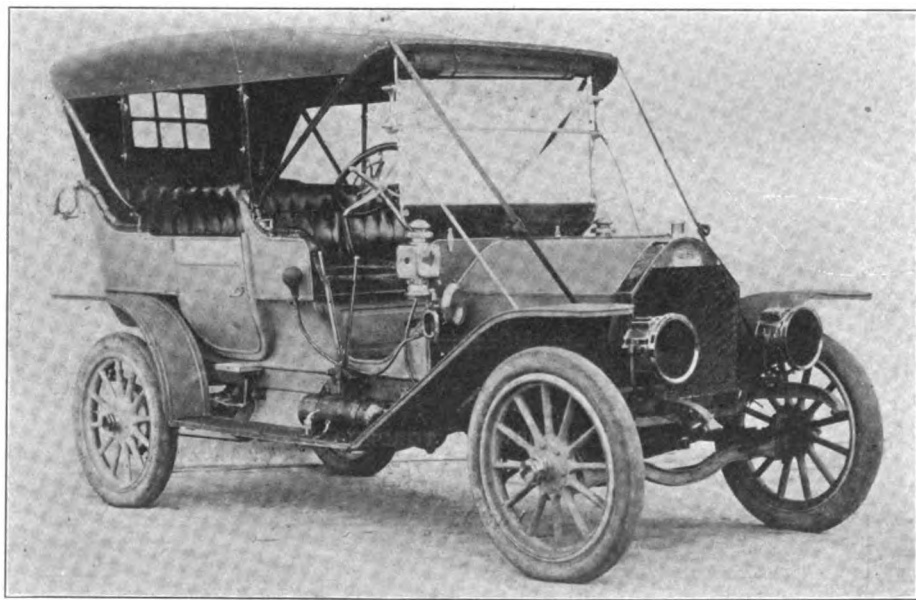
It had been supposed that the matter of spring suspension had been pretty well settled by the more successful designers. The general prevalence of the semi-elliptical system during the past two years seemed suf-

ficient, which, though already familiar as an element of cars which have appeared at former shows, is this year presented to a degree which, at any other time would be deemed sufficient to constitute a trend.

Without attempting to sift out the theory upon which this system of spring mounting is based, suffice it to indicate that with a given total length of spring to be accounted for, considerable economy in over all length



MCCUE TOURING CAR.



INTER-STATE TOURING CAR.

the permanent seats. The tank is long and high, but extremely shallow, barely  $3\frac{1}{2}$  inches thick. This compression of the tank gives an extra space of at least 12 or 15 inches to be used for the passenger's convenience.

An odd appearing roadster with an exaggerated buggy top is shown in the C. G. V. exhibit. Its construction is such that ingress must be very difficult to any but the most agile people, the peak of the hood and the top of the dash almost meeting. A

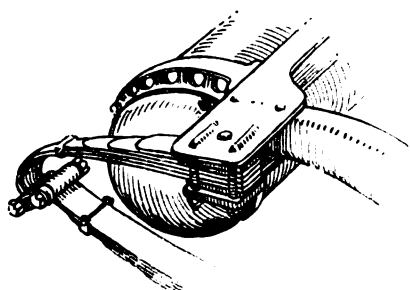
sufficient guarantee that in its action the required degree of cushioning effect had been secured. It is true, certain builders continued to adhere to the full-elliptical pattern, while still others, especially in the case of particularly heavy machines, preferred the use of the semi-platform system. From the newer models on view at the Palace, however, it appears that some of the makers are revising their views. This is evidenced most strongly in the increasing adoption of the three-quarter elliptical rear

is accomplished by the use of the "demi-pincette" as the foreign designers love to call it. The point which probably appeals most strongly to the builder, however, is that with the three-quarter elliptic arrangement, the tendency to prolonged oscillation is materially reduced. There are some designers, indeed, who insist that a practical effect of shock absorption is obtained where the suspension is not symmetrical in all its parts.

To be more explicit, the three-quarter elliptic suspension is composed of these elements: First, a flat, semi-elliptical base spring, which being generally arranged with equal lengths before and behind the axle, tends to vibrate harmoniously whenever displaced; second, a quarter-elliptical member, rigidly attached to the frame at its stub end, which when displaced, tends to regular oscillations, but at a different rate of vibration from that of the main member; third, a scroll end, formed by curving over the lower leaf of the quarter spring, which, at its very end, is subject to periodic vibration, more rapid than that of either of the other two elements. Theoretically, the combination may be said to be sufficiently yielding for all practical purposes, yet to have very little tendency to violent rebound, or to continued oscillation after the initial shock and recovery. Another point in its favor is that it permits the axle to be set well back, without involving the use of long dumb irons uselessly protruding in the rear.

A very good example of this construc-

tion as applied to the heavier type of car is displayed in the Stoddard-Dayton cars, wherein the quarter spring is firmly gripped between upper and lower extensions of the rear cross frame member, which is formed after a fashion which has proved particularly satisfactory in foreign practice. The upper and lower flanges of the rear cross

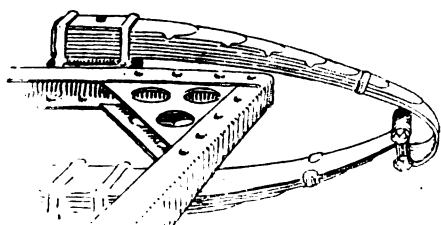


STODDARD-DAYTON.

member, instead of being trimmed flush with the side members, are broadened out to form heavy gussets for the corners, and also are extended beyond sufficiently to project a trifle outside the spring. The usual clips and central stay bolt are brought down through both the frame extensions and the spring leaves, clamping them firmly together, and also acting as a sort of binder for the frame itself, the clamps and the stiffening effect of the frame sides co-acting to prevent the quarter spring from prying its way out of its perch. Both semi and quarter springs have clips applied to the longest sustaining leaves, while the fact that the rear of the frame is dropped, affords ample room for spring action.

A neat detail of the same chassis, which may be alluded to in passing, is the manner of suspending the rear gasoline tank, which is cylindrical in form and carried entirely behind the frame. It is hung from an arched yoke, made in a form roughly suggesting a ship's davits, which is of T-section, but with its central web cut away to eliminate needless weight. The sustaining strap passing under the tank is bolted to the extremity of this casting.

Another application of the same principles is found in the Pennsylvania, in which

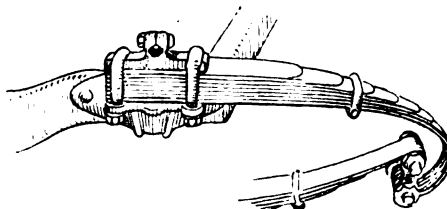


PENNSYLVANIA.

a very solid supporting bracket is affixed to the side of the frame, not at the extreme rear, but several inches in front of it. As a matter of fact, the spring support is brought just forward of the triangular gusset plate which stiffens the frame corner. This position for the quarter spring, permits a corresponding addition to the length

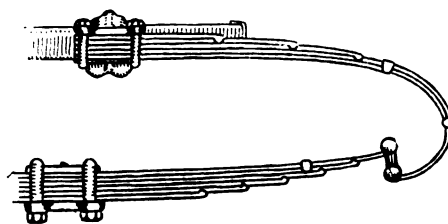
of the otherwise rather long upper member of the suspension, resulting in considerable added elasticity. The considerable length of the semi-elliptical member also is noteworthy in this connection, while one structural feature which should not be overlooked is the use of "kitten ears" on the leaf ends of the upper spring, whereby the leaves are prevented from losing their alignment.

In many respects similar to this system is that employed on the Glide cars, save that in the latter instance, an entirely different form of supporting bracket is used, which also serves the useful purpose of up-



GLIDE.

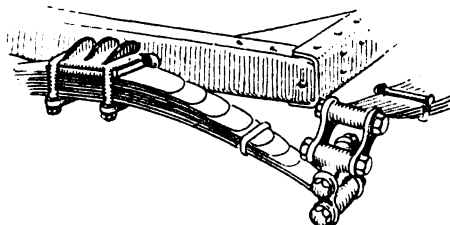
holding the rear mud-guard bracket. The top clamping plate which holds the spring leaves together, has a vertical extension, which is drilled out to receive the mud-guard supporting arm, which, in turn, is secured in place by means of a pinch bolt. The quarter spring member in this instance, is notably short and stocky, while the drop frame construction permits a large amount



PULLMAN.

of spring play, and also allows the axle to be brought back under the end of the frame.

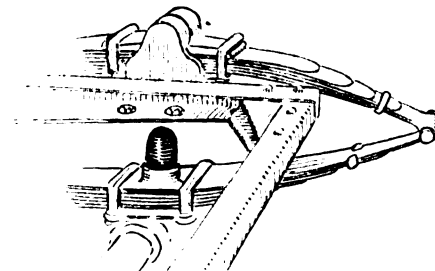
The new model Pullman, on the other hand, has a rear suspension which is out of the ordinary in that the lower and semi-elliptical member is set very nearly flat, or with a low arch, while, as the vehicle is designed for a light load, the allowance for motion is comparatively small. Another point of distinction about this system is that the point of attachment of the quarter



MITCHELL.

spring member, instead of being directly over the axle, as is commonly the case, is placed slightly back of it, thus reducing the length of the upper member of the group considerably.

Three-quarter platform suspension, like the three-quarter elliptic pattern, appears to be gaining new converts. The Mitchell six-cylinder models are so equipped, among others, the method of hanging being notably free from the clumsiness which characterized some of the earlier attempts at platform suspension. A simple and sturdy cast-

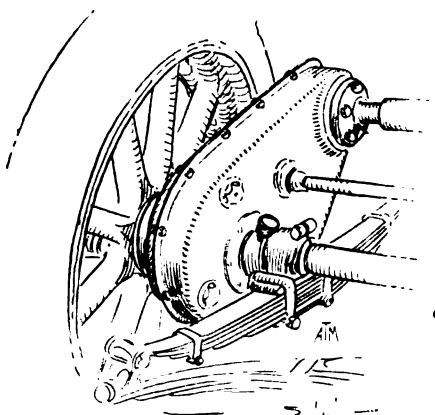


JACKSON.

ing supports the rear cross member in the centre of the frame, a plain universal shackle fulfilling a very necessary function in connecting the cross and side spring members. Certain models of the Pennsylvania, National, Mora and Chadwick also display this type of mounting in varying form.

The full elliptic rear suspension, sometimes with the pivoted connection of the upper member elevated above the frame, as in the Jackson, is adhered to by not a few builders. This form of suspension always has been a stronghold of the Marmon constructors, while on one or more models of the Reo, Maxwell, Lambert and Moon, it is to be seen. The new Everitt "30" has it, as have the new Paige-Detroit and Black Crow cars, as well as the more familiar Cameron, Middleby and Regal.

The spiral mounting of the Brush long ago vindicated itself, though still remaining an object for amazed contemplation, so radical does it appear. The same, in a general way, applies to the under-slung models



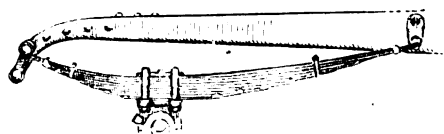
EMPIRE

of the American, which still continues to refute the contention that it must be impossible to carry the frame below the axles without disaster. The new little Empire has a most remarkable example of full platform mounting in the rear, the cross member supporting a tapered extension of the



frame which is brought to a point in order to connect with the spring. The side members, it should be said, are slung beneath the axles. This car also has three-quarter elliptic members in front.

Perhaps the most unusual application of the spring drive principle appears in the



McCUE SPRING.

McCue car, wherein, contrary to ordinary practice the rear members are offset forward. The semi-elliptic side members are 54 inches long. Only about 18 inches or so

Gaeth, Ohio, Halladay and Demot car. Special forms of suspension worthy of individual mention, while not numerous, still are more or less remarkable. The Ford rear cross spring, is retained as a matter of course. The Hupmobile has the same device in a different form, while the triple action principle is displayed to advantage on the Pierce.

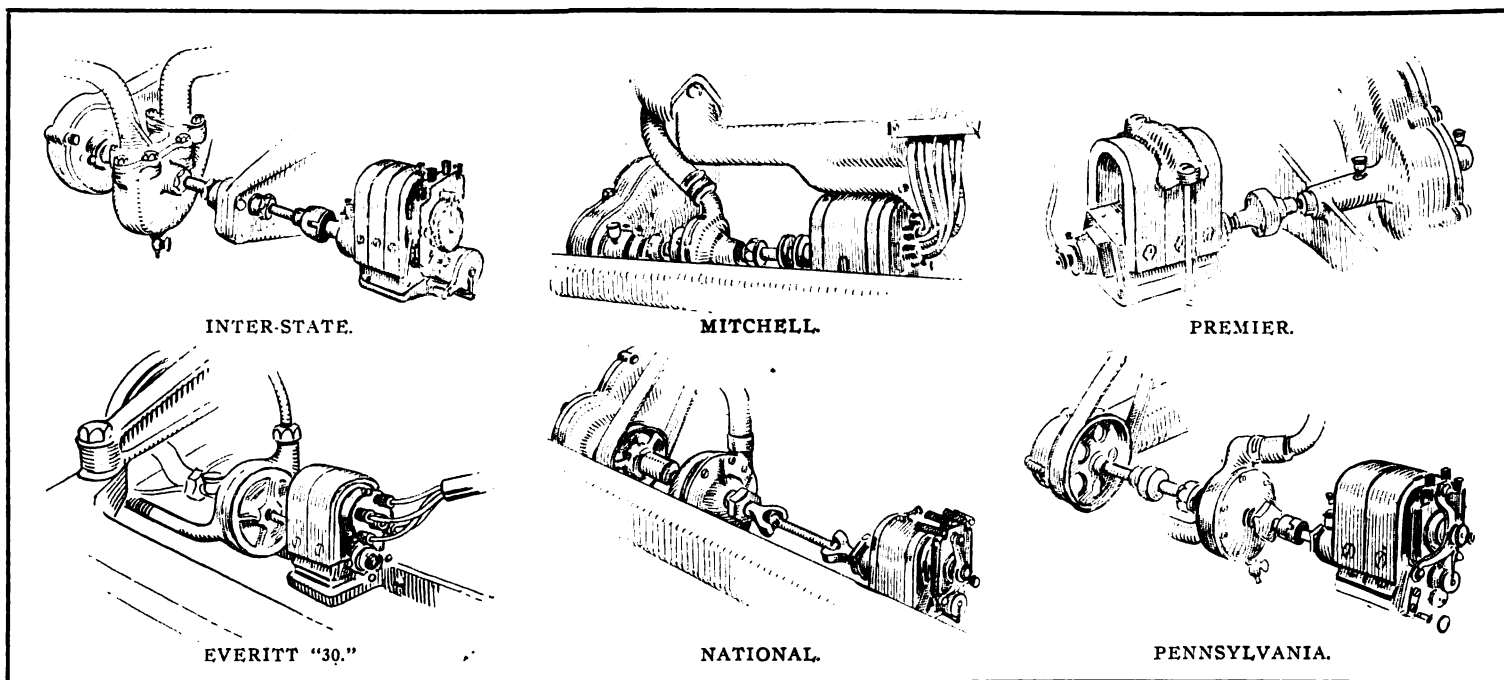
#### Magnetos and Their Mounting.

Evidence is not lacking that automobile designers have quite passed the hysterical stage in which, having completed a motor to their entire satisfaction, they proceeded to attach the necessary accessory devices, carburetters, lubricators and what-not, in the most hasty and extemporaneous fashion imaginable. Indeed, with the settle-

disappearing on the more elaborate machines, by reason of the growing application of the crank case, circulatory system.

The result of these various considerations is extremely varied, though practically independent of the type of motor employed. The Ford engine, for example, is simplified in respect to its auxiliaries, because of the concealment of the low tension inductor type magneto in the fly-wheel casing. Thermo-syphon cooling, as applied to the Maxwell, Brush, Premier, Moline and the new Ohio, further simplifies the problem by eliminating the pump from consideration; while in some instances some degree of apparent simplicity is obtained where the auxiliaries are divided, the magneto being placed on one side and the circulating pump on the other. As a matter of fact,

#### VARIED METHODS OF MOUNTING THE MAGNETO.



protrudes back of the axle, while the front portion affords a sort of radius-rod effect, in addition to carrying the traction load necessary to the propulsion of the machine. One advantage claimed for this arrangement is that it tends to offset surging in the springs, having, indeed, a sort of spring damping, or shock-absorbing tendency. The front members of this car also are offset, an unusually long wheel base thereby being gained.

For the front, few radical changes appear this year. Most of the makers adhere uniformly to the semi-elliptical pattern, and, truth to tell, it is difficult to see how it can be improved in most cases. With rear springing, there always is the complication of driving to contend with, and this is the real occasion for the great amount of variety to be observed.

The old reliable semi-elliptical mounting is retained by the makers of such cars as the Pullman, on certain models, at least; and the Midland, Coates-Goshen, Moline,

ment of many formerly perplexing questions of motor design, the American builders have reached a point where they have both the leisure and inclination to treat the problem of the engine auxiliaries from a more or less independent standpoint.

As a matter of fact, the neat and apparently simple exteriors of many of the motors directly reflects the result of much study in this direction. The carburetter, must bear a certain relation to the intake manifold, it is true, but many engineers find it possible to place it on either side of the car, according to contingent circumstances, and quite regardless of the position of the inlet valves. Similarly, the position of the water pump is determined to a greater or less extent by the arrangement of the piping, and the facilities for driving. In the case of the magneto, on the other hand, practically the only requirement is for a solid base and a convenient and cheaply constructed system of driving. External lubricators, it may be added, are fast

the auxiliary problem in its most perplexing phases, is reduced to the point of locating to advantage the pump and magneto, since it is they alone which require power as well as a secure and convenient location. The position of the ignition timer, it may be said in passing, has become of less moment than formerly, since in so many instances, dual ignition is employed, and the timer for the battery side of the system is the same as is contained in the body of the magneto.

Taking up a few random examples of magneto and pump location and drive, will suffice to show that practically no direct advantage has yet been found to center about any one method of mounting and connection. For the most part, power for the auxiliaries is derived from an extra spur gear meshing with one of the timing gears. Where the auxiliaries are divided, two such gears are necessitated. Occasionally a third source of motion is developed directly from one of the cam shafts by

means of spiral gearing. Such arrangements are found in more than one instance where an oil circulating pump is placed low down in the crank case.

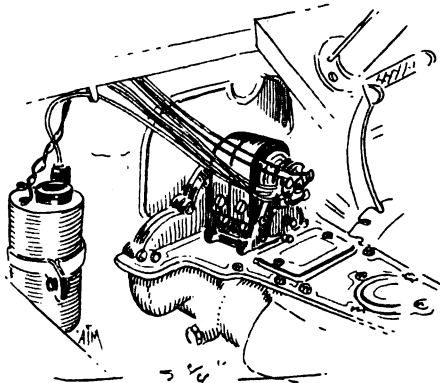
One instance in which it is utilized in another way is in evidence on the Premier show chassis, where a force feed lubricator is mounted on the left side of the motor, midway of the crank case, and driven from a short cross-wise shaft, which protrudes from the side of the engine base, and takes its motion from the cam shaft. Directly forward of lubricator is the centrifugal fan, which is driven by a short length of shafting from a gear enclosed in the forward housing. On the opposite and right side of the chassis, the magneto is mounted. The driving shaft here employed is carried back from the gear housing in a specially long boss, which extends through to the rear web of the engine supporting arm, and is equipped with "dope cups." The universal joint, which is an accompaniment of all well-assembled magneto drives, is inserted in the short length of connecting shaft between the crank case arm and the armature itself.

On the Mitchell six, the magneto and pump are assembled very compactly on the left side of the chassis, together with the carburetter. As the engine sets rather low in the frame, relatively speaking, and as the entire engine unit is designed with a view to the maximum possible compactness, considerable ingenuity has been displayed in placing the auxiliaries in order to afford them ample room and still avoid unnecessary extension of the limits of engine space. Indeed, the result in a way suggests the close figuring which is evidenced in the engine room arrangements of a battleship. The centrifugal circulating pump is placed directly behind the gear housing, with the magneto behind it, separated by a flexible and readily demountable coupling. The carburetter, being placed directly back of the magneto, forward portion of the inlet manifold comes close down over magneto and pump, giving the impression of extreme compactness.

The new model of the Inter-State emphasizes clearly the advantage of giving thought to the arrangement of the accessory parts of the power plant. Both pump and magneto now are afforded ample space and good operating conditions by being supported on the left side of the engine, well toward the front. The centrifugal pump, indeed, is placed directly back of the timing gears, and in front of the forward engine supporting arm. The driving shaft is carried through this arm to the magneto, to which it is connected by means of the favorite Oldham coupling.

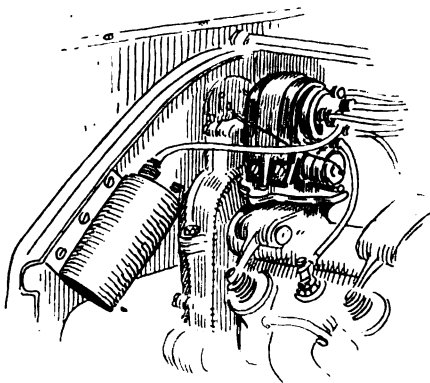
An example of the use of the auxiliary driving shaft for the actuation of the cooling fan back of the radiator is to be seen in the Pennsylvania chassis, in which the fan pulley is placed just behind the gear housing. The shaft extension from this point, is connected by means of a flanged

coupling, which facilitates dismounting the parts. The driven section of the shaft passes through the gear pump, and is joined to the armature shaft of the magneto by means of an Oldham connecting member.



MAXWELL.

Instanting the appreciation of certain designers of the need of more extreme flexibility in the magneto drive than is possible with the Oldham style of coupling, the National system is worthy of notice. The fan driving pulley, centrifugal pump and magneto all are mounted on the left of the engine, in the new four-cylinder 40 horsepower model. The magneto, instead of being set close behind the pump, however, is placed well to the rear of it—just in front of the dash, as a matter of fact. By way of connection between the pump and magneto, a special form of coupling is used, which is broadly suggestive of the double-jointed type of propeller shaft. A solid connecting



JACKSON.

bar, of six inches length or more, is grasped by the jaws of the two coupling members on the shaft and armature, respectively. The ends of the bar are flattened out, the flats being at right angles to one another, so that the effect of the true cardan shaft is secured. In this way, although there may be no apparent reason for any appreciable movement between the pump and magneto, all possibility of straining the armature shaft or its bearings from such a cause is eliminated. The arrangement also permits the magneto to be dismounted with very little difficulty.

Interest in the design of the new Everitt 30 car, does not permit the arrangement of

its magneto to be overlooked. It is placed on the left of the motor, along with the pump. But, contrary to the practice found in some other machines, the driving shaft does not pass through the supporting member for the front end of the crank case, but under it instead. This is due to the fact that the crank case is hung from separate engine supporting bars, instead of by integral arms. The pump, which is of the centrifugal type, is placed in front of the magneto in the conventional way.

Unlike the arrangement of any other car in the show, the new Maxwell chassis, possesses the unique feature of a magneto mounted on the clutch housing. The unit type of power plant is used on this, as on all the Maxwell cars, and this provides a ready and stable support for the ignition device beneath the incline of the floor board and in the very center of the car. The induction coil which is used with type of ignition system used, is carried on the left of the dash, but also concealed by the incline of the floor board.

Still another unique magneto arrangement is employed on the new Jackson 30 car. The unit power plant is a feature of this machine, and the magneto, instead of being tucked away low down on one side of the chassis, is carried by the unit, on top of the rear cylinder. By reason of the overhead valve gear of this motor, and the peculiar valve driving system employed, magneto drive is readily arranged for by means of a spur gear at the back of the magneto. The latter is placed on the rear cylinder, and hence, comes directly in front of the dash, and immediately beneath the hood. The induction coil also is housed under the hood, and is affixed to the dash.

#### COMMERCIAL VEHICLES.

With a total muster of 40 vehicles of varying types and sizes, the commercial vehicle section of the Palace show has come to assume more sizeable proportions than ever before. Four of the exhibitors are newcomers, one of the latter being an importation, namely the DeDion. This product is represented by a chassis, borrowed from one of the Fifth avenue 'busses which are in constant service in New York City, and said to have covered over 50,000 miles. The other is a stake truck of less massive proportions, but not remarkable for novelty of design. One rather striking feature about it is the use of the Bosch dual ignition system—a refinement ordinarily reserved for pleasure vehicles alone.

Quite the most ingenious mechanical novelty of the commercial section, and indeed, one of the remarkable devices of the entire show, is the transmission mechanism which has been adopted for the Carlson truck. It is of the planetary type, but is doubly distinctive in that but one planetary pinion is employed in its construction, or to be even more explicit, only three gears in the entire device; while its entire actuation is secured with the use of but a single brake band, in

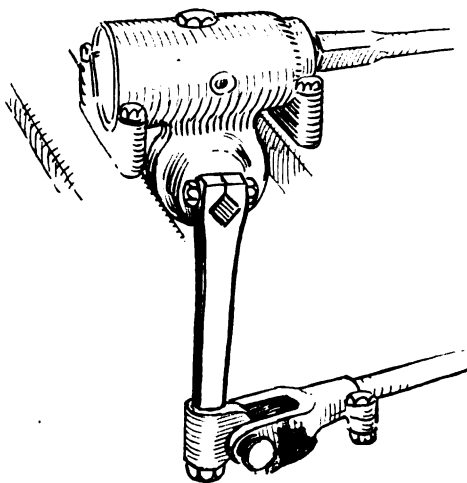
addition to the high speed clutch. The single pinion is meshed constantly with the driving gear and with an annular gear cut in a floating ring. Braking the ring or the drum which carries the pinion, in turn serves to secure the low speed forward and reverse drives.

For the purpose of interchangeability the entire power plant, including the fuel and water tanks, and the driver's seat, may be slid out of the chassis, merely on the removal of six bolts, and without the necessitating the uncoupling of any joints. Both the driving and steering shafts telescope together, while the pedal braking mechanism is mounted entirely on the chassis. Because of this provision, the somewhat unusual device of mounting the steering gear back on the chassis, while the steering column is carried in front, in the usual position, is employed. Connection between the steering column and the steering gear is carried out by means of a horizontal shaft.

The motor is of the four-cylinder opposed type, and is constructed with definite regard to the economy of time in making adjustments. With this object, either of the sets of valve lifters may be removed by releasing a single plate, while the removal of four nuts, permits the crank case cover plate to be lifted off, bringing with it the valve lifters intact. A two-throw crank shaft is used, the connecting rods being attached to the cranks by means of hinged straps. Such is the arrangement, that upon removing the single bolt in either of the caps, the corresponding pair of pistons may be removed without further difficulty.

The third newcomer is the Martin, which appears in the form of a light delivery truck,

with opposed motor and planetary change gear in the form of a unit, the engine being on the left and the change gear on the right of the car. Drive is by side chains, from a counter shaft which is placed directly back of the power unit, and formed integrally with it. Full elliptic springs are used, those in the rear being of scroll and pattern. Thirty-six-inch wheels and 2½-inch



CARLSON STEERING GEAR.

solid tires are standard equipment. The machine is original throughout and reveals a number of unusual and novel devices.

Two-cylinder opposed motors are strongly in favor with the builders of the Randolph, which also has not been exhibited at the Palace before this year. In this machine, however, sliding gears, selectively actuated, with side chain drive, constitute the transmission mechanism. This machine

is built in the form of a delivery wagon—a type of commercial which appears to be gaining in numerical strength, despite considerable delay in its evolution.

Similar in general purpose also, is the Chase, which is distinguished by a three-cylinder, air-cooled, two-cycle motor mounted vertically in front. It has an original and ingenious transmission system and is mounted on large wheels equipped with solid tires. The Reliance is the other two-cycle adherent in the commercial section.

In addition to the DeDion, a second foreign importation, the Saurer, makes its reappearance. This solid and well-designed machine is equipped with such refinements as compressed air starter for the motor, compression brake, and magneto ignition, and is a magnificent piece of vehicle construction.

The Hart-Kraft, with its opposed motor and large, solid tired wheels, which is built for delivery purposes mainly; the Gromm-Logan, shown this year in light and heavy truck form; the ingenious Grabowsky, with its removable power plant; and the Mack and Rapid exhibits, complete the display of gasoline vehicles. The two last named are of the class which undergo few alterations from year to year, and are produced in great variety. Consequently these two exhibits nearly equal in volume the combined displays of all the other commercial vehicle people. The sole exhibitor of electric sizes for a variety of purposes, and also in a special dock and industrial transfer truck of unusual construction, with one pair of wheels in the centre and a single steering wheel in the centre at either end.

## Revelations of the Accessory Department

Getting directly at the matter of what new things are disclosed in the accessory section of the Palace show, the seeker of these is rewarded beyond reasonable expectation. So prolific has been accessory production in the past years that to ask for further novelties is demanding a good deal, but they are forthcoming nevertheless. Many of them are in the nature of neat little tricks of detail improvement and refinement but more important are those which are radical entireties quite different from anything heretofore disclosed.

A great proportion of the names in the accessory section are those of concerns already well known to the public and the trade, but a mere recognition of the firm and a knowledge of what it has been marketing in the past is no guarantee to the show visitor that he safely can pass its exhibit on the assumption that nothing new will be found in the space. In fact the veteran accessory manufacturers have been just as busy as the newcomers during the past year in developing improved forms and advanced ideas.

In the field of speed indicators and odo-

meters, for instance, two distinctly new things are sprung. One of these is a so-called "live map," which both in form and purpose is unlike anything previously put on the market in a practical commercial way, although the idea back of it has been embodied in one or two experimental models. The device, which is exhibited by the United Manufacturers, is the product of the Jones Speedometer Co., of New York, and has for its purpose the giving of automatic road directions for any given trip, these directions being printed on a disc which revolves according to the distance traveled by the car while a stationary indicator hand points to that portion of the "map" corresponding with the car's actual progress on the trip.

A speed indicator and odometer actuated pneumatically and not by centrifugal force or magnetic drag is the innovation put on view by the Troy Carriage Sunshade Co., of Troy, N. Y. The fact that it does away with the use of a flexible shaft is urged as a "talking point" and the pneumatic drive permits more than one instrument to be operated on the one line of air pressure.

At first glance even the most experienced electrician would have some difficulty in identifying the "igniter" which the Witherbee Igniter Co., of Springfield, Mass., is showing for the first time and which, while essentially a magneto in principle, is of such unusual form and operation that loosely speaking it is not a magneto at all, as ordinarily understood by the public. The use of snap-off cams and trigger arrangements for giving sudden movement to magneto armatures independent of the rotation speed of the engine is quite common, but the Witherbee device, which is designed for high tension ignition service, accomplishes the result in an extraordinary manner and by a most ingenious construction, so that the "igniter" is truly one of the newest and most original of the original things at the show.

On Monday there was installed at the Gray & Davis exhibit an electric lighting system for cars which the Amesbury (Mass.) firm has espoused, marking the branching out of a lamp manufacturing concern into the field of supplying the current generating equipment as well. The system,

while in some respects resembling others having the same object in view, has many minor features of difference and is the latest thing of its kind, both in respect to the electric current features and the lamp filaments.

For the first time the Connecticut Telephone & Electric Co., of Meriden, Conn., exhibits, in the United Manufacturers' space, a magneto of its own make, thus filling out an exceedingly complete line of ignition goods. The device is of what might be termed "conventional" general design, but is marked by an assembly and a care for detail which presents features of distinction from the common types.

A magneto for the astonishing price of \$10 retail is a new offering of the Motsinger Device Mfg. Co., of Pendleton, Ind., though the instrument is not suitable for high tension work and is intended only for make and break. The new Heinze magneto, made by the Heinze Electric Co., of Lowell, Mass., is marked by an arrangement for varying the position of the armature on the shaft so that with variations in the timing the spark always comes on the peak of the current wave.

Not on public view, but for private inspection and approval by customers in the trade is a new jack which just has been completed by the Oliver Mfg. Co., of Chicago, and of which only the one model in bronze has been made. It is remarkable in that there is not a bolt, spring, ratchet or screw in its construction and it consists of four simple pieces which go together and make a complete jack in a way which is surprising when it is shown.

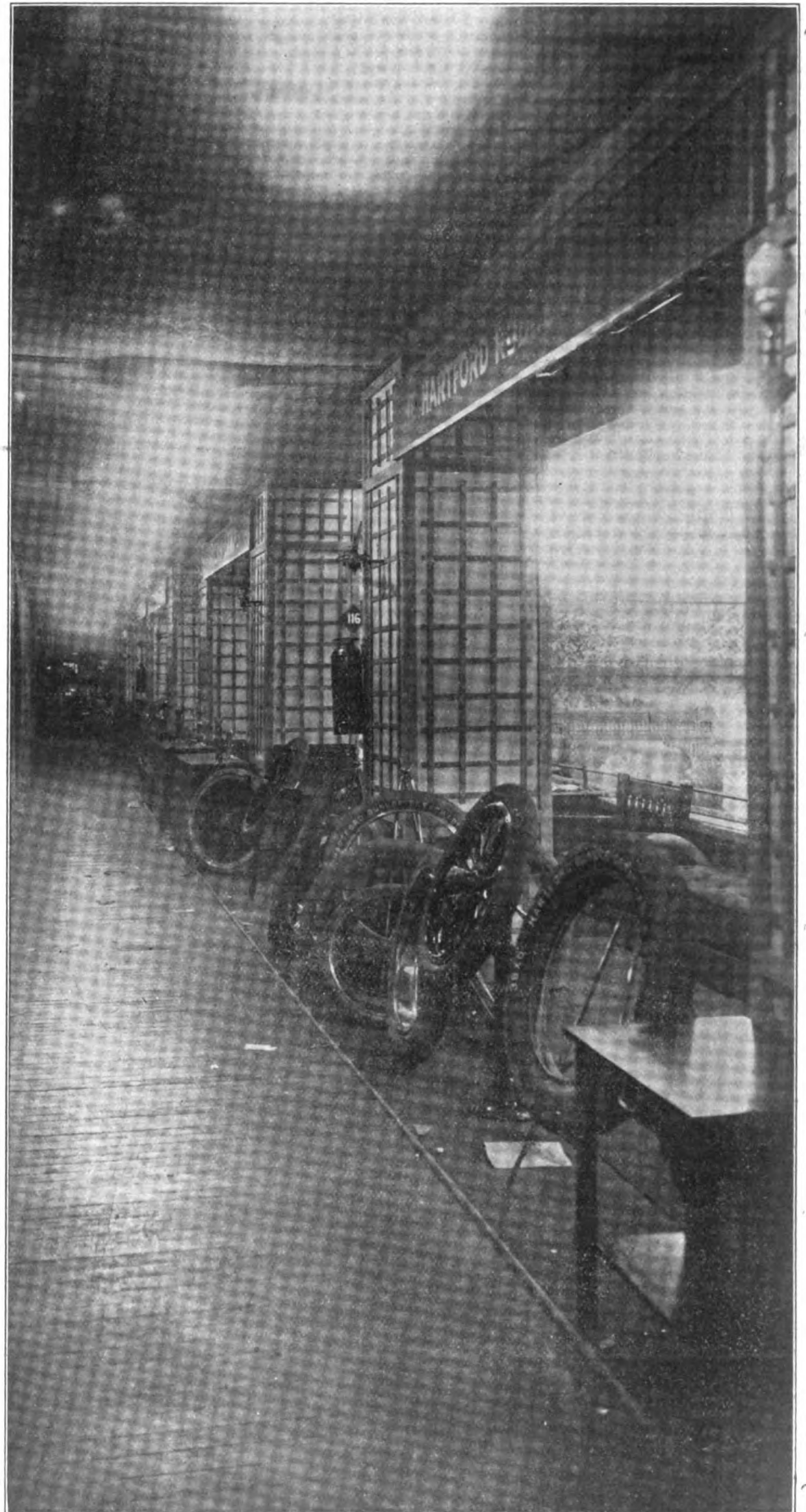
In addition to bumpers and equalizing springs, a shock absorber has been given a place in the line produced by the J. H. Sager Co., of Rochester, N. Y. While resembling the best known friction type absorbers in appearance, its internal construction is quite unique, employing a triangle of plate springs and a locating cam, designed to give free action in the normal range.

A small edition of the Klaxon horn, called the Klaxonet, makes its trade debut in connection with the Klaxon exhibit of the Lovell-McConnell Mfg. Co., of Newark, N. J., and Klaxon Horn Co., of New York. The pitch is considerably higher than in the regular Klaxon and the horn may be worked on four dry cells.

As competitor in the non-skid chain field, the Fox Metallic Tire Belt Co., of Brooklyn, N. Y., has come out with the Fox chain, the links of which are of a pattern which presents broad flat surfaces to the tire and multiplicity of stout contact points to the roadway. The clamp for tightening up the circumferential side retaining chains around the tire is efficient in providing an adjustment for taking up slack.

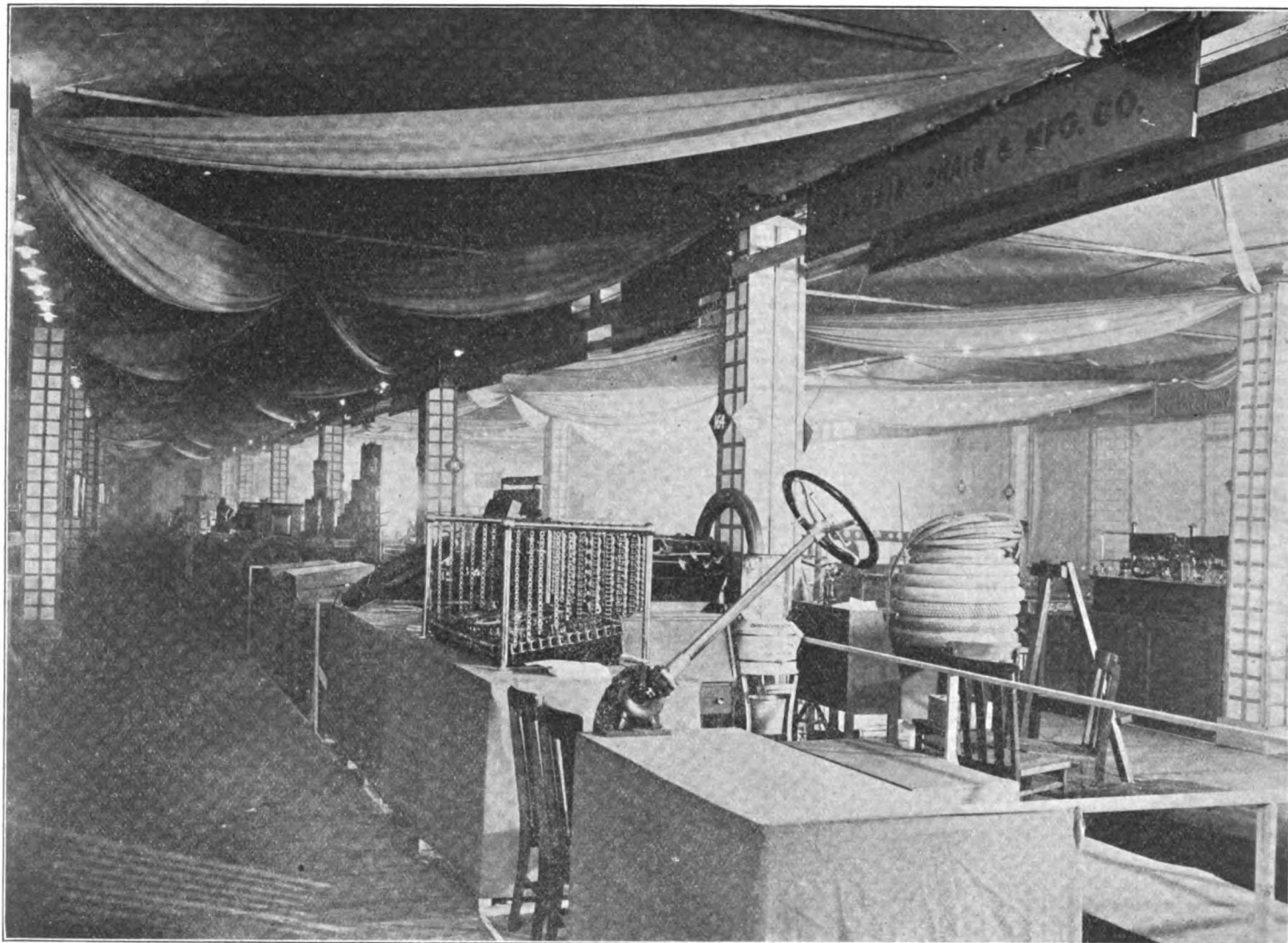
When block type solid rubber tires were introduced for commercial vehicles it was found in some instances that it was difficult to avoid a series of bumps or jars as

#### WHERE ACCESSORIES ARE ON DISPLAY.



LOOKING DOWN THE ACCESSORY GALLERY IN THE CENTRAL COURT.



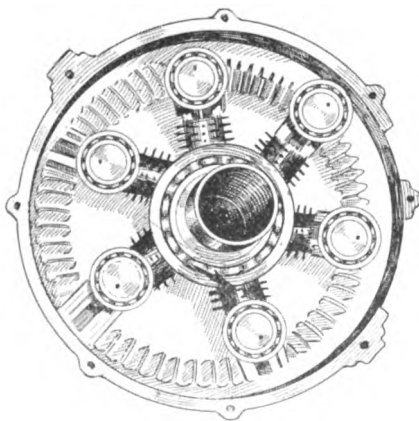


TYPICAL VIEW OF THE ACCESSORY DISPLAYS.

the various blocks came in contact with the roadway, and this despite an alternate placing of the rubber blocks around the periphery of the wheel. This trouble has not only been overcome by the Consolidated Rubber Co., of Akron, O., in the case of double rows of blocks, but the company even dares to exhibit a wheel with a single series of rubber blocks presented to the road, claiming that the bumping effect is eliminated by reason of the fact that the blocks instead of being rectangular as viewed from the side are divided by slots the sides of which are parallel from the wheel rim to the tread surface. For the first time the company also shows a steel studded pneumatic tire.

A six cylinder, two-cycle, air cooled rotating motor in which the pistons revolve around a common center is exposed for its first public inspection by the L. A. W. Motors Co., of Providence, R. I., the inventor being Oliver Light, superintendent of the R. L. Morgan Motor Truck Co.'s plant at Worcester, Mass. No connecting rods are employed and there is no stationary or movable crank. The pistons work outward on explosion and have ball bearing ends which

press against a circular track eccentric to the rotation of the cylinder group. This eccentricity permits in and out piston movement as the near and far sides of the circu-



L. A. W. MOTOR.

lar track are followed by the roller bearing piston ends. The cylinders themselves are offset from their axis of rotation. As they revolve, the ports in their heads register with openings in the central supply chamber

for blower-fed gas and after compression are supplied with flame ignition in a similar manner. The conditions imposed by the construction and principle have been met by resourceful detail design, as for instance in the disposal of the exhaust which after leaving the cylinders through side wall ports at the bottom of the stroke is centrifugally pumped out of the all-enclosing engine case by the revolution of the cylinders, which also draws fresh air in at the center of the case.

Much of the accessory display, while having its initial New York show appearance, already has become more or less familiar to the public and the trade through introduction and advertisement during the past summer and fall or through being staged at Atlanta in November. Another portion, while new in a sense, represents detail refinements on types or models already widely known and established as standard.

As an assistance in their consideration they probably are best taken up in groups.

#### Tires and Tire Accessories.

Non-skid treads of almost every conceivable pattern are to be found in the score or

more of pneumatic tire exhibits of established manufacturers, the treads ranging from steel studded leather to helixes of piano wire imbedded in the rubber, and including raised rubber lozenges, blocks, knobs, diamonds, corrugations, Maltese crosses, ribs, suction cups and round projections, not forgetting the alphabetical design employed in one instance to print the tire name in soft mud in reverse. Removable non-skid devices also are well represented, the Weed chains of the Weed Chain Tire Grip Co., New York, and the chains of similar appearance offered by the Garage Equipment Mfg. Co., of Milwaukee, Wis., constituting a type which is being chal-

lenged to competition by the Fox chain which the Fox Metallic Tire Belt Co., of Brooklyn, N. Y., has produced and which has peculiar pressed steel links for giving a flat surface toward the tire and a studded or multi-pointed surface to the road. The Traver non-skid device, made by the Philip C. Traver Mfg. Co., of Far Rockaway, N. Y., utilizes flat plates with flared and outwardly projecting edges instead of cross chains. The non-skid plates are attached to short chain links on either side, which in turn are attached to the side wire chain members that circle the wheel on either side. Another form of the device permits the use of the plates as units, one or more of which may be applied to a tire by a wire locking adjustment attaching to individual spokes of the wheel.

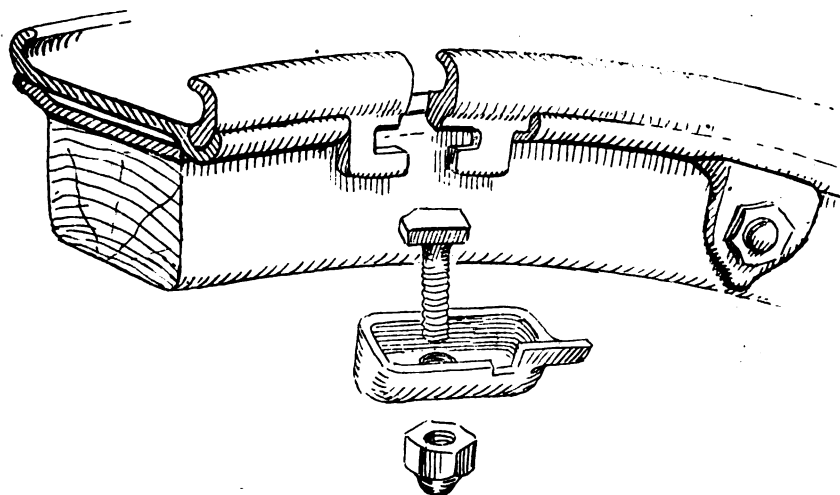
variety of small vulcanizers which may be heated by alcohol, gasoline, electricity and gas, respectively. The latter fuel is used in the Garage Equipment company's portable type, the claim being made that the device not only may be connected to an ordinary gas jet by means of a rubber tube, but may be used for roadside repairs if connected up with an acetylene generator or compressed gas tank.

"Airless" tires, having interior rubber bridging to take the place of air pressure, are not shown to the same extent as formerly, the Dayton being the only one of this kind that is represented. The Atlas Rubber Co., of Buffalo, N. Y., has a "punc-

breaker box, although the device gives high tension current in return for mechanical work. According to the demonstrating salesman the result is accomplished by "short-circuiting the magnetism," which expresses the idea fairly well. Reference to the illustration of the essential part of the igniter shows at the top the three plates which are the permanent magnets. The two curved pole pieces have extensions down through the two high tension coils. Between the coils is a movable I-shaped member having a "magnet keeper" at each end, but sufficiently long so that if the "keeper" at the bottom is up against the ends of the pole pieces, the "keeper" at the top is slightly raised from contact with the pole pieces. Stout spiral springs on the sides snap the "keeper" member down after it has been raised by a cam pressing upward on the projecting end at the bottom. The bottom "keeper" is by this action released from the pole pieces, while the "keeper" at the top comes into contact to connect the two, with the effect of making the magnetic flux extend from the permanent magnets at the top across the "keeper," leaving "dead" that portion of the pole pieces below it and which goes through the coils. This sudden demagnetization in the coil cores induces a powerful high tension current, which is sent to the various spark plugs through a high tension distributor that constitutes a part of the instrument. The cam which oscillates the armature bar with its "keepers," or armature, has helical drop-off edges and its position on the rotating shaft may be varied to change the time of the spark. Not only is a spark produced no matter how slow the rate of revolution of the cam-shaft, but it can be produced by manipulation of the spark or timing lever, which controls the cam position and which can make the latter move under the tappet end of the armature bar and snap it. Consequently, a motor may be started "on compression" by juggling the spark lever and without cranking. A price of \$60 has been placed on the four cylinder type. An accumulator of 100 ampere hours is shown, together with all Wico specialties.

Although it was exhibited last year, the Seeley ignition system of the High Frequency Ignition Coil Co., Los Angeles, Cal., is still something of novelty, both because it provides a small individual high tension coil on the top of each engine cylinder, close to the spark plug, and because it gives a spark of over a million oscillations per second without the use of a vibrator, the effect being obtained by electrical resonance when the condenser of the system discharges with an oscillating current through the primary of the individual coils or resonators on the cylinder tops. The company shows its new Seeley duplex low tension magneto, which is priced at \$35, and which can be used for the Seeley system, for vibrator coils or for make and break.

Magnets of round bar section are em-



DIAMOND DEMOUNTABLE AND QUICK DETACHABLE RIM.

lenged to competition by the Fox chain which the Fox Metallic Tire Belt Co., of Brooklyn, N. Y., has produced and which has peculiar pressed steel links for giving a flat surface toward the tire and a studded or multi-pointed surface to the road. The Traver non-skid device, made by the Philip C. Traver Mfg. Co., of Far Rockaway, N. Y., utilizes flat plates with flared and outwardly projecting edges instead of cross chains. The non-skid plates are attached to short chain links on either side, which in turn are attached to the side wire chain members that circle the wheel on either side. Another form of the device permits the use of the plates as units, one or more of which may be applied to a tire by a wire locking adjustment attaching to individual spokes of the wheel.

By a happy combination of the Marsh quick detachable and the Diamond demountable rim which also is quick detachable, in permitting the removal or replacement of a tire on the demountable section. Heretofore the Diamond demountable has had a plain clincher rim removable and replaceable on the wheel, but the application of the Marsh detachable to the demountable is revealed for the first time in the demonstrating sample on view at the Diamond stand.

For the repair of tires a great many kinds of "dope," mastic and "cold vulcanizing" preparations are presented, together with a

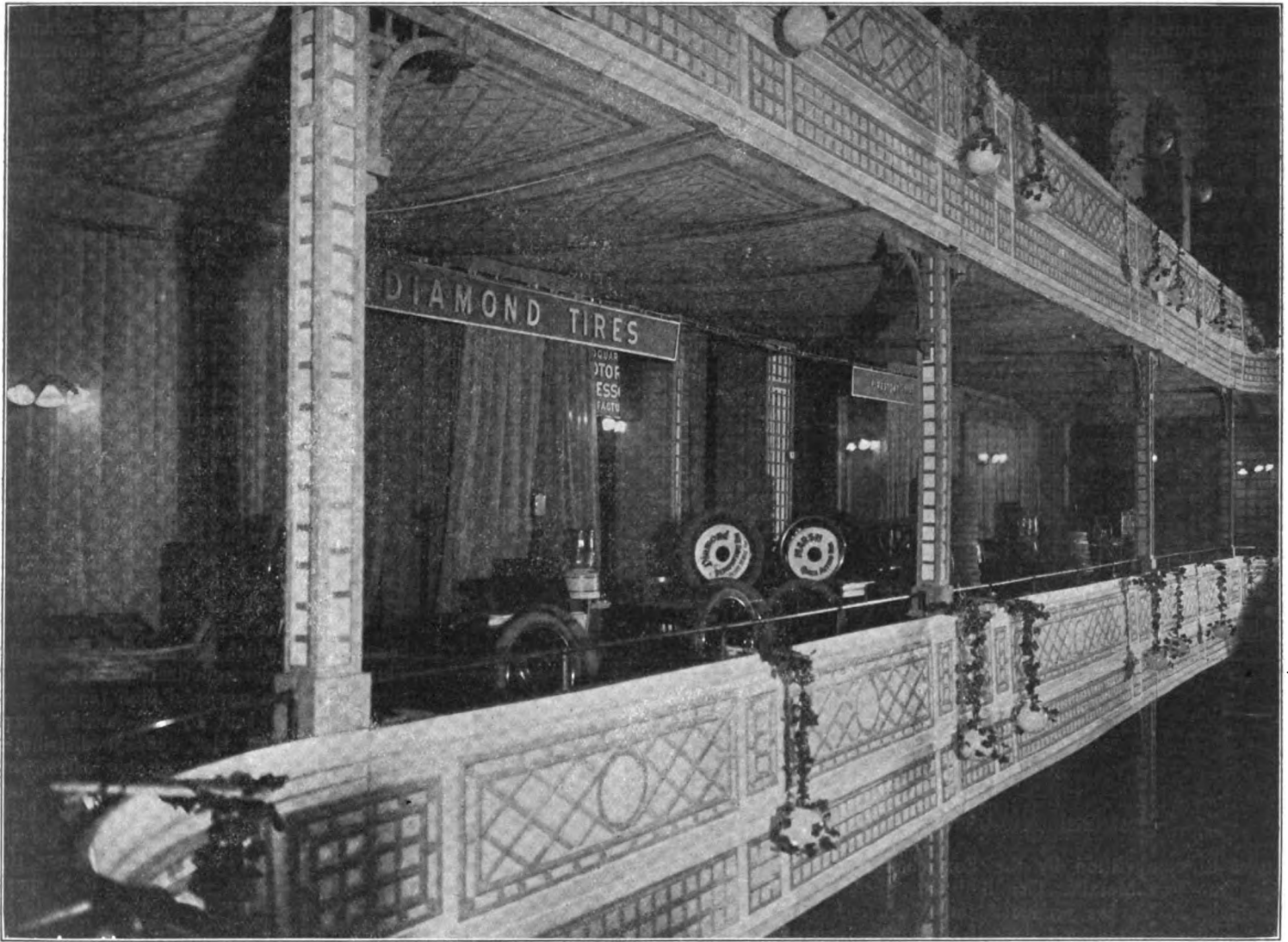
ture proof" inner tube. These are practically the only "unconventional" pieces of tire construction that are shown, with the exception of Newmastic filling.

Tire pressure gauges, tire tools, emergency patches and minor devices of like character are plentiful, and two new demountable rims, the Howard and the Dorian, are staged, but most of the exhibits relating to tires are of forms already familiar. There is small room for improvement in the better known tires of today.

#### Ignition Appliances.

Twenty-two different makes of magneto is "going some," even for so large a show as that at the Palace, and the fact that this is the number exhibited is in itself indicative of how dominant the magneto has become in motor car ignition. The well known American makes, such as Remy, Splitdorf, Heinze, Pittsfield, and Volta, not to mention the K-W and the W. & S., are supplanted by recent recruits in the Connecticut, the Seeley, the Kingston, the Wico igniter, the Osborn, the S-X, the National and the Motsinger, while the importations include the Bosch, Eisemann, the U. & H., the Herz, the Taunus, the Nilmelior and the Mea.

In the Wico "igniter," which the Witherbee Igniter Co., of Springfield, Mass., has developed, there is no revolving armature, no condenser, no primary winding and no



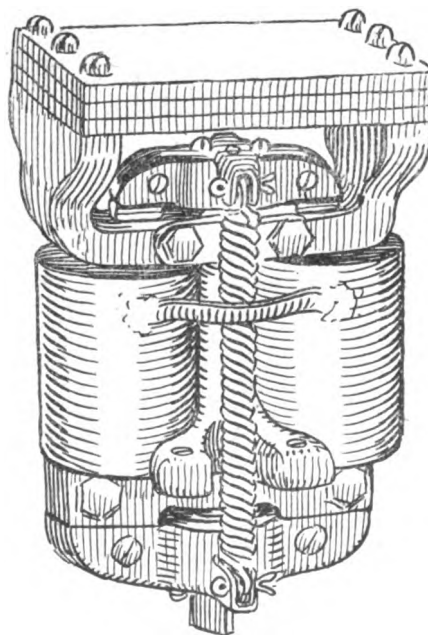
"TIRE GALLERY" IN THE CENTRAL COURT.

ployed for the Heinze magneto, of the Heinze Electric Co., of Lowell, Mass. The ends fit into recesses in the pole pieces in such a way that the union of the magnets and the pole pieces is very complete. A helical slot in the shaft of the magneto permits the variation of the armature relation so that the spark comes at the wave peak. A new kick switch has been added to the line of Heinze ignition goods, which includes coils and plugs.

The Pittsfield Spark Coil Co., of Dalton, Mass., discloses an improved dual ignition system, with the coil contained in the magneto. The Pittsfield magneto is the headliner of the company's offerings, but coils, timers, switches and plugs, for which the concern has been known for years, are prominent in the display.

An impressive showing is made by C. F. Splitdorf, Inc., of New York City, in the layout of Splitdorf magnetos, coils, plugs, switches and the like. The Splitdorf ignition system no longer requires that a switch coil be mounted on the dash, as those who prefer it may have a coil separate from the controlling switch, to be placed under the hood or elsewhere on the car.

To show the entire interior construction of the Remy magneto, the Remy Electric



WICO IGNITER.

Co., of Anderson, Ind., has sliced the various types down the middle, revealing the generous bearings and non-moving windings, which latter eliminate the use of brushes.

"Pivoting advance" by which the whole magneto rocks forward or back on its cradle with the shaft as an axis is disclosed in connection with Eisemann magnetos, exhibited by the Eisemann Magneto Co., of New York City, who now control the American rights. The object is to break the current when the armature is at the most favorable point for generating the current or, in other words, at the peak of the wave. The same intensity of spark is obtained at retard as at advance, and the rocking of the magneto from side to side does away with the use of a timer. The great range of advance which is obtained is suggested as being especially suitable for two-cycle engines, which require a much greater degree of advance and retard than the four-cycle type. As distinguished from models previously exhibited at the shows, the Eisemann magnetos now have helicoidal instead of straight pole pieces. While the magnetic field is being broken at one end of the arma-

ture it is being re-established at the other, giving a continuous circuit which prevents demagnetization of the magnets and causes the armature to revolve with ease.

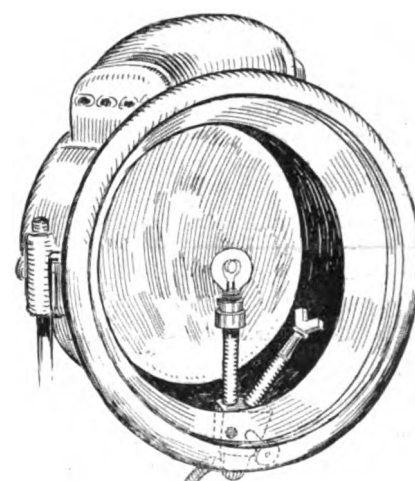
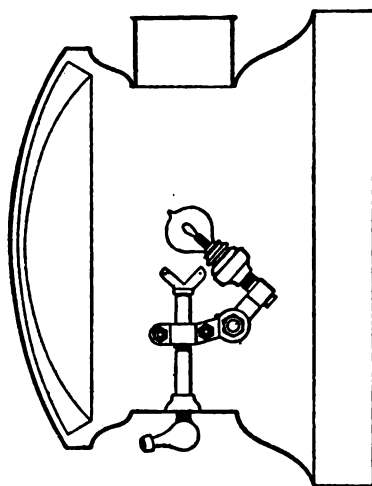
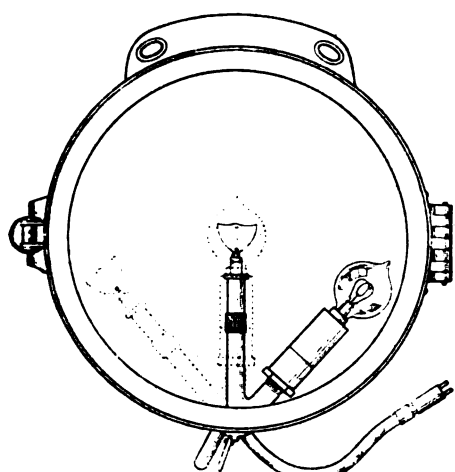
No distributor is employed in the S-X ignition system, which comprises a low tension magneto and a dash coil for the high-tension. For a four-cylinder motor the magneto, which is made by the Lutz-Lockwood Mfg. Co., of Aldene, N. J., sends primary impulses alternately in two leads to the coils. Each of these leads induces high tension for two of the four plugs in the engine, one plug being on the working stroke and the other idle on an exhaust stroke. The working stroke is ignited by one of the two plugs which spark at every revolution.

Accumulators for ignition and lighting are present in great force, some of them in con-

A great decrease is observable in the number and variety of spark plugs that are offered, the Spit-Fire, the Soot Proof, Heinze and other veterans being supplemented chiefly by the Red Head, which if not a veteran is well matured, and by three or four others of lesser fame. Fred. W. Smith, of Aberdeen, S. D., revives the spark gap idea by equipping his plugs with small glass enclosed gaps at the top of the central electrode, giving a visible spark outside which is supposed to be a guarantee of a corresponding one inside the cylinder.

The Brown Co., of Syracuse, N. Y., shows a combination oil and grease gun. In a brass cylinder is a solid brass piston. The handle of the piston has a rack which in connection with a pinion, exerts great leverage when needed for heavy greases. For

and glare of automobile lamps of one kind or another equipped with electric bulbs. Some of the makers of storage batteries have launched into the lamp business from the electric side and lamp makers who heretofore have produced chiefly acetylene and oil lamps are placing their electric models right up on the front of the display counter. Not the least interesting development is the combination or convertible headlight, having an equipment by which the acetylene burner may be replaced by an electric bulb for city use. The Badger Brass Mfg. Co., of Kenosha, Wis., and Gray & Davis, of Amesbury, Mass., both show headlights so equipped, as does the C. M. Hall Lamp Co., of Detroit, Mich. Electric tail lights are not only in the lines of the big lamp makers, but in several cases have been



COMBINATION GAS-ELECTRIC LAMPS—SOLAR, GRAY & DAVIS, AND HALL.

nection with dynamo charging systems, like the Opico, exhibited by Charles E. Miller, the Motsinger system, and the Gray & Davis. The latter system, which has been perfected by Alex Churchward, has a dynamo driven by a friction clutch governor, with suitable means for controlling the cut-out when the battery is fully charged. The construction is such as to make the dynamo dustproof. At practically all of the stands where the storage batteries are shown, their utility in supplying electric lighting current for the car is dwelt upon quite as much as their availability for ignition purposes.

Dry cells have a much slimmer representation than formerly, but that they are by no means out of the running is indicated by the vigor with which they are talked at the four or five stands where they are shown. The National Carbon Co., of Cleveland, Ohio, again utilizes its extremely elaborate testing and demonstrating device to point out how proper ignition apparatus makes very long service possible from a few cells. Stanley & Patterson, of New York, present new models of the pattern battery holder for dry cells, the holders being equipped with switches by means of which different sets and combinations of cells in the box may be thrown into action without touching the cells themselves.

use with oil the T-handle alone is required.

Differing only in size and shape from the line of storage batteries which they have had on the market for the past three years the Geisler Bros. Storage Battery Co., of New York, are exhibiting a new cell which is radically different from any storage cell that has yet been shown. The new comer, which has been christened the "Midget" has all the outward appearance of the conventional dry battery. Of the same outward dimension as the ordinary No. 6 dry cell, it has the internal construction of the other Geisler storage batteries and like them is non-sulphating. The "Midget" batteries are two volt, 30 ampere capacity and are guaranteed by the manufacturers to retain their charge for months and not to deteriorate if left charged or discharged without being used for a long period of time. The concern also has a thermal alarm device, which, while not offered to the public is of much interest to the circle for which it is intended and is calculated to "wake them up."

#### Lamps.

Electric lighting for motor cars plainly has received an immense impetus since the shows of a year ago, because everywhere through the accessory section is the gleam

made an individual specialty of smaller concerns, who have worked out especially ingenious designs by which not only is a red rear signal displayed but the license number is shown as well.

In one model of the Badger company's Solar headlights a "dimming" effect for city use or for passing on country roads is obtained by providing a burner which is movable vertically and which through a Bowden wire control from the steering post may be raised above its normal focus point in relation to the lens mirror, so that instead of throwing a concentrated forward beam horizontally, the beam is deflected downward directly in front of the car and only the plain direct rays from the flame go forward. When released, the tip or flame is lowered by a spring to focus position and the lens mirror beam bends up to its original horizontal long distance position. The device is called the Solar "Raydebector."

Many of the gas headlights shown evince a certain similarity in the adoption of rounded and backward sweeping top hoods, which have been adopted by several of the lamp makers as a fashionable touch. Gun-metal finish has a place in the most of the lines, and one of the Hall models is unique in being of Russia iron, for commercial car equipment. Elaborate detail and fancy



shapes for both oil and electric side lights are the usual order.

#### Carburation Devices.

On the theory that by mechanically interconnecting the gasoline feed, the auxiliary air supply and the throttle to the engine it is possible to proportion the air and gasoline properly for all engine requirements, the Siro Carburetor Co., of Springfield, Mass., has produced a carburettor incorporating this mechanical interconnection. The butterfly throttle valve is joined to the auxiliary air control by a lever and at the same time governs the gasoline feed by means of gear wheel segment. A. R. Mosler & Co., of New York, enter the carburettor field with the "MB" carburettor, the two letters being the initials of Mosler, the manufacturer, and Breeze, the designer, respectively. The product is exceedingly compact, and the detail features have been evolved with no little ingenuity, particularly in the matter of the shape of the passages, the straining device and the priming provision.

The Bowers carburettor appears as made by the Gilbert Mfg. Co., of New Haven, Conn., which not long ago took over its manufacture. It is constructed on the Venturi tube principle with vertical draft direct through the center, the float chamber being concentric. Supplementary air is admitted through openings on an annular disc, these openings being controlled by phosphor bronze reeds of varying tensions. The Breeze, Stromberg, Byrne-Kingston and the imported G. & A. make the body of the other carburettors staged at the show.

No less than two concerns this year offer rotating fan wheel devices for attachment to carburettors, to assist the mixture of the gasoline vapor and the air. In each case the attachment is a ball bearing miniature turbine wheel which is revolved by the passage of the mixture on its way from the carburettor to the engine. The Erickson gas-vapor mixer is displayed by Raimés & Co., of New York, and the Homo by the Gasoline Motor Efficiency Co., of Jersey City.

#### Speed and Mileage Indicators.

Having been kept well under the hat until actually put on exhibition by the United Manufacturers at the show, the Jones "live map" comes as quite a surprise in its way, especially since it is quite out of the ordinary. The instrument, which is about 9 inches across, is an odometer in principle, but instead of giving its mileage readings in the usual way, it revolves a white paper disc on its face, the rim of the disc being marked off for 100 miles of readings. The divisions represent about 170 yards each, or a tenth of a mile. A stationary pointer on the rim of the instrument denotes the car's location. Discs for different trips are provided and as the markings come under the pointer the road directions for that part of the journey apply. When a new disc is inserted or a trip started at some intermediate point on the chart that is in the in-

strument, a resetting device permits the car's location to be set correctly.

Charts for about 160 different trips already have been prepared, and 600 route cards, covering every section of the country, are promised for distribution before spring. Popular trips in Europe also may be handled in the same way. Retail purchasers receive a six months' membership in the Touring Club of America, which has charge of the distribution of the route cards, and in addition a number of the cards, selected by the purchaser, are supplied.

The "map" is driven from the front wheel of the car by means of a long flexible shaft, and instead of being attached permanently on the dash or elsewhere it may be removed from its hook and leather holder for refer-



JONES LIVE MAP.

ence to the passengers in the front seats or the tonneau.

Pneumatic operation for a combined speed indicator and odometer is one of the few principles that have not had previous exploitation, but the Troy Carriage Sunshade Co., of Troy, O., discloses how it can be accomplished. A simple rotating pump geared to the wheel of the car pumps air through tubing of small diameter to a diaphragm increasing as the car speed increases and being converted into readings of miles per hour. A second line of tubing from the same pump gives a series of air impulses, a fixed number to the mile, and these impulses are recorded in terms of miles traveled by a ratchet on the odometer mechanism in the instrument. The two lines of tubing from the pump to the instrument are so small that they can be enclosed in the one flexible casing for the connection from the steering knuckle to the frame, and on the latter can be of fine copper tubing.

Formerly known as the Shipman, but now called the Cleveland, an instrument made in Sunbury, Pa., but marketed by the Cleveland Speed Indicator Co., of Cleveland, Ohio, attracts considerable show attention by reason of its construction. The speed readings result from the action of a clock mechanism in connection with a cam which determines the position of the indicating

hand at every thirtieth of a mile, there being no centrifugal or other balanced forces employed. A ratchet in the driving system from the steering knuckle prevents the device from being affected by running the automobile itself backward.

The Warner Instrument Co., of Beloit, Wis., not only mounts its magnetic Auto-Meters in numerous styles, but also lets visitors see the "horograph," the company's latest timing outfit for automobile races. The Stewart & Clark line is "multi-polar," the Veeder tachodometer represents the only liquid centrifugal instrument, while the Jones, Hoffer, Ever Ready and Star are mechanical centrifugal. The Casgrain operate on "liquid drag."

#### Signal Devices.

Reed horns operated by bulb pressure divide the field with signals operated electrically or by exhaust gas to a greater extent than ever before in the show representation. Three domestic makes of conventional bulb horns are on view as against half a dozen of the other types. The Klaxonet, a diminutive of the Klaxon and retailing at \$20, is the latest member of the ratchet diaphragm family produced by the Lovell-McConnell Mfg. Co., of Newark, N. J., and like its big brother is operated by a self-contained electric motor, although the company also makes manually operated Klaxons for special purposes. The Gabriel horns, which were pioneers in the exhaust horn division, have been further refined and improved by the Gabriel Horn Mfg. Co., of Cleveland, O., so that in a single tube a three-tone blend is secured, while keyboard equipment can be supplied for groups of single tone horns. The Jericho, of the Randall-Faichney Co., Boston, Mass., makes its first New York show appearance, being a simple exhaust horn of compact shape, while the Nightingale exhaust whistle, with variable tone according to how much a stop is pulled in or out, is a show veteran. The Sireno and the Jones exemplify the siren and the vibrating diaphragm types of electric horns.

#### Fittings and Supplies.

Five makes of shock absorber are demonstrated, including the Truffault-Hartford, Gabriel, Kilgore, Flentje and Sager, the last being new, while the others have been on the market for various periods. Two exhibits also have supplementary springs. A safety starting handle from Boston, made by the Hilton Mfg. Co., is shown, with the claim that it instantly releases in case of an engine backfire, but the demonstration is at times not so smooth as to be entirely convincing. Various forms of folding tonneau seats are disclosed by the Hill Mfg. Co., Buffalo, N. Y., and the Compact Co. New York.

Charles E. Miller, the New York jobber, importer, exporter and manufacturer, has a large square space with counters on four sides, all loaded with accessories and spe-



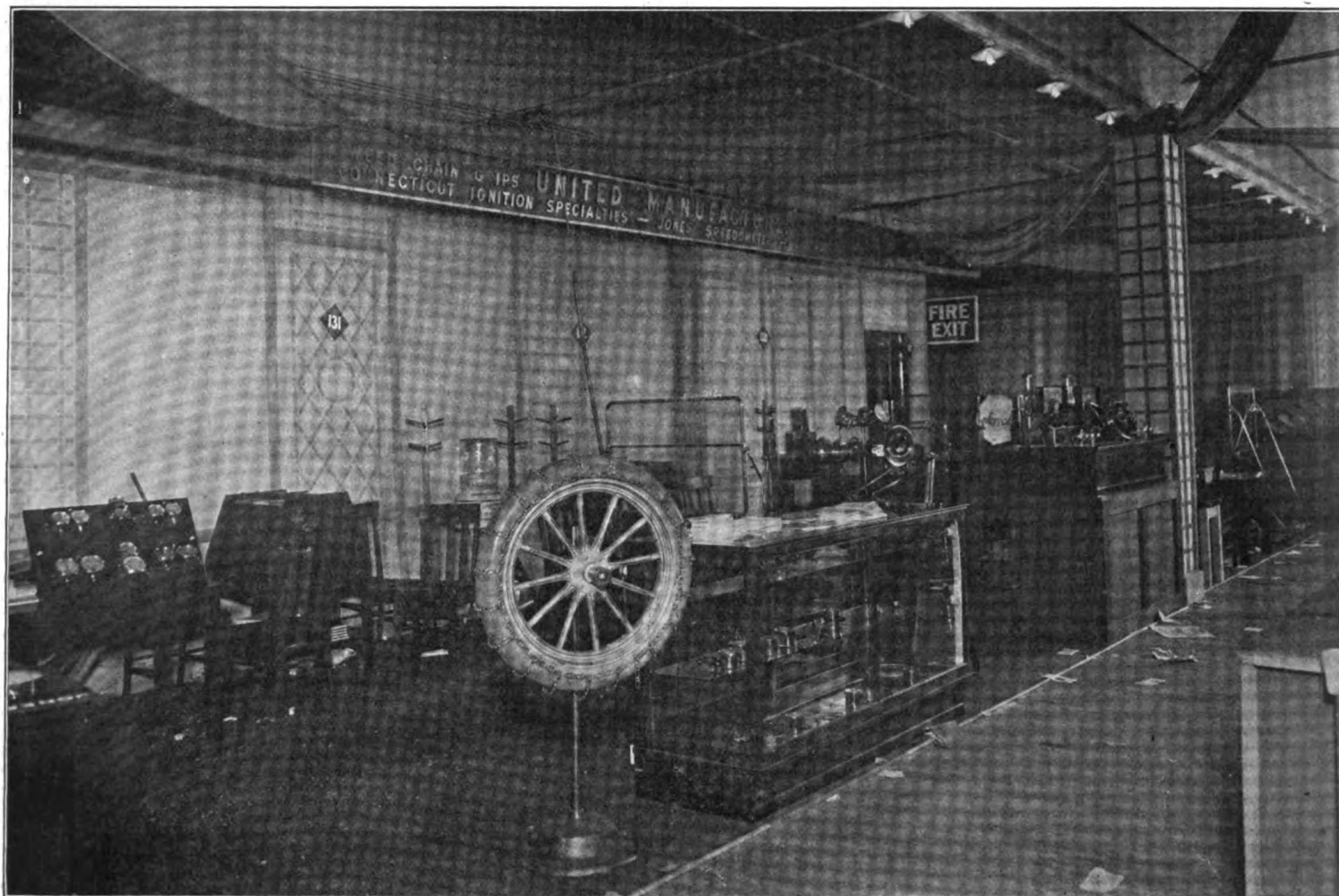


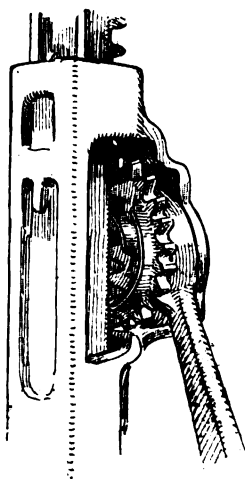
EXHIBIT OF THE UNITED MANUFACTURERS, INC.,

cialties, while the middle of the space is devoted to the more bulky displays of Brampton chains, shields and the like.

Hydraulic wind shields and Swivel-Action bumpers loom big at the space of the Emil Grossman Co., of New York City, where the Grossman ignition goods, including Red Head plugs and Red Rib cable also are found. Of greases, oils and special lubricants there is a surprisingly big array, almost a dozen exhibits of this nature being in evidence. These with valve grinding compounds, socket wrenches, small tools, renewal brake lining, packing and other goods of the same order serve to give great strength to the showing of supplies.

A worm effect-like that on some forms of taximeter drive marks the method used for raising and lowering the vertically moving rack member of the simple four-piece jack which the Oliver Mfg. Co., of Chicago, Ill., has brought to the show. The standard of the jack has an integral bearing stud for the worm wheel, the same stud also carrying the loose lever which turns the worm. Being loose, the lever can be thrown in or out of engagement with the teeth on the worm wheel. When the riser rack is inserted in the standard the worm and lever are prevented from moving inwardly off the stud which is their bearing. After the

four pieces of the jack have been assembled a small lug or tail on the standard is tapped with a hammer, being bent inward so that the rack cannot come out beyond its



OLIVER'S FOUR-PIECE WORM JACK.

fixed rise and therefore constituting a complete and permanent assembly.

A non-slop funnel, called the New Dover Automatic, is a new offering at the booth of the Dover Stamping & Mfg. Co., of Cambridge, Mass. It does not differ in ap-

pearance from other funnels save that at the bottom is a V shaped wire which extends the full length of the outside of the spout and continues a short distance beyond it, following the line of the funnel proper. From the lowest point of the wire to which it is attached, and passing upward through the spout is a rod having on its uppermost end a metal ball. Over the bottom of the funnel, at the point where the spout takes form, is a metal wall in which is contained the seat for the ball. The operation of the device consists only of inserting the funnel in a filler, which latter presses up on the wire and raises the ball from its seat. When the funnel is raised the weight of the various parts causes the ball to seat and stop the flow of the liquid, so that there is no flow or drip as the spout is removed from the filler opening. The funnel is made in three sizes, two, four and eight quart capacity, and is heavily copper plated.

To meet the demand for a storage stand which will relieve tires of the car weight during the winter months, when the car is out of service, there is being shown by the Elite Mfg. Co., of Ashland, O., a simple device, not unlike a jack, save that it has no lifting mechanism. The instrument consists of two parts, an upright stand with a ring at its top and an adjustable riser contain-

ing the arm. The riser, which passes through the ring, is toothed. When the car has been jacked up so that the tires are clear of the floor the stand is placed under it in such manner that the axle rests in the arm of the riser, which has been properly adjusted through the agency of the ring and teeth. The jack is then removed and when the same operation has been repeated at each wheel the tires are permanently relieved until the car is again in use. The stands are made of malleable iron, and sell

for \$3 for a set of four. Another form of the same device is shown which differs only in that the arm has a swivel and the saddle is leather faced and no jack is necessary as a lifting device is incorporated in the stand.

With a big plurality over every other class of exhibitor at the show, the concerns who primarily are seeking the business of automobile manufacturers for parts and materials are represented to the number of 50 or more. Their offerings range from en-

gines to Columbia locknuts and include, frames, axles, gears, radiators, brakes, clutches, brake linings, lubricators, dynamometers, hoods, levers, chains, bearings, bodies and all manner of castings and pressed steel work. Joseph Tracy, of New York, is the builder of the dynamometer, which is of the fan type and gives r.p.m. and direct horsepower readings on the indicator. The motor under test is mounted on a rocking cradle pulling against a spring balance as the crank shaft is revolved.

## Summary of Exhibitors and Their Exhibits

Allen-Kingston Motor Car Co., New York City.—A-K 4 cylinder shaft driven gasoline cars. One 35-40 h.p. torpedo, one 48 h.p. gun boat, one 15-20 taxicab. No radical change from last year.

American Motor Co., Brockton, Mass.—Near-makers of the Belmont gasoline car. Car not shown because of discovery that name conflicted with another car.

American Motor Car Co., Indianapolis, Ind.—American 4 cylinder shaft driven gasoline cars. One 50 h.p. chassis, one 50 h.p. roadster, one 50 h.p. traveler, one 50 h.p. touring car. New features: larger wheels on roadster, new spring suspension, new axles, larger brakes, flexible straight line drive. Distinctive features: underslung frame.

Atlas Motor Car Co., Springfield, Mass.—Atlas shaft drive gasoline cars. One 3 cylinder 20 h.p. taxicab, one 4 cylinder 60 h.p. touring car (new model), one 4 cylinder 30 h.p. touring car, one 4 cylinder 60 h.p. toy tonneau. Features: 2 cycle engine, built up crankshaft with counterweights.

Bartholomew Co., The, Peoria, Ill.—Glide 4 cylinder shaft drive gasoline cars. One 45 h.p. touring car, one 45 h.p. demi-tonneau. New features: 16 inches longer wheel-base on roadster, larger wheels, straight line drive, rear axle transmission, bevel steering gear, larger brakes.

B-C-K Motor Car Co., York, Pa.—Kline shaft driven gasoline cars. First time shown in New York City. One 6 cylinder 40-50 h.p. runabout, one 4 cylinder 24-30 h.p. pony tonneau, one 6 cylinder 40-50 limousine, one 6 cylinder 40-50 touring car. Features: separate cylinders united in block form, upswept frame, water jacketed inlet pipe.

Black Mfg. Co., Chicago, Ill.—Black-Crow gasoline cars. One 4 cylinder 35-40 h.p. chassis, one 4 cylinder 25-30 h.p. pony tonneau, one 4 cylinder 25-30 h.p. roadster. All new models. Features: Block engine one 25-30 h.p., cylinders in pairs of 35-40, long stroke motor, multiple clutch enclosed in fly-wheel, transmission on rear axle, upswept frame in rear with full elliptic springs, pressed steel front axle.

Sidney B. Bowman Co., New York City.—Clement-Bayard shaft driven gasoline cars. One 4 cylinder 20-30 h.p. chassis, one 4 cylinder 20-30 h.p. landaulet, one 4 cylinder 20-30 h.p. limousine, one 4 cylinder 15 h.p. town car, one 6 cylinder 25-35 h.p. touring car. New features: Bosch magneto standard.

Brewster & Co., New York City.—Delaunay-Bellville 6 cylinder shaft driven gasoline cars. One 15-25 h.p. chassis, one 25-40 h.p. semi-closed body, one 10-15 h.p. brougham, one 15-25 h.p. landaulet. No radical changes since last year.

Brush Runabout Co., Detroit, Mich.—Brush 1 cylinder chain drive gasoline cars. One

10 h.p. coupe, one 10 h.p. runabout, one 10 h.p. roadster, one 10 h.p. chassis. New features: six inches longer wheel-base, more power, larger clutch surface, selective control, balance gear in motor. Distinctive features: helical spring suspension and shock absorbers combined, wood axles, left hand steering, wood frame, unit transmission, double chain drive, vertical engine.

Buckeye Mfg. Co., Anderson, Ind.—Lambert 4 cylinder friction drive gasoline cars. One 28 h.p. touring car, one 28 h.p. chassis, one 35-40 h.p. touring car, two 35 h.p. touring cars. Features: Monobloc motor, greater braking surface, full elliptic rear springs, frame strengthened, heavier steering knuckles. Exclusive features: Mechanical motor starter operated from seat.

Cameron Car Co., Beverly, Mass., and New London, Conn.—Cameron air-cooled gasoline cars. One 6 cylinder 26 h.p. car, one 4 cylinder 24 h.p., "featherweight flyer," one 4 cylinder 24 h.p. surrey. New features: New valve actuating gear, new oiling system, full elliptic double scroll rear springs.

Cartercar Co., Pontiac, Mich.—Cartercars, 4 cylinder shaft drive. One 30-35 h.p. touring car, one 25 h.p. chassis, one 25 h.p. runabout, one 2 cylinder 24 h.p. taxicab, one 25 h.p. touring car. New features: Four cylinder engines, chain-enclosed running in oil. Distinctive features: Friction drive.

C. G. V. Import Co., New York City.—Charlton Limited gasoline cars. One 4 cylinder 12-14 h.p. chassis, one 4 cylinder 12-14 h.p. runabout, one 4 cylinder 16-20 h.p. chassis, one 4 cylinder 12-14 h.p. coupe and one 4 cylinder 12-14 h.p. inside driven coupe (new model). New features: Incased valves, thermo-syphon circulation, exclusively left side drive, with control levers in centre.

De Dion Bouton Selling Branch, New York City.—De Dion Bouton shaft driven gasoline cars. One 8 cylinder 50 h.p. chassis, one 4 cylinder 14 h.p. taxicab, one 4 cylinder 40 h.p. chassis, one 4 cylinder 10 h.p. runabout. New features: New carburetter, and new model V-type 8 cylinder engine.

Delahaye Import Co., New York City.—Delahaye 4 cylinder shaft driven gasoline cars. Two limousines.

Demot Motor Car Sales Co., Detroit, Mich.—Demot gasoline cars. First time shown in New York. One 2 cylinder opposed 10 h.p. runabout. Features: Unit power plant, planetary transmission of selective system, single lever control of speeds and brake.

Empire Motor Car Co., Indianapolis, Ind.—Empire 4 cylinder double chain drive gasoline cars. First time shown in New York City. One 20 h.p. roadster, one 20

h.p. runabout. Features: Block motor, incased driving chains, platform, rear springs, three-quarter elliptic front springs, gear shifting lever inside of frame.

Fal Motor Co., Chicago, Ill.—Fal gasoline cars. One 35-40 4 cylinder touring car. First time shown in New York City. New features: Wheel-base increased six inches to 116, rear spring suspension improved, transmission redesigned, and suspension changed, tilting steering post, heavier axles, larger rear tires and new motor, new force feed oiling system. Exclusive features: Motor suspension and tilting steering post.

Fiat Automobile Co., New York City.—Fiat gasoline cars. One 4 cylinder 15 h.p. shaft drive, four passenger runabout, one 4 cylinder 15 h.p. shaft drive, two passenger runabout, one 4 cylinder 15 h.p. shaft drive landaulet, one 4 cylinder 45 h.p. shaft drive Newport folding landaulet, one 6 cylinder 45 h.p. chain drive Newport body, one 6 cylinder 45 h.p. chain drive touring car, one 4 cylinder 45 h.p. shaft drive toy tonneau, one 4 cylinder 45 h.p. shaft drive gun boat, one 4 cylinder 200 h.p. chain drive racing car. Changes not found necessary.

Ford Motor Co., Detroit, Mich.—Ford 4 cylinder shaft drive gasoline cars. One 20 h.p. coupe, one 20 h.p. town car, one 20 h.p. runabout, one 20 h.p. tourabout, one 20 h.p. touring car. New feature: Thermo syphon cooling. Distinctive features: Block engine, magneto in fly-wheel, unit power plant, three point suspension, oiler in engine, transverse front and rear springs, left hand steering with wheel reduction gears.

Chadwick Engineering Works, Pottstown, Pa.—Chadwick 6 cylinder chain driven gasoline cars. One 60 h.p. chassis, one 60 h.p. touring car, one 60 h.p. racing runabout, one 60 h.p. close coupled, one 60 h.p. limousine. Features: New internal clutch, new oiling system, larger brakes, new steering gear, spiral magneto advance. Distinctive features: Copper jackets and chain cases, safety front spring leaf.

Coates-Goshen Co., Goshen, N. Y.—Goshen gasoline cars. One 4 cylinder 40-45 h.p. chassis (new model), one 4 cylinder 30-32 h.p. baby tonneau. New features: 30-32 h.p. car—heavier rear axle, double ignition, heavier drive shaft; 40-45 h.p.—straight line drive, with one slip joint instead of universal; transmission in waist, but integral with rear axle.

Cole Motor Car Co., Indianapolis, Ind.—Cole gasoline cars. One 30 h.p. 4 cylinder touring car, one 30 h.p. 4 cylinder runabout, one 30 h.p. 4 cylinder chassis. First time shown in New York City. Features: Unit power plant, full elliptic rear

springs, Firestone demountable rims, auxiliary gas and oil tanks, optional on runabout.

Columbus Buggy Co., Columbus, Ohio.—Firestone-Columbus gasoline and electric cars. One 4 cylinder 26 h.p. torpedo roadster, one 4 cylinder 35 h.p. touring car, one 5 h.p. electric coupe, one 5 h.p. electric victoria. Gasolene cars new models. Exclusive features: Design and application of rear shock absorbers, double drop frame. Features: One 25 h.p. model: Left hand steering, simplicity and accessibility.

Conte, Caesare, New York City.—S. P. A. gasolene cars. One 4 cylinder 18-25 chassis. New features: Two running brakes fore and aft of transmission, emergency differential locking device. Never shown before in New York City.

Crawford Automobile Co., Hagerstown, Md.—Crawford gasolene cars. One 4 cylinder 50 h.p. touring car, one 4 cylinder 24-28 h.p. touring car. New features: One 23-28 h.p.—longer wheel base, new motor; one 50 h.p.—longer wheel base, larger engine, shaft drive instead of chain, one additional speed, and larger wheels.

Dayton Motor Car Co., Dayton, Ohio.—Stoddard-Dayton 4 cylinder shaft drive gasolene cars. One 40 h.p. chassis, one 50 h.p. torpedo, one 50 h.p. touring car, one 50 h.p. limousine, one 30 h.p. landaulet. New features: Heavier frame construction throughout, two cam shafts with individual rocker arms for overhead valves on 40 and 50 h.p. models; 30 h.p. remains the same.

Fry, V. H., Detroit, Mich.—Seitz gasolene cars. Not shown.

Gaeth Automobile Co., Cleveland, Ohio.—Gaeth 4 cylinder gasolene cars. One 40-45 h.p. touring car, one 40-45 h.p. chassis, one 40-45 h.p. tourabout. New features: Six inches longer wheel-base, selective transmission.

Hol-Tan Co., The, New York City.—Lancia 4 cylinder shaft drive gasolene cars. One 20 h.p. chassis, one 20 h.p. touring car, one 20 h.p. landaulet, one 20 h.p. touring landaulet, one 20 h.p. limousine, one 20 h.p. inside driven coupe, one 12-18 h.p. town car. Features: On 20 h.p.—monobloc engine, oiling system contained in lower half of crankcase instead of on dashboard.

Hotchkiss Import Co., New York City.—Hotchkiss 4 cylinder gasolene shaft drive cars. One 20-30 h.p. touring car, one 16-20 touring landaulet. Features: Block motor on 16-20 h.p. car.

Hupp Motor Car Co., Detroit, Mich.—Hupmobile 4 cylinder shaft drive gasolene cars. One 20 h.p. chassis, one 20 h.p. runabout and one 20 h.p. fully equipped runabout. Features: Unit construction, larger radiator, multiple disc clutch.

Inter-State Automobile Co., Muncie, Ind.—Inter-State gasolene cars. One 4 cylinder 40 h.p. runabout, one 4 cylinder 40 h.p. toy tonneau, one 4 cylinder 40 h.p. chassis. Features: More power and longer wheel base, gear driven oil pump, improved clutch, larger brake drum surface, three-quarter elliptic rear spring. Novel features: Ball and socket joint transmission suspension, gear shift through flexible shaft.

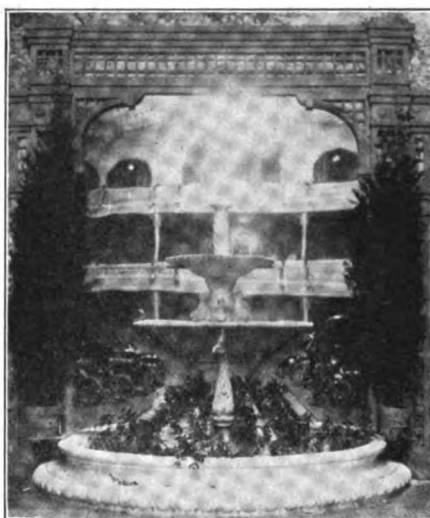
Jackson Automobile Co., Jackson, Mich.—Jackson 4 cylinder shaft drive gasolene cars. One 30 h.p. touring car, one 40 h.p. touring car, one 40 h.p. 4 passenger roadster, one 50 h.p. chassis, one 50 h.p. touring car. New features: Ten inches increased wheel base in 50 h.p. model, overhead valves on 40 and 30 h.p. models.

Kissel Motor Car Co., Hartford, Wis.—

Kissel gasolene cars. One 4 cylinder 50 h.p. touring car, 4 cylinder 50 h.p. tonneau, one 4 cylinder 30 h.p. touring car. New features: Increased power, larger brakes, longer wheel base, foot throttles, gear shifting levers outside frame, one additional speed, new type radiator, new type foot accelerator double ignition, rear frame upswept, new method rear spring suspension.

Lion Motor Car Co., Adrian, Mich.—No models shown.

Maxwell-Briscoe Motor Co., The, Tarrytown, N. Y.; New Castle, Ind., and Providence, R. I.—Maxwell shaft drive gasolene cars. One 4 cylinder 22 h.p. toy tonneau, one 4 cylinder 22 h.p. chassis, one 4 cylinder 22 h.p. "Sportsman," one 4 cylinder 22 h.p. runabout, one 4 cylinder 30 h.p. detachable toy tonneau, one 4 cylinder 30 h.p. touring car, one 2 cylinder 12



THE FOUNTAIN IN THE PALACE.

h.p. chassis, one 2 cylinder 12 h.p. runabout. Features: 22 h.p. cars, new models—unit power plant, thermo syphon cooling system, multiple force feed oiler, double ignition; on 30 h.p. models—new multiple force feed oiler, wheel base lengthened from 104 to 110 inches, 34-inch wheels, refinement of body line. Distinctive features: Unit construction, three point suspension, thermo syphon cooling, double trussed rear axle.

McCue Co., The, Hartford, Conn.—McCue 4 cylinder shaft drive gasolene cars. One 40 h.p. chassis, one 40 h.p. touring car. Features: New engine, more power, brake equalizers, steering gear housing placed far forward with very short reach rod, radiator filler cap interchangeable with hub cap.

McIntyre, W. H., Auburn, Ind.—McIntyre gasolene cars. One 4 cylinder 30 h.p. chassis, one 4 cylinder 30 h.p. touring car, one 2 cylinder 20 h.p. runabout. New features: Larger engine, sliding transmission, pressed front axle, valves in head, adjustable pedal. New feature of 20 h.p. car: Water instead of air cooling. Exclusive feature: Air or water cooling optional.

Metz, C. H., Waltham, Mass.—Metz-Plan gasolene cars. One 12 h.p. 2 cylinder chassis, two 12 h.p. 2 cylinder runabouts. New features: Horse power increased, longer rear springs. Exclusive features: Detachable reversible wire wheels, giving double tread; group assembling construction of parts.

Metzger Motor Car Co., Detroit, Mich.—

Everitt 4 cylinder shaft drive gasolene cars. One 30 h.p. toy tonneau, one 30 h.p. chassis, one 30 h.p. touring car. First time shown in New York City. Features: Block motor, double drop frame, selective transmission integral with rear axle, cylinders and upper half of crank case integral.

Middleby Automobile Co., Reading, Pa.—Middleby air cooled cars. One 4 cylinder 25 h.p. toy tonneau, one 4 cylinder 25 h.p. runabout. New features: Heavier wheels, longer front and rear springs, new type steering knuckles, three speeds, progressive transmission, new carburetter, larger oiler and larger auxiliary exhaust ports. Exclusive feature: Auxiliary exhaust.

Midland Motor Co., Milone, Ill.—Midland 4 cylinder shaft drive gasolene cars. One 40 h.p. toy tonneau, one 40 h.p. touring car. New features: Unit power plant, pressed front axle, straight line drive, flexible trunion motor suspension, large brakes, pressed rear axle, self-finding inter-locking change gear.

Mitchell Motor Car Co., Wis.—Mitchell gasolene shaft drive cars. One 4 cylinder 30-35 h.p. 5 passenger touring car, one 4 cylinder 30-35 h.p. three or four passenger roadster, one 6 cylinder 50 h.p. 7 passenger touring car, one 6 cylinder 50 h.p. chassis. New features: Improved engine construction, making for more silent running; design altered, shape of radiator changed, three-quarter elliptic springs and full platform springs on 7 passenger 6 cylinder car, which is a new model; full floating rear on 5 passenger car instead of semi-floating axle, larger brake drum surface, no universal joints in driving shaft, which is enclosed; transmission integral with rear axle. General refinements, among which might be mentioned change of color from light blue to blue-black with cream running gear.

Moline Automobile Co., East Moline, Ill.—Moline 4 cylinder shaft drive gasolene cars. One 30 h.p. toy tonneau, one 30 h.p. touring car. New features: Larger engine, three inches longer wheel base. Features: Unit power plant.

Moon Motor Co., St. Louis, Mo.—Moon 4 cylinder shaft drive gasolene cars. One 30 h.p. toy tonneau, one 30 h.p. touring car, one 30 h.p. chassis, one 45 h.p. toy tonneau; 30 h.p. cars are new models. Features: Expanding metal to metal clutch, rear axle transmission, drive with ball and socket joints, straight line, universal joints. Changes on 45 h.p.: Larger engine and longer wheel base, overhead cam shaft.

Mora Co., The, Newark, N. Y.—Mora 4 cylinder shaft drive cars. Two 35 h.p. touring cars, one 35 h.p. tourer, one 35 h.p. limousine, one 35 h.p. chassis, one 4 cylinder 20 h.p. runabout (new model). Features: Valves in the head, dash radiator, thermo syphon cooling, frame upswept rear, rear platform springs. Features of 35 h.p.—Longer springs, two independent systems of ignition, platform rear springs. Distinctive features: Unit power plant, adjustable pedals.

National Motor Vehicle Co., Indianapolis, Ind.—National shaft drive gasolene cars. One 40 h.p. chassis, one 40 h.p. toy tonneau, one 40 h.p. Speedway model, one 40 h.p. touring car. New features: Larger engine, longer wheel base, three-quarter elliptic rear springs, heavier axles, larger brakes, larger wheels.

Nordyke & Marmon, Indianapolis, Ind.—Marmon 4 cylinder shaft drive gasolene cars. One 32 h.p. chassis, one 32 h.p. touring car, one 32 h.p. torpedo, one 32 h.p. Vanderbilt racer. New features: Four inches longer wheel base, I-beam front axle. Exclusive features: Oiling system.

pressed steel rear axle, transverse attachment of rear shock absorbers.

Oakland Motor Car Co., Pontiac, Mich.—Oakland 4 cylinder shaft drive gasoline cars. One 40 h.p. touring car, one 40 h.p. touring car, one 40 h.p. runabout, one 30 h.p. runabout, one 30 h.p. touring car, one 30 h.p. chassis, 30 h.p. new model. Features: Unit power plant, full elliptic springs, straight line drive with slip instead of universal joint. Features of 40 h.p.: Rear full elliptic springs, straight line drive without universal joints, removable cylinder caps for cleaning piston.

Ohio Motor Car Co., Cincinnati, Ohio.—Ohio 4 cylinder shaft drive cars. First time in New York City. One 35-40 chassis, one 35-40 h.p. touring car. Features: Unit power plant, straight line drive, large brakes, pressed front axle.

Otto Gas Engine Works, Philadelphia, Pa.—Otto gasoline cars. One 35 h.p. 4 cylinder chassis, one 35 h.p. 4 cylinder runabout, one 35 h.p. 4 cylinder touring car. First time shown in New York City. All new models. Features: Transmission on rear axle, double ignition, floating drive shaft throughout, novel torque rod arrangement, relieving possible cramping of the transmission; distinctive clutch and gear-shifting linkage; Firestone demountable rims.

Paige-Detroit Motor Car Co., Detroit, Mich.—Paige-Detroit gasoline cars. One 3 cylinder 2 cycle 25 h.p. chassis, one 3 cylinder 2 cycle 25 h.p. runabout. First time shown in New York City. Features: Unit power plant, 2 cycle engine, very large water manifolds, fly-wheel in front.

Panhard & Levassor, New York City.—Panhard gasoline cars. One 4 cylinder 13 h.p. shaft drive chassis (new model), one 6 cylinder 35 h.p. double chain drive touring car, one 4 cylinder 25 h.p. shaft drive brougham, one 4 cylinder shaft drive collapsible brougham, one 4 cylinder 25 h.p. shaft drive collapsible brougham. New feature of 14 h.p.: Motor cast in block.

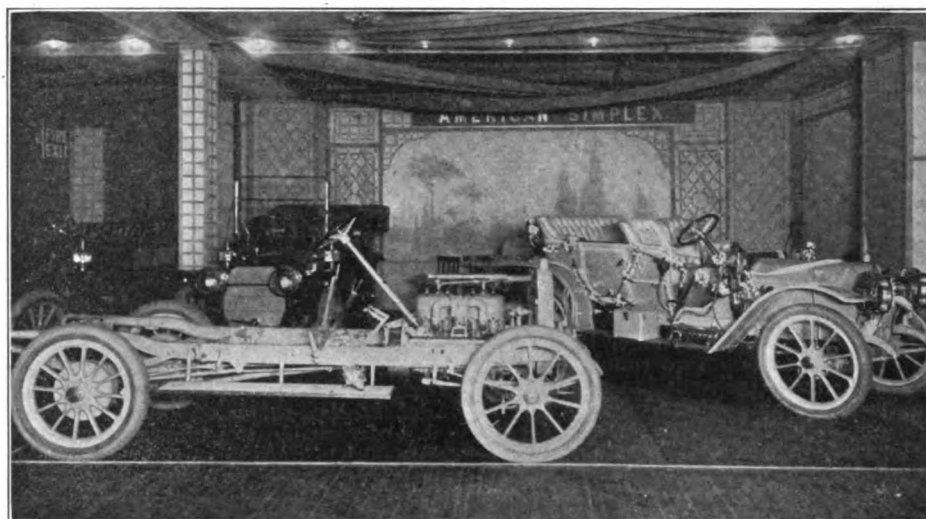
Paterson Co., W. A., Flint, Mich.—Paterson gasoline cars. One 30 h.p. 4 cylinder touring car, one 30 h.p. 4 cylinder demi-touring car, one 30 h.p. 4 cylinder double-rumble runabout. First time shown in New York City. All new models. Features: Unit power plant, double ignition, thermo syphon cooling.

Pennsylvania Auto Motor Co., Bryn Mawr, Pa.—Pennsylvania shaft drive gasoline cars. One 6 cylinder 75 h.p. chassis, one 4 cylinder 25 h.p. chassis, one 4 cylinder 25 h.p. touring car, two 4 cylinder 50 h.p. touring cars. Features on 75 h.p.: Valves in head, upswept rear frame, three-quarter rear elliptic springs, transmission on rear axle, large brakes. On 25 h.p.: Longer wheel base, new engine suspension.

Pierce Motor Co., Racine, Wis.—Pierce-Racine 4 cylinder shaft drive gasoline cars. First time in New York City. One 30 h.p. chassis, one 30 h.p. touring car, one 30 h.p. runabout. Standard construction.

Premier Motor Mfg. Co., Indianapolis, Ind.—Premier shaft drive gasoline cars. One 6 cylinder 60 h.p. touring car, one 4 cylinder 40 h.p. roadster, one 4 cylinder 40 h.p. chassis, one 4 cylinder 40 h.p. Clubman, one 4 cylinder 40 h.p. touring car. New Features on 60 h.p.: Larger engine, 15 inches longer wheel base, new front springs and method of suspension, larger wheels. New features of 40 h.p.: Larger engine. Distinctive features: Make and break ignition.

Quinby & Co., J. M., Newark, N. J.—Isotta Fraschini 4 cylinder chain or shaft drive gasoline cars. One 45 h.p. chassis, one



SIMPLEX MOTOR CAR CO.'S EXHIBIT.

30 h.p. chassis, one 20 h.p. toy tonneau, one 14 h.p. Voiturette, one 30 h.p. limousine, one 4 passenger "Quinby Limited" body with top and glass front. No radical changes from last year.

Regal Motor Car Co., Detroit, Mich.—Regal 4 cylinder gasoline cars. One 30 h.p. chassis, one 30 h.p. touring car, one 30 h.p. toy tonneau, one 40 h.p. touring car (new model). Changes on 30 h.p.: Two inches longer wheel base, transmission on rear axle, upswept rear frame, thermo syphon cooling.

Renault Freres Selling Branch, New York City.—Renault shaft drive gasoline cars. One 4 cylinder 25-35 h.p. chassis (new model), one 4 cylinder 20-30 h.p. limousine, one 4 cylinder 35-45 h.p. touring car, one 6 cylinder 18-24 h.p. chassis (new model), one 4 cylinder 10-12 h.p. chassis (new model), one 4 cylinder 12-16 h.p. chassis, one 2 cylinder 8-10 h.p. inside driven voiturette. Features: 25-35 h.p. model especially built for American roads, with 10 inches front axle clearance, liquid shock absorbers, dash radiator with thermo syphon cooling. On 18-24 h.p. 6 cylinder: Cylinders cast in triple, four speeds with direct drive on high speed. On 10-12 h.p.: Monobloc engine. On 12-16 h.p.: Curved frame.

Reo Motor Car Co., Lansing, Mich.—Reo gasoline cars. One 1 cylinder 10 h.p. runabout, one 2 cylinder 20 h.p. touring car, one 4 cylinder 30-35 h.p. touring car (new model), one 4 cylinder 30-35 h.p. roadster (new model), one 4 cylinder 30-35 h.p. chassis (new model), one 4 cylinder 30-35 h.p. limousine (new model). Changes in 1 and 2 cylinder machines: Longer stroke engine. Features of 30-35 h.p.: Valves in head, bevel steering gear on left side, long stroke motor, mechanically driven pump oiler in engine.

Schacht Mfg. Co., Cincinnati, Ohio.—Schacht 2 cylinder chain drive gasoline cars. One 22-24 h.p. runabout, one 22-24 h.p. half ton delivery wagon (new models). Features: Horizontally opposed motor lengthwise in frame, interchangeable high or low wheels, cone and disc clutch, planetary transmission on jacket-shaft amidship, triple chain drive, with independent adjustment.

Simplex Motor Car Co., Mishawaka, Ind.—American Simplex 4 cylinder shaft drive gasoline cars. One 30-50 h.p. chassis, one 30-50 h.p. touring car, one 30-50 h.p. limousine, one 30-50 h.p. pioneer roadster, one 30-50 h.p. close coupled. New feature:

Radiator. Other features: Continuation of design without change from original model, 2 cycle engine, rear axle transmission.

Speedwell Motor Car Co., Dayton, Ohio.—Speedwell 4 cylinder shaft drive gasoline cars. One 50 h.p. chassis, one 50 h.p. torpedo, one 50 h.p. roadster, one 50 h.p. 7 passenger touring car. New features: Larger wheels and springs, drop frame, split rear axle housing, permitting removal of differential.

Staver Carriage Co., Chicago, Ill.—Staver gasoline cars. One 30 h.p. 4 cylinder touring car. First time shown in New York City. Standard design throughout.

Streator Motor Car Co., Streator, Ill.—Halladay 4 cylinder shaft drive gasoline cars. One 30 h.p. touring car, one 40 h.p. touring car, one 24-28 h.p. roadster. New features: Six inches longer wheel base on roadster, new front axle, three speed selective transmission, double instead of single brakes, larger engine, lower frame suspension; 30 h.p. car new model. Some of the features are pressed steel front axle, unit clutch and transmission, inclosed brakes, full floating rear axle.

Sultan Motor Co., New York City.—Sultan 4 cylinder shaft drive gasoline cars. One 12-15 h.p. town car, one 12-15 h.p. power plant. Features: Interchangeable quick detachable power plant, new oiler, large water capacity, telescopic quick detachable venturi tube carburetter.

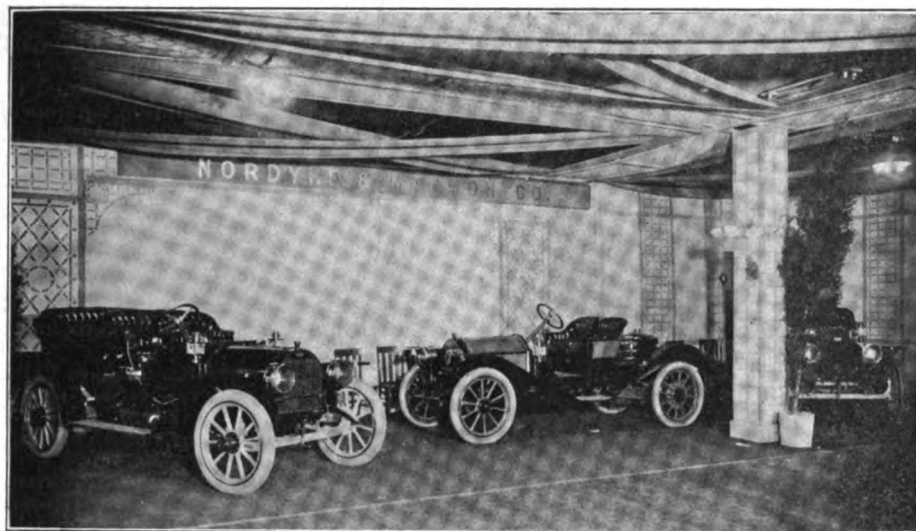
York Motor Car Co., York, Pa.—Pullman 4 cylinder shaft drive gasoline cars. One 35 h.p. limousine, one 28 h.p. runabout (new model), one 50-60 h.p. touring car, one 35 h.p. toy tonneau, one 35 h.p. touring car. New features on 50 h.p.: Larger engine, also on 35 h.p., cylinders cast in pairs and joined in block form. On 28 h.p. car: Cylinders cast separately and joined in block form.

#### Commercial Vehicles.

American Motor Truck Co., Lockport, N. Y.—American gasoline commercial vehicles. One 4 cylinder 60 h.p. 5 ton chassis, one 4 cylinder 45 h.p. 1½ ton express wagon. Features: Larger engine, larger brakes, double ignition, new brake equalizers, unit clutch and transmission, optional sliding or planetary transmission, three point transmission suspension, platform rear springs, interchangeability of parts, armored frame.

Carlson Motor & Truck Co., Philadelphia, Pa.—Carlson gasoline commercial ve-





THE NORDYKE &amp; MARMON DISPLAY.

hicles. First time in New York City. One 4 cylinder 30 h.p. 3 ton chassis. Features: Interchangeable and quick detachable power plant, 4 cylinder horizontal double opposed engine, hinged connecting rods in pairs on two throw cranks quick detachable, steering gear amidship with double reach rods, reducing vibration on steering wheel; double chain drive, combination planetary sliding transmission, provision for sealing governor to prevent driver exceeding predetermined speed.

Chase Motor Truck Co., Syracuse, N. Y.—Chase gasoline commercial vehicles. One 3 cylinder 20 h.p. delivery wagon, one 3 cylinder 25 h.p. delivery wagon. Features: Air cooling, two cycle engine, accessibility.

DeDion Bouton Selling Branch, New York City.—DeDion Bouton 4 cylinder commercial vehicles. One 4 cylinder 18 h.p. 4 ton truck, one 4 cylinder 24 h.p. 42 passenger Fifth avenue bus chassis. Features: Rear axle transmission.

Grabowsky Power Wagon Co., Detroit, Mich.—Grabowsky 2 cylinder double chain drive commercial vehicles. One 30-35 h.p. 1 ton delivery wagon, one 30-35 h.p. 1 ton chassis, one 30-35 2 ton chassis, one 40-45 3 ton stake truck. Features: Interchangeable and quick detachable power plant, accessibility.

Gramm-Logan Motor Car Co., Chillicothe, Ohio.—Gramm-Logan 4 cylinder shaft drive gasoline commercial vehicles. One 35 h.p. 1½ ton chassis, one 45 h.p. 3 ton refrigerator wagon, one 25 h.p. 1½ ton delivery wagon. Features: Sliding spring shackle rolls, multiple disc clutch, new engine in 45 h.p.; 25 h.p. new model.

Hart-Kraft Motor Co., York, Pa.—Hart-Kraft chain drive gasoline commercial vehicles. One 2 cylinder 16 h.p. delivery wagon, one 2 cylinder 16 h.p. hotel bus, one 2 cylinder 16 h.p. closed delivery wagon. Features: Unit power plant on ball bearings, accessibility.

Lansden Company, The, Newark, N. J.—Lansden electric commercial vehicles. Three 1½ ton delivery wagons, one 2 ton warehouse truck. Features: Sectional chassis construction, non-leakable non-destructible batteries, triple chain drive. Exclusive features: Dock truck with hinged central platform, two wheeled dock truck with auxiliary balance wheels, removable steering apparatus for either end.

Mack Bros. Motor Car Co., Allentown, Pa.—Manhattan gasoline commercial vehicles.

One 4 cylinder 50 h.p. 16 passenger bus, one 50 h.p. 5 ton stake truck, one 50 h.p. 3 ton stake truck. Standard construction. Martin Carriage Works, York, Pa.—Martin gasoline commercial vehicles. Two 18 h.p. 2 cylinder delivery wagons, one 14 h.p. 2 cylinder delivery wagon. First time in New York City. Features: Opposed engine unit power plant, combination radiator and gasoline tank on dash, accessibility of mechanism and ease of dismounting power plant.

Otto, Albert T., New York City.—Saurer gasoline commercial vehicles. One 4 cylinder 30 h.p. double chain drive 4 ton truck. Features: Self-starter, air brake, 42 inch rear twin driving wheel, governor. Randolph Motor Truck Co., Chicago, Ill.—Randolph gasoline commercial vehicles. One 2 cylinder 22 h.p. 1 ton chassis, one 2 cylinder 22 h.p. 1 ton delivery wagon. Chassis model new. Drop frame, selective transmission, full elliptic springs. Delivery wagon: More power, longer wheel base, double ignition and new clutch.

Rapid Motor Vehicle Co., Pontiac, Mich.—Rapid gasoline commercial vehicles. One 2 cylinder 24 h.p. 1 ton chassis, one 4 cylinder 45 h.p. 3 ton chassis, one 4 cylinder 60 h.p. 5 ton stake truck, one 2 cylinder 24 h.p. ambulance, one 2 cylinder 30 h.p. Pullman wagon, one 2 cylinder 24 h.p. 1 ton delivery wagon, two 2 cylinder 24 h.p. 3 ton express wagons, one 2 cylinder 24 h.p. 2 ton furniture wagon. Features: Heavy construction, two cylinder horizontal opposed engines, and four cylinder vertical engines, accessibility of power plant.

Reliance Motor Truck Co., Owosso, Mich.—Reliance gasoline commercial cars. One 3 cylinder 45 h.p. 3½ ton truck. Features: 2 cycle engine, simplicity and accessibility of mechanism.

## ACCESSORIES.

### First Balcony.

Ajax-Grieb Rubber Co., New York City (188)—Ajax tires.

American Ball Bearing Co., Cleveland, O. (124)—Ball bearings and axle equipments.

American Electrical Novelty & Mfg. Co., New York City (161)—Ever Ready batteries, lamps and tire specialties.

Atwater-Kent Mfg. Works, Philadelphia, Pa. (143)—Igniters and timers.

Atwood Castle Co., Amesbury, Mass (173)—Lamps.

Auto Improvement Co., New York City

(162)—Self starting devices and motor specialties.

Badger Brass Mfg. Co., Kenosha, Wis. (117)—Solar lamps and acetylene generators.

Baldwin Chain Mfg. Co., Worcester, Mass. (165)—Baldwin chains and recoil checks.

Batavia Rubber Co., Batavia, N. Y. (108)—Batavia tires.

Bowser & Co., S. F., Ft. Wayne, Ind. (121)—Gasolene and oil storage systems.

Breeze Carburetter Co., Newark, N. J. (152)—Carburetters.

Briscoe Mfg. Co., Detroit, Mich. (128)—Radiators and fittings.

Brown-Lipe Gear Co., Syracuse, N. Y. (107)—Transmissions, differential and steering gears.

Byrne, Kingston & Co., Kokomo, Ind. (136)—Kingston carburetters, mufflers and pumps.

Chase & Co., L. C., Boston, Mass. (199)—Top and cover leathers.

Coes Wrench Co., Worcester, Mass. (170)—Adjustable wrenches.

Columbia Nut & Bolt Co., Bridgeport, Conn. (123)—Lock nuts.

Consolidated Rubber Tire Co., New York City (174)—Tires.

Continental Caoutchouc Co., New York City (191)—Continental tires and rims.

Cook's Sons, Adam, New York City (140)—Lubricants and lubricators.

Cramp & Sons, Wm., Ship & Engine Building Co., Philadelphia, Pa. (146)—Bronze and bearing metal castings.

Dayton Rubber Mfg. Co., Dayton, O. (201)—Airless tires.

Diamond Chain & Mfg. Co., Indianapolis, Ind. (129)—Chains and sprockets.

Diamond Rubber Co., Akron, O. (110)—Diamond tires.

Dietz & Co., R. E., New York City (180)—Lamps.

Dixon Crucible Co., Joseph, Jersey City, N. J. (171)—Graphite and lubricants.

Driggs-Seabury Ordnance Corp., Sharon, Pa. (185)—Crank shafts and frames.

Edmunds & Jones Mfg. Co., Detroit, Mich. (153)—Lamps and specialties.

Electric Storage Battery Co., Philadelphia, Pa. (184)—Accumulators.

Empire Tire Co., Trenton, N. J. (183)—Empire tires, brake lining and steering wheel grips.

Excelsior Motor Mfg. Co., Chicago, Ill. (176)—Motors.

Firestone Tire & Rubber Co., Akron, O. (113)—Firestone pneumatic and solid tires.

Fisk Rubber Co., Chicopee Falls, Mass. (120)—Fisk tires.

Fox Metallic Tire Belt Co., Brooklyn, N. Y. (203)—Non-skid chains.

G & J Tire Co., Indianapolis, Ind. (103)—G & J tires.

Gabriel Horn Mfg. Co., Cleveland, O. (175)—Gabriel exhaust horns and Foster shock absorbers.

Gemmer Mfg. Co., Detroit, Mich. (177)—Steering gears and parts.

Gilbert Mfg. Co., New Haven, Conn. (164)—Tire jackets, lamp covers and rubber cloth specialties.

Goodrich Co., B. F., Akron, O. (118)—Goodrich clincher tires.

Goodyear Tire & Rubber Co., Akron, O. (101)—Goodyear tires and compressed air inflators.

Gray & Davis, Amesbury, Mass. (102)—Lamps.

Hall Lamp Co., C. M., Detroit, Mich. (167)—Lamps.

Hartford Rubber Works Co., Hartford, Conn. (115-116)—Hartford tires.

Hartford Suspension Co., Jersey City, N. J. (196)—Truffault-Hartford shock absorbers.

Goodrich Co., B. F., Akron, O. (118)—Goodrich clincher tires.

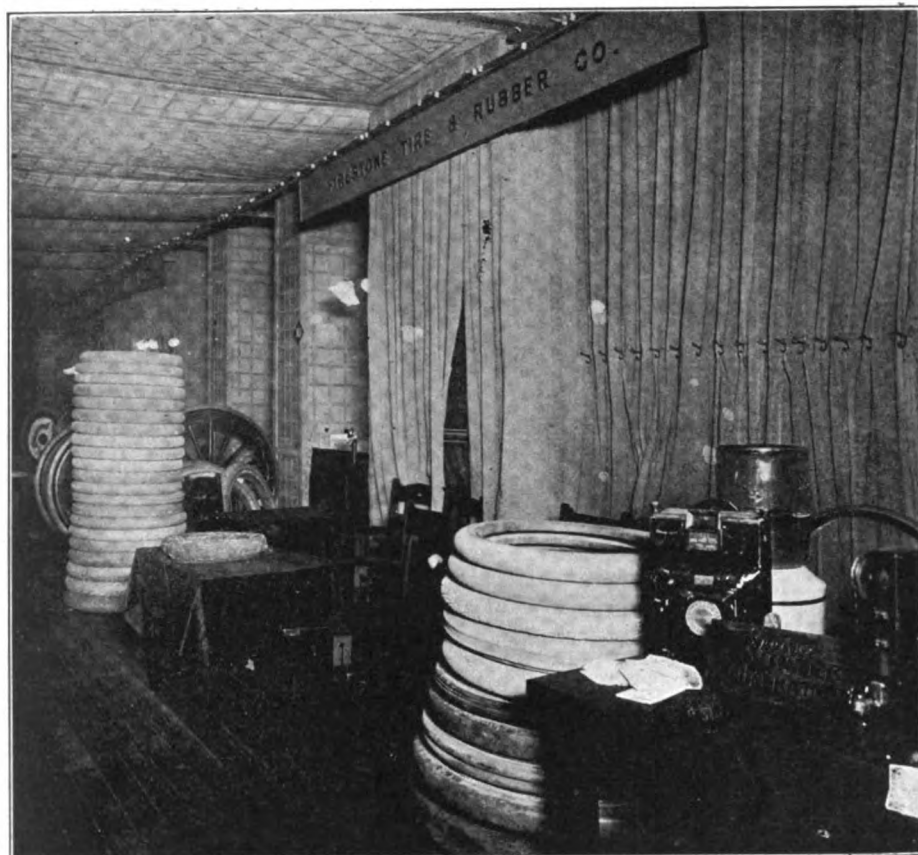
Goodyear Tire & Rubber Co., Akron, O. (101)—Goodyear tires and compressed air inflators.

Gray & Davis, Amesbury, Mass. (102)—Lamps.

Hall Lamp Co., C. M., Detroit, Mich. (167)—Lamps.

Hartford Rubber Works Co., Hartford, Conn. (115-116)—Hartford tires.

Hartford Suspension Co., Jersey City, N. J. (196)—Truffault-Hartford shock absorbers.

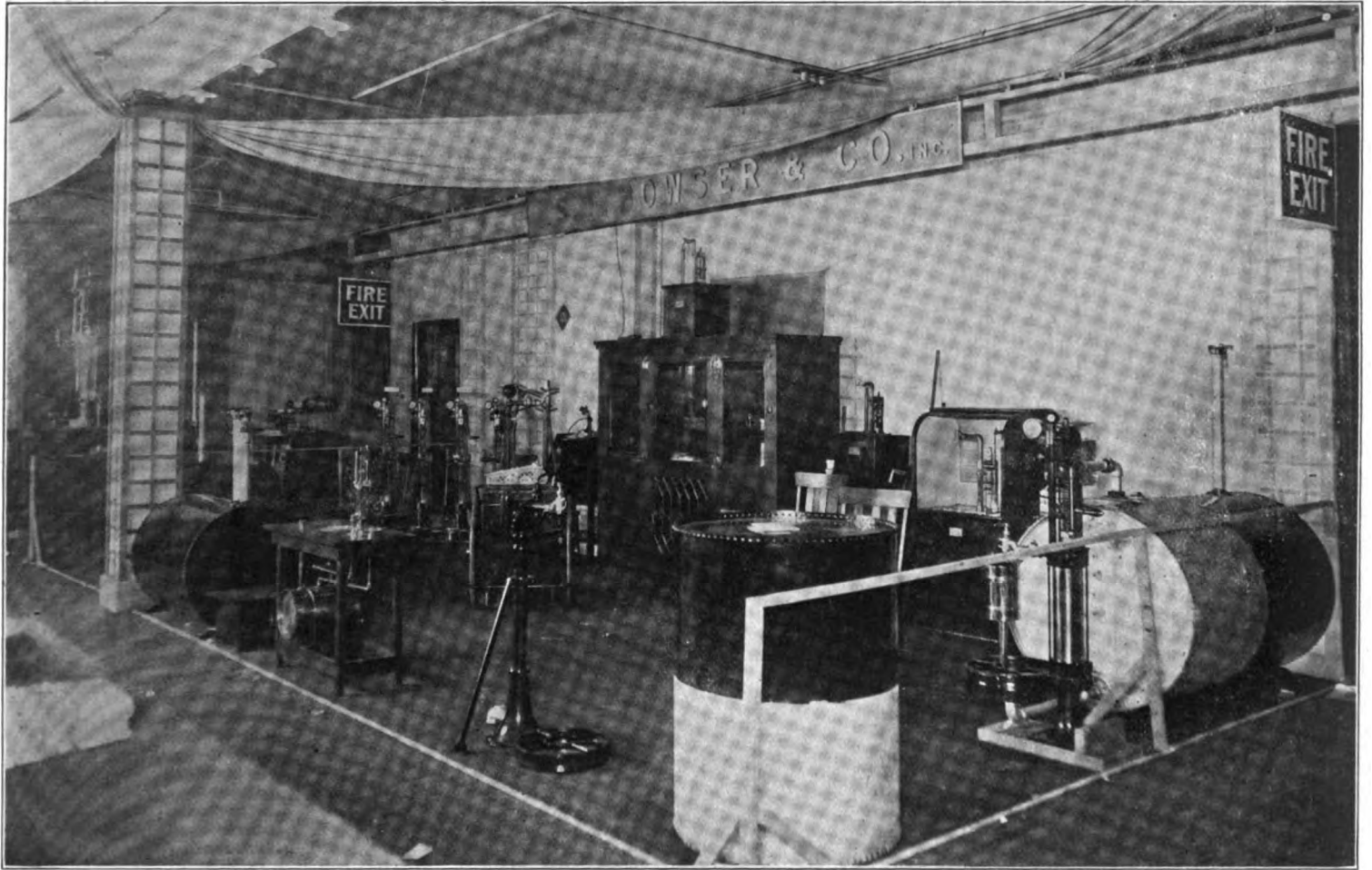


FIRESTONE TIRE &amp; RUBBER CO.'S EXHIBIT.



EXHIBIT OF WM. CRAMP &amp; SONS SHIP AND ENGINE CO.

- Havoline Oil Co., New York City (160)—Lubricants.
- Hayes Mfg. Co., Detroit, Mich. (205)—Radiators, hoods and fenders.
- Heinze Electric Co., Lowell, Mass. (150)—Magnetos, coils and ignition equipment.
- Herz & Co., New York City (158)—Magnetos and ignition devices.
- Hess-Bright Mfg. Co., Philadelphia, Pa. (166)—Ball bearings.
- Hoffecker Co., Boston, Mass. (168)—Speedometers.
- Janney, Steinmetz & Co., Philadelphia, Pa. (202)—Tanks and spark plugs.
- Kokomo Electrical Co., Kokomo, Ind. (137)—Kingston spark plugs, coils and timers.
- Leather Tire Goods Co., Niagara Falls, N. Y. (127)—Adjustable tire treads and non-skid bands.
- Lebanon Steel Casting Co., Lebanon, Pa. (200)—Steel castings.
- Light Mfg. & Foundry Co., Pottstown, Pa. (159)—Aluminum parts and castings.
- Lovell-McConnell Mfg. Co., Newark, N. J. (190)—Klaxon horns.
- McCord Mfg. Co., Detroit, Mich. (204)—Radiators, lubricators, fans and gaskets.
- Manhattan Screw & Stamping Works, New York City (194)—Horns.
- Manufacturers' Foundry Co., Waterbury, Conn. (137A)—Cylinder castings.
- Michelin Tire Co., Milltown, N. J. (193)—Michelin tires and accessories.
- Morgan & Wright, Detroit, Mich. (122)—Morgan & Wright tires and emergency sleeves.
- Mosler Co., A. R., New York City (151)—Spark plugs.
- Motsinger Device Mfg. Co., Pendleton, Ind. (139)—Ignition systems.
- Muncie Gear Works, Muncie, Ind. (195)—Motor buggy parts.
- National Carbon Co., Cleveland, O. (109)—Dry cells and battery cases.
- National Coil Co., Lansing, Mich. (141)—Spark coils.
- Oliver Mfg. Co., Chicago, Ill. (155)—Peerless jacks.
- Pantasote Mfg. Co., New York City (192)—Tops and upholstering materials.
- Pennsylvania Rubber Co., Jeannette, Pa. (138)—Pennsylvania tires.
- Pittsfield Spark Coil Co., Dalton, Mass. (105)—Magnetos, coils and plugs.
- Randall-Faichney Co., Boston, Mass. (135)—Jericho exhaust horns, B-Line grease guns, Bing spark plugs.
- Remy Electric Co., Anderson, Ind. (169)—Magnetos.
- Republic Rubber Co., Youngstown, O. (197)—Republic tires.
- Royal Equipment Co., Bridgeport, Conn. (126)—Brake lining materials and brakes.
- Sager & Co., J. H., Rochester, N. Y. (154)—Supplementary springs.
- Shaler & Co., C. A., Waupun, Wis. (157)—Electric vulcanizers.
- Smith Co., A. O., Milwaukee, Wis. (142)—Gears and parts.
- Spicer Universal Joint Co., Plainfield, N. J. (104)—Universal joints.
- Splitdorf, Inc., C. F., New York City (119)—Splitdorf magnetos, coils and plugs.
- Sprague Umbrella Co., Norwalk, O. (181)—Tops and wind shields.
- Standard Roller Bearing Co., Philadelphia, Pa. (163)—Roller bearings.
- Standard Welding Co., Cleveland, O. (125)—Tubing and electrically welded parts.
- Stewart & Clark Mfg. Co., Chicago, Ill. (156)—Speedometers.
- Stromberg Motor Devices Co., Chicago, Ill. (148)—Carburetors.
- Swinehart Clincher Tire & Rubber Co., Akron, O. (144)—Swinehart tires.
- Timken-Detroit Axle Co., Detroit, Mich. (186)—Axles.



S. F. BOWSER &amp; CO.'S DISPLAY OF GASOLENE PUMPS AND STORAGE TANKS.

Timken Roller Bearing Co., Canton, O. (187)—Roller bearings.

United Manufacturers, New York City (130-134)—Jones speedometers and horns, Connecticut coils and switches, Sootproof spark plugs and wind shields, Non-Fluid oils and grease, and Weed tire chains.

U. S. Light & Heating Co., New York City (198)—National storage batteries.

Valentine & Co., New York City (182)—Varnishes.

Veeder Mfg. Co., Hartford, Conn. (114)—Tachodometers and odometers.

Vesta Accumulator Co., Chicago, Ill. (178)—Accumulators.

Victor Auto Supply Co., New York City (112)—Wind shields, bumpers and "Vasco" grinding compound.

Warner Gear Co., Muncie, Ind. (145)—Gears and parts.

Warner Instrument Co., Beloit, Wis. (149)—Warner speed indicators and clocks.

Warner Mfg. Co., Toledo, O. (172)—Parts.

Westchester Appliance Co., New York City (189)—Batteries and spark plugs.

Wheeler & Schebler, Indianapolis, Ind. (179)—Carburetors and magnetos.

Whitney Mfg. Co., Hartford, Conn. (106)—Whitney chains and Woodruff keying systems.

Witherbee Igniter Co., Springfield, Mass. (147)—Witherbee storage batteries, Wico igniters and ignition specialties.

#### Second Balcony.

Alexander, H. T., New York City (335)—Lubricants.

Allen Auto Specialty Co., New York City (321)—Tire jackets and supplies.

American Automobile Association, New York City—

American Stepney Spare Wheel Co., New York City (362)—Emergency and standard rims.

Atlas Rubber Co., Buffalo, N. Y. (411)—Non-puncturable inner cases.

Auburn Mica Co., Auburn, N. Y. (318)—Insulators, Empire jacks and spark plugs.

Auto Body & Taxicab Co., New York City (G 348)—Bodies.

Automobile Club of America, New York City (408)—Touring bureau.

Automobile Supply Mfg. Co., Brooklyn, N. Y. (366)—Horns, tubing and brass specialties.

Bosch Magneto Co., New York City (350)—Ignition systems.

Bretz Co., J. S., New York City (323)—Ball bearings, magnetos and Bowden wire controls.

Brown Co., Syracuse, N. Y. (325)—Gauges and pressure indicators, oil and grease guns, valve grinder, wash-rack light and spark plug wrenches.

Burrough Remountable Rim Co., New York City (330)—Remountable rims.

Calmon Pneumatic Tire Co., New York City (413)—Tires.

Chester Engineering & Machine Co., Chester, Pa. (376)—Water cooled 4-cylinder engines.

Clover Mfg. Co., New York City (316)—Valve grinding compound.

Compact Co., New York City (380)—Folding seats.

Connecticut Oil Co., Waterbury, Conn. (407)—Lubricants.

Cotta Transmission Co., Rockford, Ill. (384)—Cotta transmissions.

Cross, Frank H., New York City (361)—Gas and electric lamps, generators, storage batteries, motorcycle clincher rims, portable steam vulcanizers and tank gauges.

Cryder & Co., New York City (327)—Kempshall tires and Ronson wrenches.

Doehler Die Casting Co., Brooklyn, N. Y. (348A)—Die castings.

Dover Stamping & Mfg. Co., Cambridge, Mass. (389)—Drip pans, funnels and measures.

Duffy Grease Co., New York City (375)—Lubricants.

Ducasse & Co., Henry, New York City (333)—Repair cabinets.

Elite Mfg. Co., Ashland, O. (324)—Jacks and pumps.

Flentje, Ernest, Cambridge, Mass. (329)—Shock absorbers.

Fried, Ostermann & Co., Rockford, Ill. (403)—Gloves and gauntlets.

Frasse & Co., P. A., New York City (402)—Tubing, forgings and nickel steels.

Garage Equipment Co., Milwaukee, Wis. (365)—Specialties, timers, cut-out valves.

Gasolene Motor Efficiency Co., Jersey City, N. J. (340)—"Homo" mixer.

Geisler Bros., New York City (320)—Storage batteries.

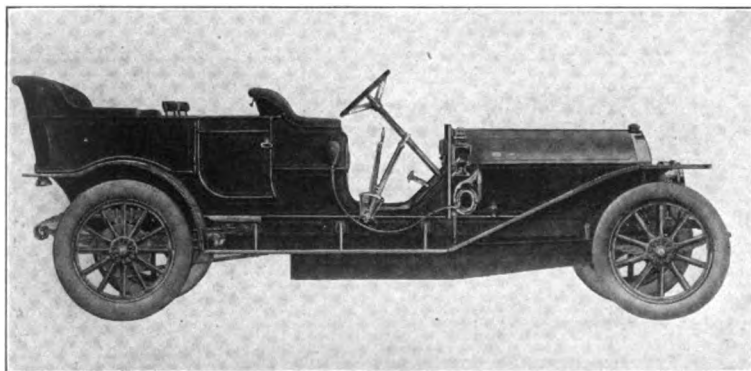
Gibney & Bro., J. L., Philadelphia, Pa. (302)—Gibney wireless tires, electric vulcanizers.

Grossman Co., Emil, New York City (315)—Red Head spark plugs, Red Rib ignition cable and hydraulic wind shields.

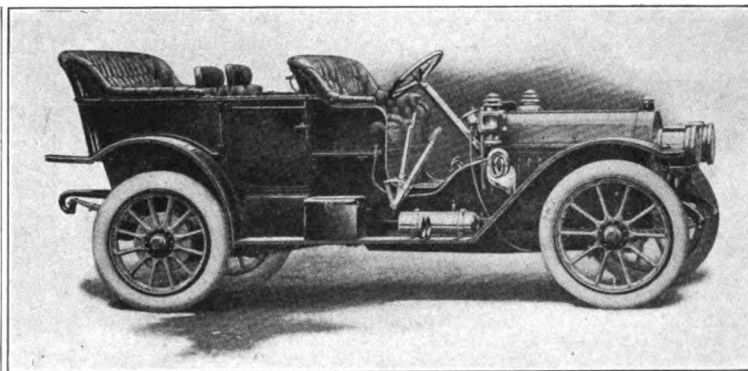
George A. Haws, New York City (352)—Panhard oil.

High Frequency Ignition Coil Co., Los Angeles, Cal (336)—Ignition systems.





PREMIER "6-60" SEVEN-PASSENGER TOURING CAR.



TWO-CYCLE AMERICAN SIMPLEX TOURING CAR

Hill Mfg. Co., Buffalo, N. Y. (377)—Tops, seats and wind shields.

Hilton Mfg. Co., Boston, Mass. (396)—Safety starting device.

Howard Demountable Rim Co., Trenton, N. J. (397)—Howard demountable rims.

Hydraulic Oil Storage Co., New York City (339)—Fuel and oil tanks.

Ideal Windshield Co., New York City (334)—Wind shields.

International Engineering Co., New York City (406)—Annular ball bearings.

Johns-Manville Co., H. W. New York City (358)—Asbestos packing and gaskets.

Johnson & Co., Isaac G., Spuyten Duyvil, N. Y. (368)—Steel and nickel copper alloy forgings and castings.

Kells Mfg. Co., New York City (386)—Radiators.

Keystone Lubricating Co., Philadelphia, Pa. (301)—Lubricants.

Kilgore Mfg. Co., Boston, Mass. (385)—Shock absorbers.

Lavalette & Co., New York City (344)—Magnetos.

L. A. W. Motors Co., Providence, R. I. (378)—Rotary 2-cycle motors.

Livingston Radiator & Mfg. Co., New York City (314)—Radiators.

Lavigne Mfg. Co., Detroit, Mich. (372)—Lubricators.

Lutz-Lockwood Co., New York City (353)—S-X magnetos and dry cells.

Merchant & Evans Co., Philadelphia, Pa. (328)—Multiple disc clutches and automobile fittings.

Metal Stamping Co., New York City (364)—Wind shields, radiators, lamp brackets, tool boxes, horns and top hardware.

Meyers, A. J., New York City (359)—G. & A. carburettors.

Miller, Charles E., New York City (322)—Brampton chains, supplies and accessories.

Morrison-Ricker Co., Grinnell, Ia. (410)—Gloves and gauntlets.

Miller, Sons, W. P., Long Island City, N. Y. (326)—Lubricants.

Moller & Schumann Co., Brooklyn, N. Y. (398)—Varnishes.

Motor Parts Co., Plainfield, N. J. (381)—Auto-Cle wrenches and metal steps.

N. J. Car & Spring Co., Jersey City, N. J. (360)—Carpringo tires.

Newmastic Tire Co., New York City (383)—Tire filling compound.

New York Coil Co., New York City (390)—Spark coils.

Nightingale Whistle Co., New York City (332)—Nightingale whistles and circulatory pumps.

Nilmelior Electrical Co., New York City (404)—Magnetos.

Nonpareil Horn Mfg. Co., Brooklyn, N. Y. (338)—Horns.

Noonan Tool & Machine Co., Rome, N. Y. (379)—Tools.

Osborn Electric Co., Detroit, Mich. (400)—Coils.

Perfection Spring Co., Cleveland, O. (401)—Springs.

Polson, W. F., Buffalo, N. Y. (356)—Wind shields.

Prosser & Son, Thomas, New York City (337)—Krupp steel, gears and parts.

Raimes & Co., New York City (374)—Globe metal polish.

R. I. V. Co., New York City (347)—Annular ball bearings.

Rothstein Mfg. Co., New York City (341)—Hercules valve lifting tools and iron and brass specialties of all kinds.

Rushmore Dynamo Works, Plainfield, N. J. (349)—Acetylene lamps and generators.

Rutherford Rubber Co., Rutherford, N. J. (354)—Sterling tires.

Salman, John A., Boston, Mass. (387)—Brass monograms.

Shipman Instrument Co., Sunbury, Pa. (317)—Speed indicators.

Sireno Co., New York City (388)—Electric horns.

Siro Carburetter Co., Springfield, Mass. (399)—Carburettors.

Smith, Fred W., Aberdeen, S. D. (382)—"Point" spark plugs.

Standard Leather Washer Co., Newark, N. J. (369)—Leather washers, blow out patches and leather specialties.

Standard Metalwork Co., Thompsonville, Conn. (373)—Pipe coils and manifolds.

Stanley & Patterson, New York City (345)—Battery holders.

Star Speedometer Co., Danville, Pa. (346)—Speedometers.

Stevens Co., New York City (395)—Keno tire pump connections and rotary tire pumps.

Stewart Automobile Academy, New York City (342)—School.

Supplementary Spiral Spring Co., New York City. (391)—Supplementary spiral springs.

Touring Club of America, New York City—Tours and Jones' live map.

Tracy, Joseph, New York City (331)—Testing instruments.

Traver Mfg. Co., P. C., Far Rockaway, N. Y. (392)—Traver non-skid device.

Troy Carriage Sunshade Co., Troy, O. (351)—Tops and Troy pneumatic speedometer.

Tuttle Co., D. M., Canastota, N. Y. (405)—Transmissions.

Union Battery Co., Belleville, N. J.—Batteries.

Vanadium Metals Co., Pittsburg, Pa. (355)—Vanadium alloys.

Vehicle Apron & Hood Co., Columbus, O. (409)—Tire trunks and cases.

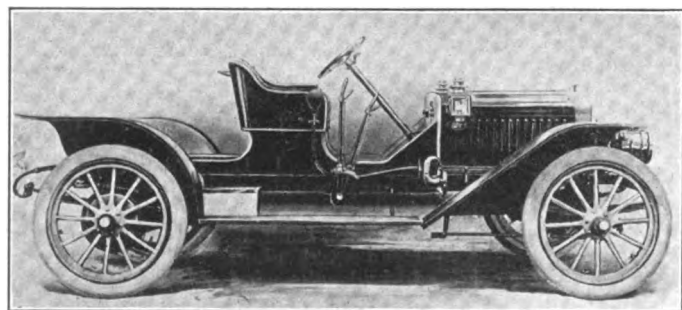
Wayne Oil Tank & Pump Co., Ft. Wayne, Ind. (363)—Gasolene storage tanks.

Westinghouse Companies, Boonton, N. J. (367)—Electric motor, battery and charging outfits.

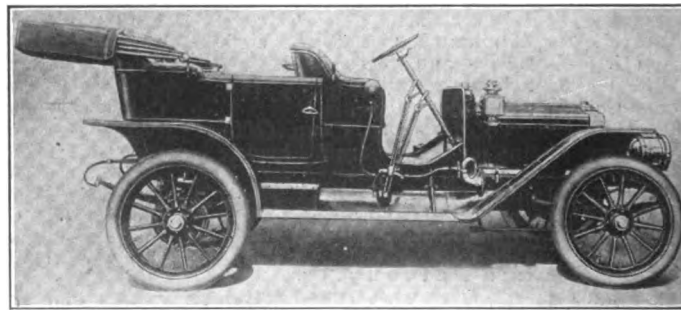
Wilson Trading Co., New York City (319)—Accessories.

Woven Steel Hose & Rubber Co., Trenton, N. J. (317A)—"Autobestine" brake lining.

Y. M. C. A., New York City (394)—School.



MAXWELL MODEL "G" RUNABOUT.



MAXWELL MODEL "E" TOURING CAR.



## The Garden Show and What It Will Offer

In one day New York's automobile show scene of action will be transported from a "trellis garden" to a "Roman amphitheatre," where a \$30,000 decorative layout is provided as a setting for the exhibits. The change takes place in the interval between the closing of the Palace show on Friday night and the opening of the show in Madison Square Garden on Saturday. It is best

tion of the almost severely simple arrangement which prevailed a year ago, subordinating the exhibits themselves, which in the majority of instances have become beautiful enough to compensate in the total. Ornamental lamp posts on the main floor and elevated platform again serve as signs giving the exhibitors' names.

What is described as "one of the most

ranged for at the Palace, but last week the Metzger company acquired the Hewitt Motor Co., of New York, a licensed member, and will utilize the Hewitt space again to put the Everitt on view, thus accomplishing something unparalleled in the history of New York's automobile shows.

The gasoline and steam pleasure cars occupy the main floor and part of the elevated



DECORATIVE TREATMENT OF MADISON SQUARE GARDEN FOR THE A. L. A. M. SHOW.

referred to as the "Garden show," since there is not the same reason for distinguishing it as the "Licensed" show that once existed. "Licensed" cars no longer being unknown at the Palace, owing to the many recent additions to the "Licensed" ranks. Nevertheless, the Garden is "Licensed" from stem to gudgeon in relation to its exhibits of gasoline cars.

This year the Garden will hold 323 exhibits as against 298 a year ago, there being 54 cars as against the 40 of last January. The accessory exhibitors, too, are greater in number than ever before, the ranks being 243 strong, which exceeds by 4 the record established then. Similarly the "motor-cycle section" embraces 23 exhibits as compared with the 19 of twelve months ago.

It is such a big show and so taxes the Garden's capacity, that no bulky or massive decorative effects are practicable, and this year's scheme is a white and gold modifica-

pretentious displays of automobile trophies ever given in America" has been prepared as an exhibit of a general nature which is likely both to gratify the eye and give visitors the satisfaction of feeling that they know by observation the actual appearance of many famous race prizes. Among the latter are the Vanderbilt cup, the Glidden tour prizes, the Indiana trophy, the Massapequa cup, the Merrimack Valley cup, Brighton Beach trophies, the Dewar cup, the Sewell-Alden, Tanforan, Thermoid, Lowell, Fairmount Park, Detroit trophies and the Dead Horse Hill Climb cup.

With one interesting exception, the cars all are making their first actual 1910 show appearance. The exception is the Everitt car, which through unusual circumstances enjoys the distinction of appearing at the Palace and the Garden successively. Its makers were the Metzger Motor Car Co., and were unlicensed when space was ar-

ranged for at the Palace, but last week the Metzger company acquired the Hewitt Motor Co., of New York, a licensed member, and will utilize the Hewitt space again to put the Everitt on view, thus accomplishing something unparalleled in the history of New York's automobile shows. The gasoline and steam pleasure cars occupy the main floor and part of the elevated

platform, while the electric pleasure vehicles again are grouped in the exhibition hall at the right of the entrance corridor. The commercial vehicles are in the basement, as before, sharing it with the motorcycle section and with those of the accessory exhibitors who could not be accommodated in the concert hall, and in the balconies and galleries around the main arena. The basement has a further attraction in a "Dutch Colonial Inn," the interior of which represents an old tavern, the semblance being carried out in kind of entertainment the inn provides.

The show committee consists of Col. George Pope and Charles Clifton, with Merle L. Downs, its secretary. Its work is hardly ended for one show when it commences preparations for that of the succeeding year, and this year's exhibition is graced by the fruition of hard work that started months ago.

Sensational developments in the way of new cars, new models, or new ideas applied to cars which already are familiar, no longer are listed among the expectations which foreshadow the Garden show. Products of the veteran manufacturers are displayed in refined and standardized form, thus lending to the exhibition a character peculiar only to itself among the entire list of automobile fixtures. Refinements, alterations in style, capacity and general character, as well as abundant tokens of fashion in the external elements of the vehicles are features of the show. Liquid-air engines, turbine mufflers, folding bodies and flying attachments, however, are barred. Basically,



COL. GEORGE POPE.

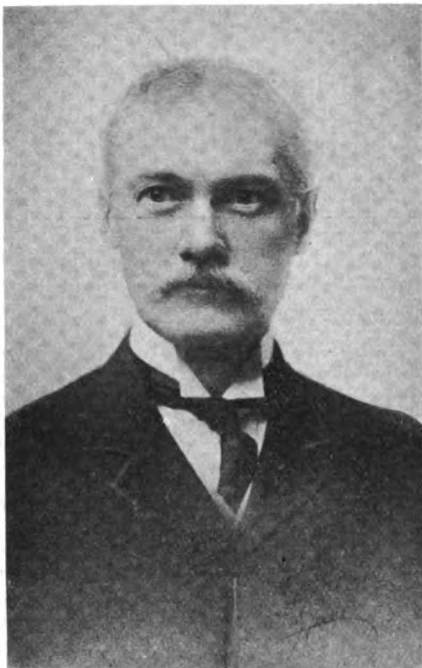
the Garden furnishes a show, not of promise, but of accomplishment.

At the same time, visitors will not be permitted to carry away the impression that standardization, of which much will be heard, has been permitted to run riot to the complete and everlasting extinction of variety. On the contrary, practically every conceivable shape and style of car which use has sanctioned or changing conditions demanded, will be on view. Despite the assertion that "world-beating" achievements of the gold-from-the-sea-water order will be lacking, not a few radical developments will be on view.

For example, among the disclosures in body construction will be several examples of the new and striking torpedo style. Whether yclept gunboat, battleship, bath, torpedo or bomb, these new bodies reveal distinctive lines, suggestions of speed and security, freedom from dust and immunity from flying mud. They range in form all the way from the true man-o-war type, to the modified touring car with high-sided body and side doors enclosing the front

seats. Some of them as well, offer more or less intricate problems as to the polite and graceful means of entrance and egress. For the most part, they are regarded as a hopeful development of a useful though somewhat restricted nature.

In mechanical developments, probably the most striking feature will be the new cool-



CHARLES CLIFTON.

ing system which has been applied to the Franklin power plant. In conjunction with the concentric valve and auxiliary exhaust principles, which have been standard elements in this distinctive product for several years, it may be considered the most radical, as well as one of the most staunchly upheld of all the licensed products. The Elmore, an old-time, and frequently almost solitary adherent of the two-cycle principle of engine operation, not only continues to prosper in that line of effort, but now is to disclose a new power unit of improved pattern and designated inspiringly as a high duty engine. Among minor improvements of noteworthy significance, may be mentioned the first appearance at any show of the dry plate clutch, so-called. This is a variation of the multiple disc principle, from which the sometime troublesome element of lubrication difficulty has been eliminated, as is thought, by the adaptation of special combinations of material. Stearns and Packard cars will show this feature among other improvements. In other lines, striking ingenuity and high engineering skill will be manifest in new directions. Indeed, it is known that one or two of the better-known manufacturers have been experimenting along strikingly radical lines, though no announcement to the effect that the fruits of such efforts will be exhibited at the Garden has yet been "released" to the public.

Sundry changes and additions in the membership of the A. L. A. M. which have occurred since the last show will result in a number of changes in apparent status, as well as provide for the appearance of several cars which have not before been exhibited at licensed shows. Although White steamers have occupied stands at several of the Garden exhibitions, they will now appear on a slightly different basis, together with the new White gasoline cars, through the production of which the White company has been enabled to secure membership in the association. Palmer & Singer cars will be exhibited under their own li-



MERLE L. DOWNS.

cense, instead of under that of the Hewitt Motor Co., this change being incidental to the chain of events which will bring the Everitt "30" cars to the Hewitt booth.

New "membership cards" also provide individual spaces for the Overland and Marion cars, as well as the Hudson. The former are products of several years' standing, and fill in very acceptably the gap below the very high priced products, which at one time threatened to mar the symmetry of the entire licensed aggregation from the marketing standpoint. The Hudson is an entirely new car, built and introduced within the year, and is intended to cater to the popular fancy both in price and style, being of the runabout and small touring car order, the latter at \$1,000 being a model that will be for the first time "unveiled" at the show.

Among the heavier and more elaborate cars exhibited will be such well-known products as the Pierce-Arrow, Stevens-Duryea, Thomas, Matheson, Locomobile and Alco. For light touring purposes and also in the realm of the runabout, there will be the Chalmers-Detroit, Apperson, Selden,

Haynes, Pope-Hartford, Corbin and E-M-F cars. As in previous years, the Studebaker products will be distributed over three different stands, one in the gasoline, one in the electric and one in the commercial vehicle departments, respectively. Knox, Franklin, and Autocar name-plates on stands in the arena and in the basement as well, also will serve to confuse the visitor who does not comprehend thoroughly the car which the management has taken in segregating vehicles intended for different classes of service. The same applies to the Columbia products, which will be shown in both the gasoline pleasure and electric vehicle sections.

Because of the entire separation of the exhibition hall on the Madison Square front of the Garden from all other departments of the show, the electric vehicle annually is given its nearest approach to an independ-

ent show of its own, by the licensed association. This year, accommodations have been arranged for nine exhibitors, instead of the eight who were included one year ago. Being a highly specialized art, electric vehicle construction does not permit of many changes which appeal to the untutored show-goer. Body equipments are subject to just enough variation to counteract for any seeming lack of variety.

Clever mechanical contrivances for controlling the motive power and neatly enclosed motors and transmissions will be found on the Waverley, the R. & L., and the Anderson vehicles. The Columbia, for the first time shown under the aegis of the Columbia Motor Car Co., though a product older than any other at the show; the Woods and the very original Bailey, are among others on view.

In the near-seclusion of the basement

oval, commercial products, ranging from the Thomas public service cab to the massive electric truck, will be arranged twelve strong. Mainly continuations of previous models, there will be at least one newcomer in the 3-ton Alco truck, which, although well-known in the market, was launched in a commercial way just too late to be seen in the Garden last year. This, with the Knox trucks and fire apparatus, the Franklin light truck and the Pope-Hartford products, the latter also displayed in commercial form for the first time; the Studebaker and General Vehicle electrics, will constitute the more varied products. The Hewitt and Sampson trucks are of original conception in many respects, while the Packard gasoline, and Baker electric vehicles, have not before been classed in this section of the show and therefore may be reckoned among the new things to be seen.

## The Exhibits and Where They Will be Located

### AUTOMOBILES.

#### Gasolene Cars.

##### Main Floor.

American Locomotive Co., New York City (13)—Alco.

Autocar Co., The, Ardmore, Pa. (7)—Autocar.

Buick Motor Co., Flint, Mich. (23)—Buick.

Cadillac Motor Car Co., Detroit, Mich. (16)—Cadillac.

Chalmers-Detroit Motor Co., Detroit, Mich. (17)—Chalmers-Detroit.

Columbia Motor Car Co., Hartford, Conn. (6)—Columbia.

Corbin Motor Vehicle Corporation, New Britain, Conn. (8)—Corbin.

Elmore Manufacturing Co., Clyde, O. (1)—Elmore.

Everitt-Metzger-Flanders Co., Detroit, Mich. (2)—E-M-F.

Franklin Mfg. Co., H. H., Syracuse, N. Y. (19)—Franklin.

Knox Automobile Co., Springfield, Mass. (5)—Knox.

Locomobile Co. of America, Bridgeport, Conn. (12)—Locomobile.

Lozier Motor Co., New York City (11)—Lozier.

Matheson Motor Car Co., Wilkes-Barre, Pa. (9)—Matheson.

Packard Motor Car Co., Detroit, Mich. (14)—Packard.

Peerless Motor Car Co., Cleveland, O. (22)—Peerless.

Pierce-Arrow Motor Car Co., Buffalo, N. Y. (15)—Pierce-Arrow.

Pope Mfg. Co., Hartford, Conn. (10)—Pope-Hartford.

Stearns Co., F. B., Cleveland, O. (4)—Stearns.

Stevens-Duryea Co., Chicopee Falls, Mass. (21)—Stevens-Duryea.

Studebaker Automobile Co., South Bend, Ind. (3)—Studebaker.

Thomas Motor Co., E. R., Buffalo, N. Y. (18)—Thomas.

Winton Motor Carriage Co., Cleveland, O. (20)—Winton.

#### Elevated Platform.

Apperson Bros. Automobile Co., Kokomo, Ind. (30)—Haynes.

Hewitt Motor Co., New York City (26)—Hewitt.

Hudson Motor Car Co., Detroit, Mich. (32)—Hudson.

Mercer Automobile Co., Trenton, N. J. (28)—Mercer.

Olds Motor Works, Lansing, Mich. (29)—Oldsmobile.

Selden Motor Vehicle Co., Rochester, N. Y. (24)—Selden.

Waltham Mfg. Co., Cleveland, O. (31)—White gasoline and steam.

Willys-Overland Co., Toledo, O. (25)—Overland.

#### Electric Cars.

##### Exhibition Hall.

Anderson Carriage Co., Detroit, Mich. (56)—Detroit.

Babcock Electric Carriage Co., Buffalo, N. Y. (53)—Babcock.

Bailey & Co., Inc., S. R., Amesbury, Mass. (51)—Bailey.

Baker Motor Vehicle Co., Cleveland, O. (55)—Baker.

Columbia Motor Car Co., Hartford, Conn. (54)—Columbia.

Rauch & Lang Carriage Co., Cleveland, O. (57)—R. & L.

Studebaker Automobile Co., South Bend, Ind. (58)—Studebaker.

Waverley Co., The, Indianapolis, Ind. (52)—Waverley.

Woods Motor Vehicle Co., Chicago, Ill. (50)—Woods.

#### Commercial Vehicles.

##### Basement.

American Locomotive Co., New York City (80)—Alco, (gasolene).

Autocar Co., The, Ardmore, Pa. (81)—Autocar, (gasolene).

Baker Motor Vehicle Co., H. H., Syracuse, N. Y. (79)—Franklin (gasolene).

General Vehicle Co., New York City (82)—General, (electric).

Hewitt Motor Co., New York City (86)—Hewitt (gasolene).

Knox Automobile Co., Springfield, Mass. (75)—Knox, (gasolene).

Packard Motor Car Co., Detroit, Mich. (83)—Packard, (gasolene).

Pope Mfg. Co., Hartford, Conn. (84)—Pope-Hartford, (gasolene).

Sampson Mfg. Co., Alden, Pittsfield, Mass. (85)—Sampson (gasolene).

Studebaker Automobile Co., South Bend, Ind. (77)—Studebaker, (electric).

Thomas Motor Co., E. R., Buffalo, N. Y. (76)—Thomas, (gasolene).

### ACCESSORIES.

#### Elevated Platform.

Ajax-Grieb Rubber Co., Trenton, N. J. (120)—Ajax tires.

American Ball Bearing Co., Cleveland, O. (155)—Ball bearings.

American Ever Ready Co., New York City (126)—Ever Ready batteries, lamps and tire specialties.

Atwater-Kent Mfg. Works, Philadelphia, Pa. (104)—Igniters and timers.

Atwood-Castle Co., Amesbury, Mass. (168)—Lamps.

Auto Improvement Co., New York City (127)—Self-starting devices and motor specialties.

Badger Brass Mfg. Co., Kenosha, Wis., and New York City (157)—Solar lamps and acetylene generators.

Baldwin Chain & Mfg. Co., Worcester, Mass. (110)—Baldwin chains and recoil check.

Bowser & Co., S. F., Ft. Wayne, Ind. (170)—Tanks, measuring pumps and gasoline storage systems.

Briscoe Mfg. Co., Detroit, Mich. (165)—Radiators and fittings.

Brown-Lipe Gear Co., Syracuse, N. Y. (152)—Transmission, differential and steering gears.

Byrne-Kingston & Co., Kokomo, Ind. (148)—Kingston carbureters, mufflers and pumps.

Coes Wrench Co., Worcester, Mass. (131)—Wrenches.

Connecticut Telephone & Electric Co., Meriden, Conn. (114)—Spark coils, switches and ignition specialties.

Consolidated Rubber Tire Co., New York City (174)—Tires.

Continental Caoutchouc Co., New York City (177)—Continental tires.

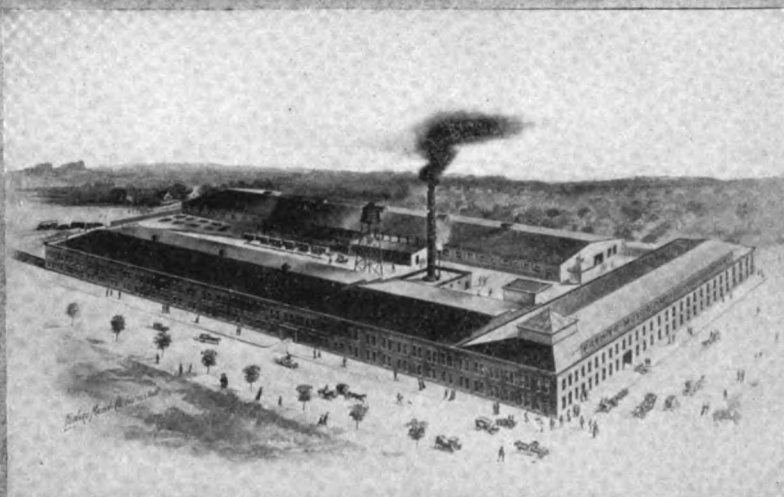
Continental Rubber Works, Erie, Pa. (136)—Continental tires.

Cook's Sons, Adam, New York City (164)—Lubricants.

Cook's Standard Tool Co., Kalamazoo, Mich. (132)—Standard jacks.

Cowles & Co., C., New Haven, Conn. (135)—Lamps, monograms and bouquet holders.

Cramp & Sons, William, Ship and Engine Building Co., Philadelphia, Pa. (109)—Bronze and bearing metal castings.



Premier Motor Mfg. Co.  
*Indianapolis, Ind.*



Pope Mfg. Co.  
*Hartford, Conn.*



Steven-Duryea Co.  
*Chicopee Falls, Mass.*

REPRESENTATIVE AMERICAN MOTOR CAR FACTORIES.



Diamond Chain and Mfg. Co., Indianapolis, Ind. (181)—Chains, sprockets, transmissions, axles.

Dietz Co., R. E., New York City (108)—Lamps.

Dixon Crucible Co., Joseph, Jersey City, N. J. (160)—Graphite and lubricants.

Duff Mfg. Co., The, Pittsburg, Pa. (139)—Barrett jacks.

Edmunds & Jones Mfg. Co., The, Detroit, Mich. (134)—Lamps.

Empire Tire Co., Trenton, N. J. (122)—Empire tires.

Firestone Tire and Rubber Co., Akron, O. (141)—Firestone pneumatic and solid tires.

Fisk Rubber Co., The, Chicopee Falls, Mass. (178)—Fisk tires, quick detachable and demountable rims.

Fox Metallic Tire Belt Co., Brooklyn, N. Y. (134 A)—Non-skid chains.

G & J Tire Co., Indianapolis, Ind. (105)—G & J tires.

Gabriel Horn Mfg. Co., Cleveland, O. (159)—Gabriel exhaust horns and shock absorbers.

Gilbert Mfg. Co., The, New Haven, Conn. (166)—Tires, jackets, lamp covers and rubber cloth specialties.

Globe Machine and Stamping Co., The, Cleveland, O. (129)—Metal stamping specialties.

Goodrich Co., B. F., The, Akron, O. (100)—Goodrich clincher tires.

Goodyear Tire and Rubber Co., The, Akron, O. (103)—Goodyear tires and compressed air inflators.

Gray & Davis, Amesbury, Mass. (106)—Lamps.

Ham Mfg. Co., C. T., Rochester, N. Y. (162)—Lamps.

Hardy Co., R. E., The, New York City (123)—Spark plugs.

Harris Oil Co., A. W., Providence, R. I. (140)—Lubricants.

Hartford Rubber Works Co., Hartford, Conn. (182)—Hartford tires.

Hartford Suspension Co., Jersey City, N. J. (121)—Truffault-Hartford shock absorbers.

Heinze Electric Co., Lowell, Mass. (161)—Magnetos, coils and ignition equipment.

Herz & Co., New York City (169)—Timers, plugs and ignition specialties.

Hoffecker Co., The, Boston, Mass. (133)—Speed indicators.

Janney-Steinmetz & Co., Philadelphia, Pa. (124)—Spark plugs, tanks and wrenches.

Jones & Co., Phineas, Newark, N. J. (111)—Rims, wood wheels.

Jones Speedometer Co., The, New York City (113)—Speedometers, annunciators, odometers, horns and specialties.

Leather Tire Goods Co., Niagara Falls, N. Y. (130)—Adjustable tire treads and non-skid bands.

Light Mfg. and Foundry Co., Pottstown, Pa. (112)—Aluminum parts and castings.

Mezger, C. A., New York City (115)—"Sootproof" spark plugs and automatic windshields.

Michelin Tire Co., Miltown, N. J. (172)—Michelin tires.

Morgan & Wright, Detroit, Mich. (180)—Morgan and Wright tires.

Mosler, A. R., New York City (158)—Spark plugs, timers and rear signal devices.

Motsinger Device Mfg. Co., Pendleton, Ind. (146)—Ignition systems.

Motz Clincher Tire and Rubber Co., The, New York City (138)—Tires.

N. Y. and N. J. Lubricant Co., New York City (117)—Lubricants.

National Carbon Co., Cleveland, O. (119)—Dry batteries.

Oliver Mfg. Co., Chicago, Ill. (142)—Peerless jacks.

Pennsylvania Rubber Co., Jeannette, Pa. (107)—Pennsylvania tires.

Pittsfield Spark Coil Co., Dalton, Mass. (150)—Ignition systems.

Randall-Faichney Co., The, Boston, Mass. (147)—Jericho exhaust horns, B-Line grease guns, Bing spark plugs.

Remy Electric Co., Anderson, Ind. (173)—Magnetos.

Republic Rubber Co., Youngstown, O. (118)—Tires.

Sager Co., J. H., Rochester, N. Y. (125)—Supplementary springs.

Spicer Universal Joint Mfg. Co., Plainfield, N. J. (149)—Universal joints.

Splitdorf, Inc., C. F., New York City (102)—Timers, distributors, coils and ignition specialties.

Springfield Metal Body Co., Springfield, Mass. (171)—Bodies and tops.

Standard Welding Co., The, Cleveland, O. (156)—Tubing, electrically welded parts and rims.

Stewart & Clark Mfg. Co., Chicago, Ill. (175)—Speed indicators.

Swinehart Clincher Tire and Rubber Co., Akron, O. (153)—Swinehart solid tires.

Timken-Detroit Axle Co., The, Detroit, Mich. (143)—Timken axles.

Timken Roller Bearing Co., Canton, O. (144)—Roller bearings.

Vacuum Oil Co., Rochester, N. Y. (167)—Lubricants.

Valentine & Co., New York City (163)—Varnishes.

Veeder Mfg. Co., Hartford, Conn. (179)—Tachometers and tachodometers.

Warner Gear Co., Muncie, Ind. (154)—Gears and parts.

Warner Instrument Co., Beloit, Wis. (145)—Warner speed indicators and clocks.

Weed Chain Tire Grip Co., New York City (116)—Non-skid tire chains.

Wheeler & Schebler, Indianapolis, Ind. (175)—Carburetors and magnetos.

Whitney Mfg. Co., The, Hartford, Conn. (151)—Whitney chains and keying systems.

Witherbee Igniter Co., Springfield, Mass. (128)—Batteries, plugs and magnetos.

#### Balcony.

Allen Auto Specialty Co., New York City (234)—Tire jackets and specialties.

Batavia Rubber Co., The, Batavia, N. Y. (207)—Tires.

Bretz Co., J. S., New York City (226)—F. & S. Imported ball bearings and U. & H. high tension magnetos.

Carpenter Steel Co., The, Reading, Pa. (231)—Parts.

Champion Ignition Co., Flint, Mich. (211)—Ignition systems.

Driggs-Seabury Ordnance Corporation, Sharon, Pa. (208)—Crank shafts and frames.

Eastern Carbon Works, Jersey City, N. J. (217)—Dry batteries.

Electric Storage Battery Co., The, Philadelphia, Pa. (200)—Accumulators.

Flentje, Ernest, Cambridge, Mass. (233)—Shock preventers.

Franklin Mfg. Co., H. H., Syracuse, N. Y. (221)—Die castings.

Frasse & Co., Peter A., New York City (224)—Tubing, forgings and nickel steels.

Geiszler Brothers' Storage Battery Co., New York City (235)—Batteries.

Havoline Oil Co., New York City (205)—Lubricants.

Haws, George A., New York City (227)—Panhard oil.

High Frequency Ignition Co., Detroit, Mich. (222)—Ignition systems.

High Wheel Auto Parts Co., Muncie, Ind. (203)—Motor buggy parts.

Hoffnung & Co., S.

Jeffrey-Dewitt Co., Newark, N. J. (215)—Reliance spark plugs.

Johnson & Co., Isaac C., Spuyten Duyvel, N. Y. (219)—Forgings and castings.

Johns-Manville Co., H. W., New York City (239)—Asbestos packing and gaskets.

K-W Ignition Co., Cleveland, O. (228)—Magnetos, spark plugs.

Keystone Lubricating Co., Philadelphia, Pa. (212)—Lubricants.

Lavalette & Co., New York City (225)—Magnetos and ignition specialties.

Link-Belt Co., Philadelphia, Pa. (202)—Reynold chains.

McGraw Tire and Rubber Co., East Palestine, O. (238)—Tires.

Miller, Charles E., New York City (209)—Brampton chains, supplies and accessories.

Miller's Sons, William P., Long Island City, N. Y. (237)—Lubricants.

Morrison-Ricker Mfg. Co., Grinnell, Ind. (229)—Gloves and gauntlets.

Mutty Co., L. J., Boston, Mass. (220)—Rubber cloth and imitation leathers.

New York Sporting Goods Co., New York City (230)—Accessories.

Noera Mfg. Co., The, Waterbury, Conn. (304)—Oilers.

Pierson Motor Supply Co., Brooklyn, N. Y. (232)—Supplies.

Perfection Wrench Co., Port Chester, N. Y. (213)—Wrenches and tools.

Prosser & Sons, Thomas, New York City (216)—Krupp steel, gears and parts.

R. I. V. Co., New York City (214)—Annular ball bearings.

Shaler, C. A., Waupun, Wis. (201)—Electric vulcanizers.

Sireno Co., The, New York City (210)—Electric horns.

Standard Leather Washer Mfg. Co., Newark, N. J. (236)—Leather washers and lugs.

Simms Magneto Co., New York City (218)—Magnetos.

Warner Mfg. Co., Toledo, O. (206)—Transmission gearing.

#### Balcony Extension, Madison Avenue.

American Vanadium Co., Pittsburg, Pa. (254)—Vanadium alloy.

Automatic Headlight Co.

Burn-Boston Battery and Mfg. Co., Boston, Mass. (251)—Sealed liquid batteries.

Cross, Frank H.

Elite Mfg. Co., Ashland, O. (244)—Jacks and pumps.

Grossman Co., Emil, New York City (240)—Red Head spark plugs, Red Rib ignition cable, and hydraulic wind shields and buffers.

Hopewell Brothers, Cambridge, Mass. (246)—Tire cases, covers, robes.

McCue Co., The, Hartford, Conn. (241)—Parts and fittings.

Motor Car Equipment Co., The, New York City (247)—Blanchard horns, Pirelli tires and supplies.

New Jersey Car Spring and Rubber Co., Jersey City, N. J. (253)—Carsprings tires.

Novelty Mfg. Co., The, New York City (248)—Metal goods.

Riley-Klotz Mfg. Co., Newark, N. J. (245)—Horns.

Stein Double Cushion Tire Co., Akron, O. (242)—Stein tires.

Tray Plate Battery Co., Binghamton, N. Y. (243)—High efficiency storage batteries.

#### Balcony Extension, Fourth Avenue.

Barnard Specialty Co.

Bosch Magneto Co., New York City (225)—Ignition systems.

Cox Brass Mfg. Co., Albany, N. Y. (263)—Clear Vision wind shields.

Detroit Motor Car Supply Co., Detroit, Mich. (270)—Bodies and tops.

Howard Demountable Rim Co., Trenton, N. J. (261)—Howard demountable rims.  
 Lavigne Mfg. Co., Detroit, Mich. (264)—Lubricators.  
 Livingston Radiator and Mfg. Co., Inc., New York City (267)—Radiators.  
 Metal Stamping Co., New York City (258)—Radiators, rails, wind shields and ball bearings.  
 Perfection Spring Co., Cleveland, O. (269)—Springs.  
 Reilly and Son, P., Philadelphia, Pa. (268)—Lap robes.  
 Stackpole Battery Co., St. Mary's, Pa. (257)—Dry batteries.  
 Stevens & Co., New York City (266)—Keno tire pump connections.  
 Traver Mfg. Co., Philip C., Far Rockaway, N. Y. (263 A)—Traver non-skid device.  
 Wayne Oil Tank and Pump Co., Ft. Wayne, Ind. (271)—Gasolene storage tanks.  
 Zeglen Bullet-Proof Cloth Co., Chicago, Ill. (260)—Non-puncturable tires and fabrics.

#### Concert Hall.

Briggs & Stratton, Milwaukee, Wis. (321)—B. & S. igniters.  
 Chase Co., L. C., Boston, Mass. (301)—Top cover leathers and plush robes.  
 Columbia Lubricants Co. of New York, New York City (303)—Lubricants.  
 Dayton Rubber Mfg. Co., The, Dayton, O. (314)—Airless tires.  
 Excelsior Motor and Mfg. Co., Chicago, Ill. (324)—Motors.  
 Federal Rubber Co., Milwaukee, Wis. (310)—Federal tires.  
 Gemmer Mfg. Co., Detroit, Mich. (325)—Steering gears and parts.  
 Hayes Mfg. Co., Detroit, Mich. (311)—Radiators, hoods and fenders.  
 Hancock Mfg. Co., Charlotte, Mich. (315)—Oilers.  
 Hall Lamp Co., Detroit, Mich. (317)—Lamps.  
 Hess-Bright Mfg. Co., The, Philadelphia, Pa. (326)—Bearings.  
 Lebanon Steel Casting Co., Lebanon, Pa. (320)—Steel castings.  
 Lovell-McConnell Mfg. Co., Newark, N. J. (322)—Klaxon horns.  
 McCord Mfg. Co., Detroit, Mich. (319)—Radiators and oilers.  
 National Coil Co., Lansing, Mich. (313)—Spark coils.  
 Pantasote Co., The, New York City (309)—Top and upholstery imitation leather.  
 Rands Mfg. Co., Detroit, Mich. (323)—Tops and wind shields.  
 Royal Equipment Co., Bridgeport, Conn. (318)—Brakes and lining.  
 Seamless Rubber Co., The, New Haven, Conn. (316)—Rubber goods, inner tubes and tubes.  
 Smith Co., A. O., Milwaukee, Wis. (304)—Gears and parts.  
 Sprague Umbrella Co., The, Norwalk, O. (300)—Tops and wind shields.  
 Standard Roller Bearing Co., Philadelphia, Pa. (306)—Ball bearings and parts.  
 Stromberg Motor Devices Co., Chicago, Ill. (307)—Carburetors.  
 Thermoid Rubber Device Co., Trenton, N. J. (305)—Tires, tubes and brake lining.  
 United States Light and Heating Co., New York City (309).  
 Vesta Accumulator Co., Chicago, Ill. (312)—Accumulators, electric lamps and spark plugs.  
 Victor Auto Supply Mfg. Co., New York City (302).

#### Second Tier.

Allers & Co., Harry A., New York City (413)—Metal polish.  
 Calmon Asbestos and Rubber Works of

America, New York City (407)—Tires and brake lining.  
 Columbia Nut and Bolt Co., Bridgeport, Conn. (414)—Lock nuts.  
 Dover Stamping and Mfg. Co., Cambridge, Mass. (405)—Drip pans, funnels and measures.  
 Grimm-Plaut Construction Co.  
 Hilton Mfg. Co., Boston, Mass. (404)—Safety starting cranks.  
 Kamlee Co., The, Milwaukee, Wis. (412)—Trunks.  
 Motor Parts Co., Plainfield, N. J. (412)—Parts.  
 Newark Rivet Works, Newark, N. J. (400)—Friction wind shields.  
 Recometre Co. of America, New York City (418)—Speed indicators.  
 Shipman Instrument Co., Sunbury, Pa. (408)—Cleveland speed indicators.  
 Union Battery Co., Belleville, N. J. (410)—Batteries.  
 Waterhouse Co., The, New York City (411)—Carburetors.  
 Willey Co., C. A., Brooklyn, N. Y. (402)—Paints.  
 Woven Steel Hose and Rubber Co., Trenton, N. J. (409)—Autobestine brake lining.  
 Wright Wrench Mfg. Co., The, Canton, O. (401)—Wrenches.

#### Room 7.

Asch, B. M., New York City (417)—Supplies.  
 Benford, E. M., Mt. Vernon, N. Y. (426)—Spark plugs.  
 Chandler Co., The, Springfield, Mass. (423)—Name plates and monograms.  
 English & Mersick Co., The, New Haven, Conn. (425)—Automobile metal work.  
 Favary Tire and Cushion Co.  
 Gasolene Motor Efficiency Co., Jersey City, N. J. (421)—Carburetor attachment.  
 New York Coil Co., New York City (419)—Spark coils.  
 Rothstein Mfg. Co., New York City (416).  
 Rushmore Dynamo Works, Plainfield, N. J. (424)—Acetylene lamps and generators.  
 Voorhees Rubber Mfg. Co., Jersey City, N. J. (420)—Rubber hose and packing.  
 Winn, William R., New York City (418)—Lubricants.

#### Basement.

Ajax Trunk and Sample Case Co., New York City (527)—Leather trunks and tire cases.  
 A-Z Co., The, New York City (510)—Hoods, radiators and tanks.  
 Burroughs Remountable Rim Co., New York City (517)—Remountable rims.  
 Como Electric Co.  
 Erie Foundry Co., Erie, Pa. (521)—Castings.  
 Gibney & Bro., James L., Philadelphia, Pa. (501)—Gibney wireless tires, electric vulcanizers.  
 International Engineering Co., New York City (513)—Annular ball bearings.  
 Kilgore Mfg. Co., Boston, Mass. (528)—Shock absorbers.  
 King Optical Co., Julius, New York City (511)—Goggles and clocks.  
 Livingston Radiator Co., New York City (522)—Radiators.  
 Merchant & Evans, Philadelphia, Pa. (500)—Multiple disc clutches and automobile fittings.  
 Mesinger Mfg. Co., H. and F., New York City (504)—Rebound checks and magneto covers.  
 Nathan Novelty Mfg. Co., New York City (509)—Tire covers and cases.  
 National Auto Top Co., New York City (534)—Tops and wind shields.  
 New Departure Mfg. Co., The, Bristol, Conn. (524)—Annular ball bearings.  
 Nightingale Whistle Mfg. Co., New York

City (530)—Nightingale whistles and circulatory pumps.  
 Nonpareil Horn Mfg. Co., Brooklyn, N. Y. (520)—Horns.  
 Noonan Tool and Machine Works, A. S., Rome, N. Y. (531)—Tools.  
 Philadelphia Storage Battery Co., Philadelphia, Pa. (533)—Storage batteries.  
 Post & Lester Co., The, Hartford, Conn. (529)—Supplies and specialties.  
 Pruden Hardware Co., W. E., New York City (502)—Supplies.  
 Tracy, Joseph, New York City (516)—Testing instruments.  
 Troy Carriage Sunshade Co., Troy, O. (535)—Tops.  
 Valvoline Oil Co., New York City (508)—Lubricants.  
 Vanguard Mfg. Co., Joliet, Ill. (526)—Wind shields and spark plugs.  
 White & Bagley Co., The, Worcester, Mass. (525)—Soap and lubricants.  
 Willard Storage Battery Co., The, Cleveland, O. (532)—Storage batteries.

#### MOTORCYCLES.

##### Basement.

American Motor Co., Brockton, Mass. (605)—M.-M.  
 Aurora Automatic Machinery Co., Aurora, Ill. (610)—Thor.  
 Baker & Co., F. A., New York City (616)—Motorcycles and supplies.  
 Bicycling World, The, New York City (601)—Bicycling World and Motorcycle Review.  
 Consolidated Mfg. Co., The, Toledo, O. (602)—Yale.  
 Eclipse Machine Co., Elmira, N. Y. (615)—Eclipse coaster brakes and free engine clutches.  
 Emblem Mfg. Co., Angola, N. Y. (619)—Emblem.  
 Excelsior Supply Co., Chicago, Ill. (613)—Excelsior.  
 Greyhound Motor Works, Buffalo, N. Y. (611)—Greyhound.  
 Harley-Davidson Motor Co., Milwaukee, Wis. (608)—Harley-Davidson.  
 Hendee Mfg. Co., Springfield, Mass. (606)—Indian.  
 Herring-Curtiss Co., Hammondsport, N. Y. (607)—Curtiss.  
 Marvel Motorcycle Co., Hammondsport, N. Y. (620)—Marvel.  
 Merkel-Light Motor Co., Pottstown, Pa. (600)—Merkel and Light.  
 Miami Cycle and Mfg. Co., The, Middletown, O. (618)—Racycle.  
 Motorcycle Publishing Co., New York City (604)—Motorcycle Illustrated.  
 New Era Gas Engine Co., The, Dayton, O. (614)—New Era.  
 N. S. U. Motor Co., New York City (603)—N. S. U.  
 Pierce Cycle Co., The, Buffalo, N. Y. (612)—Pierce.  
 Reading-Standard Co., Reading, Pa. (609)—R.-S.  
 Reliance Motorcycle Co., Owego, N. Y. (621)—Reliance.  
 Royal Motor Works, Inc., Worcester, Mass. (617)—Royal Pioneer.  
 S.D. Mfg. Co., Brooklyn, N. Y. (622)—S.-D.

#### Where Ramblers are Being Exhibited.

Following a custom established two years ago, the New Rambler is exclusively shown during the New York show at the Rambler Building, Broadway and Sixty-second street, New York. The Rambler Automobile Co. of New York, has arranged for the reception of Rambler dealers, owners and friends in a way which would be impossible at any show and is providing conveniences that are in keeping with the reception.

## Principal Specifications of the Cars to be Exhibited at the Garden Show

## CARS COSTING \$1,250 AND UNDER.

Make and Model.	Horse-power.	No. of Cylinders.	Cyl. Cast.	Ignition.		Magnet.	Battery.	Clutch.	Change Gear.	No. of Speeds.	Drive.	Wheel-base.	Tire Sizes.	
				Bore.	Stroke.								Front.	Rear.
Buick 10 .....	18	4	Pairs	3 3/4	3 3/4	L.T.	Dry	Cone	Plan.	2	Shaft	92	30x3 1/2	30x3 1/2
Hudson 20 .....	22	4	Block	3 3/4	4 1/2	....	Dry	Cone	Sel.	3	Shaft	100	32x3	32x3 1/2
Overland 38 .....	22	4	Sep'r't	3 3/4	4 1/2	H.T.	Dry	Disc	Plan.	2	Shaft	102	32x3 1/2	32x3 1/2
Overland 40 .....	29	4	Sep'r't	4 1/2	4 1/2	H.T.	Dry	Disc	Plan.	2	Shaft	112	34x3 1/2	34x3 1/2
Studebaker-E-M-F. 30..	30	4	Pairs	4	4 1/2	L.T.	Dry	Cone	Sel.	3	Shaft	108	32x3 1/2	32x3 1/2
Studebaker-Flanders 20.20	20	4	Block	3 5/8	3 3/4	L.T.	Dry	Cone	Sel.	2	Shaft	100	32x3	32x3

## CARS COSTING \$1,251 TO \$2,000.

Autocar 22 .....	26	4	Sep'r't	4	4 1/2	H.T.	Dry	Fl. R.	Prog.	3	Shaft	112	34x4	34x4
Buick 19 .....	24	4	Pairs	4 1/4	4 1/2	L.T.	Dry	Cone	Sel.	3	Shaft	105	32x4	32x4
Buick 16 .....	30	4	Pairs	4 1/2	5	L.T.	Dry	Cone	Sel.	3	Shaft	112	34x4	34x4
Cadillac 30 .....	30	4	Sep'r't	4 1/4	4 1/2	L.T.	Dry	Cone	Sel.	3	Shaft	110	34x4	34x4
Chalmers-Detroit K-30.	25.6	4	Block	4	4 1/2	....	Storage	Disc	Sel.	3	Shaft	115	34x3 1/2	34x3 1/2
Elmore 36 .....	36	*4	Sep'r't	4 1/2	4	....	Gen. Dry	Exp'd	Sel.	3	Shaft	110	34x4	34x4
Franklin G .....	18	4	Sep'r't	3 3/8	4	H.T.	Dry	Disc	Sel.	3	Shaft	91 1/2	32x3 1/2	32x4
Haynes 19 .....	28.9	4	Pairs	4 1/4	5	L.T.	Dry	Band	Sel.	3	Shaft	110	34x4	34x4
Mercer A .....	30	4	Pairs	4 3/8	4 3/4	L.T.	Dry	Disc	Sel.	3	Shaft	116	34x4	34x4
Mercer C .....	30	4	Pairs	4 3/8	4 3/4	L.T.	Dry	Disc	Sel.	3	Shaft	116	36x3 1/2	36x4
Selden 35-T & R.....	36	4	Pairs	4 3/4	5	....	Storage	Cone	Sel.	3	Shaft	116	34x3 1/2	34x4
White G-A .....	22.5	4	Block	3 3/4	5 1/8	H.T.	....	Cone	Sel.	3	Shaft	110	32x4	32x4

## CARS COSTING \$2,001 TO \$3,000.

Chalmers-Detroit J ....	40	4	Pairs	5	4 3/4	H.T.	Storage	Cone	Sel.	3	Shaft	122	36x4	36x4
Columbia 48.4 .....	32.4	4	Pairs	4 1/2	4.7	L.T.	Storage	Cone	Sel.	3	Shaft	115	34x4	34x4
Corbin XVIII .....	32.4	4	Sep'r't	4 1/2	4 1/4	H.T.	Dry	Cone	Sel.	3	Shaft	120	34x4	34x4
Elmore 46 .....	46	*4	Sep'r't	4 1/2	4	....	Gen. Dry	Exp'd	Sel.	3	Shaft	120	36x4	36x4
Franklin D .....	28	4	Sep'r't	4 1/4	4	H.T.	Dry	Disc	Sel.	3	Shaft	106	36x4	36x4 1/2
Matheson Six .....	50	6	Pairs	4 1/2	5	H.T.	Dry	Disc	Sel.	3	Shaft	125 1/2	36x4	36x4
Oldsmobile .....	40	4	Pairs	4 3/4	4 3/4	H.T.	Dry	Cone	Sel.	4	Shaft	118	36x4	36x4
Pope-Hartford T .....	30	4	Pairs	4.5-16	5 1/8	....	Dry, Stge	Cone	Sel.	3	Shaft	118	36x4	36x4
Selden 29 .....	29	4	Pairs	4 1/4	4 1/2	....	Storage	Cone	Sel.	3	Shaft	114	34x3 1/2	34x4
Stevens-Duryea X .....	36.1	4	Pairs	4 3/4	4 1/2	H.T.	Dry	Disc	Sel.	3	Shaft	124	34x4	34x4
Stevens-Duryea XXX...	36.1	4	Pairs	4 3/4	4 1/2	H.T.	Dry	Disc	Sel.	3	Shaft	109	36x3 1/2	36x4
White G-B .....	22.5	4	Block	3 3/4	5 1/8	H.T.	Dry	Cone	Sel.	4	Shaft	120	34x4	34x4
Winton 17-A .....	48.6	6	Pairs	4 1/2	5	H.T.	Storage	Disc	Sel.	4	Shaft	124	34x4	34x4 1/2

## CARS COSTING \$3,001 TO \$4,000.

Franklin H .....	42	6	Sep'r't	4 1/4	4	H.T.	....	Disc	Sel.	3	Shaft	127	36x4 1/2	37x5
Knox R .....	40	4	Sep'r't	5	4 3/4	H.T.	Dry	Plate	Sel.	3	Shaft	117	36x4 1/2	36x4 1/2
Locomobile L .....	32	4	Pairs	4 1/2	4 1/2	L.T.	....	Cone	Sel.	4	Shaft	120	34x4	34x4 1/2
P-S Victoria .....	28.9	4	Pairs	4 1/4	4 1/2	H.T.	....	Disc	Sel.	4	Shaft	112	34x4	34x4
P-S 6-60 LXII .....	57	6	Pairs	4 7/8	5 1/2	H.T.	Dry	Disc	Sel.	4	Shaft	128	36x4	36x4 1/2
P-S 4-50 .....	48.4	4	Pairs	5 1/2	5 1/4	H.T.	Dry	Disc	Sel.	4	Shaft	128	36x4	36x5
Packard 18 .....	18	4	Pairs	4 1-16	5 1/8	L.T.	Storage	Plate	Prog.	3	Shaft	112	34x3 1/2	34x4
Pierce-Arrow 36 .....	36	6	Pairs	4	4 3/4	H.T.	Storage	Cone	Sel.	4	Shaft	125	36x4	36x4
Stearns 15-30 .....	32	4	Block	4 1/2	4 3/8	H.T.	Dry	Disc	Sel.	3	Shaft	116	34x4	34x4
Stevens-Duryea Y .....	54.1	6	Pairs	4 3/4	4 1/2	H.T.	Storage	Disc	Prog.	3	Shaft	142	36x4	36x5
Stevens-Duryea AA .....	43.8	6	Pairs	4 1/4	4 3/4	H.T.	Storage	Disc	Prog.	3	Shaft	128	36x4 1/2	36x4 1/2
Studebaker-Gar. G-7 .....	40	4	Pairs	4 3/4	5 1/4	L.T.	....	Cone	Sel.	4	Shaft	117 1/2	36x4	36x4 1/2
Thomas Flyer M 640..	43.8	6	Pairs	5 1/2	5 1/4	H.T.	....	Plate	Sel.	3	Shaft	125	36x4 1/2	36x4 1/2

## CARS COSTING \$4,001 AND OVER.

Alco 60 .....	53.5	6	Pairs	4 11-16	5 1/2	H.T.	Storage	Disc	Sel.	4	Shaft	134	36x4	36x5
Alco 40 .....	35.7	4	Pairs	4 11-16	5 1/2	H.T.	Storage	Disc	Sel.	4	Shaft	126	36x4	36x5
Knox S .....	60	6	Pairs	5	4 3/4	H.T.	....	Plate	Sel.	3	Shaft	134	36x5	36x5
Locomobile I .....	40	4	Pairs	5	6	L.T.	....	Cone	Sel.	3	Chains	123	36x4	36x5
Lozier H .....	46	4	Pairs	5 3/4	5 1/4	H.T.	Storage	Disc	Sel.	4	Shaft	124	36x4	36x5
Lozier I .....	51	6	Pairs	4 5/8	5 1/2	H.T.	Storage	Disc	Sel.	4	Shaft	131	36x4	36x5
Matheson 1910-E .....	50	4	Sep'r't	5	6	L.T.	Dry	Disc	Sel.	4	Chains	128	36x4	36x5
Oldsmobile "Limited".	60	6	Pairs	4 3/4	4 3/4	H.T.	Dry	Cone	Sel.	4	Shaft	130	42x4 1/2	42x4 1/2
Packard 30 .....	30	4	Pairs	5	5 1/2	L.T.	Storage	Plate	Prog.	3	Shaft	123 1/2	36x4	36x4 1/2
Peerless 27 .....	30	4	Pairs	4 7/8	5 1/4	H.T.	Storage	Exp'd	Sel.	4	Shaft	122	36x4	36x5
Peerless 28 .....	50	6	Pairs	4 7/8	5 1/2	H.T.	Storage	Exp'd	Sel.	4	Shaft	136	36x4	36x5
Pierce-Arrow 48 .....	48	6	Pairs	4 1/2	4 3/4	H.T.	Storage	Cone	Sel.	4	Shaft	134 1/2	36x4 1/2	37x5
Pierce Arrow 66 .....	66	6	Pairs	5 1/4	5 1/2	H.T.	Storage	Cone	Sel.	4	Shaft	140	37x5	38x5 1/2
Royal Tourist M C .....	48	4	Pairs	5 1/2	6	H.T.	Storage	Cone	Sel.	4	Shaft	126	36x4 1/2	36x5
Stearns 30-60 .....	46	4	Pairs	5 3/4	5 3/8	H.T.	Dry	Disc	Sel.	4	Chs. S'ft	124	36x4	36x5
Thomas Flyer F 4-60..	53	4	Pairs	5 3/4	5 1/4	H.T.	....	Plate	Sel.	3	Chains	127	36x4 1/2	36x5
Thomas Flyer K 6-70..	72	6	Pairs	5 1/2	5 1/2	H.T.	....	Plate	Sel.	4	Chains	140	38x4 1/2	38x5 1/2

\* Two-cycle motor.

# MICHELIN

## Anti-Skid Tires

**STEEL STUDS**

Prevent Skidding

**LEATHER TREAD**

Protects Traction Surface

**RUBBER SIDE WALLS**

Preserve Resiliency

**Exhibiting  
At Both  
New York  
Shows**



**MICHELIN TIRE COMPANY**  
**MILLTOWN, NEW JERSEY, U. S. A.**

NEW YORK, 1763 Broadway  
DENVER, 15 E. Colfax Avenue  
DETROIT, 247 Jefferson Avenue  
KANSAS CITY, 1926 Grand Avenue

**BRANCHES :**

PHILADELPHIA, 320 N. Broad Street  
CHICAGO, 1344 Michigan Avenue  
SAN FRANCISCO, 308-314 Van Ness Ave.

CLEVELAND, 2001 Euclid Ave.  
BUFFALO, 908 Main Street  
BOSTON, 901 Boylston Street  
SEATTLE, 1503 Broadway



## RECENT PATENTS.

933,367. Governor or Speed Regulator. Alberd de Dion and Georges Bouton, Puttaux, France, assignors to Etablissements de Dion-Bouton (Societe Anonyme, Pateaux, France, a Corporation of France. Filed Feb. 9, 1909. Serial No. 476,917.

1. In a governor or speed regulator, the combination of a pump case, an impeller rotatable in the case, an inlet through which fluid is sucked into the case by the impeller, an outlet through which fluid is pumped out of the case, and an adjusting disc in the case which is moved angularly through different distances by the rotating body of fluid.

933,496. Wind Shield. James H. Sprague, Norwalk, Ohio. Filed Jan. 28, 1909. Serial No. 474,649.

A wind shield, comprising a lower stationary section, a bracket extending substantially horizontally from said lower section adjacent the upper edge thereof and having a slot extending longitudinally thereof, an upper section hinged to said lower section and movable to a position substantially parallel to the lower section and upon the side thereof opposite to said bracket, a link having one end pivoted to the upper section, a bolt extending through the opposite end of said link at substantially right angles thereto and through said slot and constituting a pivotal and sliding connection between the link and bracket, and a supporting brace for the lower section independent of the bracket.

933,684. Hydrocarbon Burner. George E. Whitney, Boston, Mass., assignor, by mesne assignments, to Stanley Motor Carriage Company, a Corporation of Massachusetts. Filed Aug. 9, 1900. Serial No. 26,432.

1. In an apparatus of the class described, a main burner and its liquid fuel supply conduit heated thereby, combined with a torch also to apply heat to a portion of said conduit, a branch connecting said conduit with said torch, and means to apply heat thereto, a source of gaseous supply for said torch, and means to supply the latter from said source, said several means of sustaining the torch flame being available separately, as desired.

933,686. Block for Vehicle Springs. Thomas Wright, Jersey City, N. J. Filed April 6, 1909. Serial No. 488,288.

1. A spring block comprising spaced plates, a spacing block interposed there between, and means for holding the plates and block together.

933,748. Tire Protector. Dufferin Day, Hume, Ohio. Filed May 11, 1908. Serial No. 432,257.

In a tire protector in combination, a member of substantially U shaped form in cross section adapted to surround and completely inclose a tire and having a portion of greater internal width than said tire to permit lateral expansion of the latter within said protector, and of substantially the same or less depth than the combined depth of the tire and rim; a pair of lugs or flanges adjacent each end of said member; a nut or plate arranged in the rear of and engaging each pair of said lugs or flanges; and a right and left handed screw engaging threaded apertures in each of said nuts or plates for drawing said lugs or flanges toward each other, whereby said protector may be directly attached to said tire.

933,870. Change Speed Gearing. Austin M. Wolf, New York, N. Y. Filed Nov. 13, 1908. Serial No. 462,414.

1. A change speed gearing comprising a driven shaft, a pair of separate bevel gears in axial alignment with and rotatably independent of said driven shaft, and each provided with a clutch portion, clutch members shiftable longitudinally on said driven shaft, a counter shaft, an intermediate shaft parallel thereto, a bevel gear secured to each of the counter and intermediate shafts and adapted to mesh with the said pair of separate bevel gears, a driving shaft in axial alignment with said intermediate shaft, and power transmitting means between said counter intermediate and driving shafts, substantially for the purposes set forth.

933,960. Internal Combustion Engine. David H. Coles, Brooklyn, N. Y. Filed Oct. 16, 1908. Serial No. 458,058.

1. In an internal combustion engine, the combination of an engine cylinder having a piston therein, a crank casing forming a rear compression chamber and having a gas receiving port, two gas compression chambers each communicating with said engine cylinder and casing on opposite sides of said piston, and valve means for permitting gas to pass under pressure from said casing into said chambers alternately, to hold said gas under pressure therein during an exhaust stroke and to deliver said gas to the engine cylinder and an igniter located in the engine cylinder to explode the gas thereupon the face of the piston on a working stroke.



Town and Country Car  
15-30 H.P.

## The Stearns— “The Car Luxurious”

The Stearns is just what these words imply—a car designed and built throughout to embody the extreme of richness, elegance and convenience for urban and suburban use.

Equipped with a motor so flexible as to take smoothly the short, sharp corners and curves of city streets, yet powerful enough for any road conditions encountered in in town or country. So constructed as to permit of easily turning in narrow streets.

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No man knows how long a Stearns will last, for no Stearns has ever worn out.

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Stearns cars have more reserve power than any car of like rating of any make—the reserve force in a Stearns engine is what has made Stearns power famous.

### Therefore the Ultimate

Most Stearns owners have owned other makes. It has seemed natural for them to progress gradually through varying grades of quality until they reached the Stearns—the ultimate of excellence.

But once Stearns owners, they have settled down into a contented pride of ownership, for the Stearns is the ultimate car—the car to keep.

The car shown above is the famous 15-30 H.P. Stearns Limousine Town and Country Car. It can also be had in landaulet, touring car or toy tonneau body.

A more powerful car, of equal quality and luxury, will be found in the 30-60 H.P. chassis with limousine body.

Licensed under the Selden Patent

(31)

**The F. B. Stearns Company, Cleveland, Ohio**  
“The White Line Radiator Belongs to the Stearns”

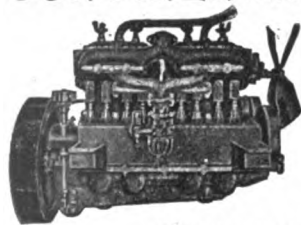
934, Coupling for Power Transmission in Motor Vehicles. Howard E. Coffin, Detroit, Mich., assignor to Chalmers-Detroit Motor Company, Detroit, Mich., a Corporation of Michigan. Filed Nov. 6, 1908. Serial No. 461,418.

1. The combination with a drive shaft and a transmission shaft having their adjacent ends in normal alignment and spaced from each other, of a clutch having its movable member sleeved on the end of said drive shaft, a member detachably secured to said movable member forming an extension thereof beyond said drive shaft, and being of a length no greater than the distance between said drive shaft and transmission shaft, and a coupling sleeve for said extension member and transmission shaft telescopically engaging the former, for the purpose described.

933,960. Internal Combustion Engine. David H. Coes, Brooklyn, N. Y. Filed Dec. 3, 1908. Serial No. 465,794.

1. In an automobile, a pair of axles, a chassis, a body supported directly upon the chassis, flat metal springs arranged in separated sets at approximately opposite ends of the chassis, each spring being rigidly connected to the chassis at one end and engaging with one of the axles at the other end, all the springs being disposed at a downward and rearward angle of approximately 45 degrees relative to the axial line of the chassis.

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We are motor SPECIALISTS.  
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There is more MOTOR VALUE in a "Continental" (24-40 H.P.) than in any other motor on the market.

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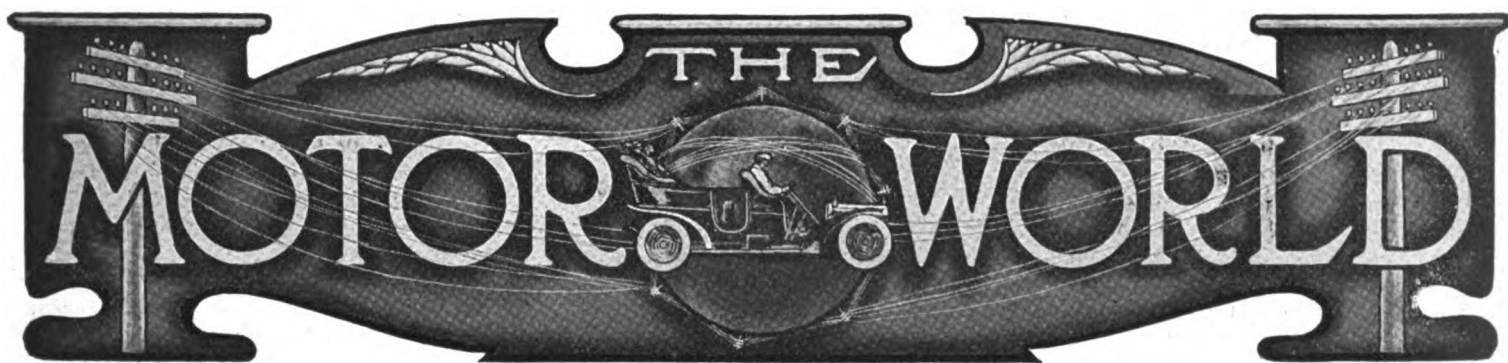
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## GARDEN SHOW SAFE FOR NEXT YEAR

**Reports Concerning Early Demolishment of Building Set at Rest—Reeves Elected General Manager of A. L. A. M.**

As stated by the Motor World would be the case, the general meeting of the Association of Licensed Automobile Manufacturers this (Thursday) morning, resulted in the election of Alfred Reeves as general manager. In addition to settling all doubts as to the incumbency of the general managership, the meeting also served to set at rest the questions revolving around whether or not there would be another Madison Square Garden show.

Reports of the sale of the Garden and projected plans for the property which would involve the destruction of the present building have been in active circulation for some time, putting an uneasiness into the tentative plans for a Garden show in 1911. Investigation and inquiry by the association resulted in an official and authoritative assurance that the Garden will not be torn down this year and that it will be ready to house the next show.

It was the sense of the meeting that the automobile show should be continued, but the difficulty of providing room in the Garden for the greatly increased list of licensed exhibitors is such that considerable thought will have to be given to the problem. The matter of finding room for the new exhibitors was turned over to the show committee and the general manager.

### Hardy to Remove to Chicago.

During the current month the R. E. Hardy Co. will remove its Sta-rite spark plug business from New York to Chicago, where it will occupy the top floor of a new \$300,000 building at 1735 Michigan avenue, corner of Eighteenth street. Mr. Hardy states that an increasing western business has convinced him that a more central location will prove of advantage. The Motor Parts Co.,

of Chicago, of which he is president, already has removed to the Michigan avenue address.

### Pioneer Motor Buggy Maker Goes Broke.

The Holsman Automobile Co., of Chicago, the pioneers in high wheel motor buggy manufacture, were petitioned into bankruptcy on Friday last, 7th inst. The American Trust & Savings Bank was appointed receiver. The failure of the company was in the nature of a surprise as until recently it was generally supposed to be doing a good business. It is stated, however, that much of the profits that had been made had been sunk in an effort to develop a freak motor. The company started from the proverbial shoestring, and made headway in the face of much ridicule. According to reports, the Harvester Trust once offered \$300,000 to Holsman if he would get out of the business, which offer, the same story adds, was refused. The petitioning creditors place the concern's assets at \$40,000 and its liabilities as exceeding \$100,000.

### Grossman in Another Wind Shield Deal.

The Emil Grossman Co., of New York City, has entered a contract with the Standard Co., of Torrington, Conn., to handle the latter's entire output of Standard wind shields. The arrangement provides, also, that the Standard Co. shall make the Hydraulic and the Springaction wind shields of the Grossman company. The Grossman factory for wind shields in Newark, N. J., has proved inadequate for the demand and eventually will be given up.

### Revere Man Now Heads Rubber Goods.

E. C. Williams, of Boston, has been elected president of the Rubber Goods Mfg. Co., succeeding J. J. Watson, who has returned to his post of treasurer of the United States Rubber Co., the parent company. The new president was the head of not only the Revere Rubber Co., which a few weeks since was acquired by the United States Rubber Co., but of the Continental Caoutchouc Co., whose tires are produced by the Revere factory.

## LICENSE WILL CEASE ITS GRINDING

**Shuts Down After Issuing Selden Franchises—Many Applications Refused and Many Suits Brewing.**

Hints and indications have not been lacking during the past two weeks that immediately following the Garden show in New York the "fur would fly" in Detroit and elsewhere in connection with automobile companies which have started business since the rendering of the Selden patent decision and which are operating without license under the patent. While the Association of Licensed Automobile Manufacturers has been busy enrolling succeeding batches of licensees from the ranks of the established manufacturers, it also has been preparing to move aggressively on the new concerns, whose action in starting up in the face of the Selden decision is regarded as a species of "contempt of court."

As a preliminary warning, official statements have been printed in the Detroit newspapers, as emanating from "the Detroit patent attorney of the association," declaring that "suits will shortly be brought against some or all of the new unlicensed manufacturers, as well as against dealers, and, if necessary, against the users of infringing automobiles."

At a meeting of the executive committee of the A. L. A. M. held at the New York headquarters yesterday (Wednesday), it was indicated that while the association purposes to be as lenient as possible with unlicensed makers who have been in the business some time and who began operations before the rendering of the Selden decision, short shrift is to be given the concerns which have sprung into being since the decision.

A great number of suits, therefore, are to be started at once, to take in the unlicensed makers who so far have escaped service.

The Licensed sessions also served to correct a growing impression that the "doors

were open" to any manufacturer who might choose to apply for a license and accept the association's terms. From a shief of applications three were accepted, these being Mo., the Atlas Motor Car Co., Springfield, the Dorris Motor Car Co., of St. Louis, Mo., and the Mack Bros. Motor Car Co., of Allentown, Pa., builders of trucks. Out of the list several other applicants were politely informed that their applications will not be considered under any circumstances, while the remainder were put aside for further consideration. The three new licensees join with the Hupp Motor Car Co., of Detroit, and the Pierce Motor Co., Racine, Wis., who late last week received licenses, in swelling the total licensed list to 57 names.

With the granting of these licenses, the door of the A. L. A. M. closed with a bang and while it has not been locked, it hereafter will require some pressure to open it. It is understood that some forty-odd applicants for licenses have been told that their applications will not receive favorable consideration.

With the recent additions, the complete list of licensees under the Selden patent, including members of the A. L. A. M., and those who have license without membership, now is as follows:

American Locomotive Co., Alco; Apperson Bros. Automobile Co., Apperson, Autocar Co., Autocar; Bartholomew Co., Glide; Atlas Motor Car Co., Springfield, Mass., Atlas; Brush Runabout Co., Brush; Buckeye Mfg. Co., Lambert; Buick Motor Co., Buick; Cadillac Motor Car Co., Cadillac; Chalmers-Detroit Motor Co., Chalmers-Detroit; Corbin Motor Vehicle Corporation, Corbin; Columbia Motor Car Co., Columbia; Dayton Motor Car Co., Stoddard-Dayton; Dorris Motor Car Co., Dorris; Elmore Mfg. Co., Elmore; Everitt-Metzger-Flanders Co., E-M-F. and Flanders; H. H. Franklin Mfg. Co., Franklin; Haynes Automobile Co., Haynes; Hewitt Motor Co., Everitt and the Hewitt truck; Hudson Motor Car Co., Hudson; Hupp Motor Car Co., Hupmobile; Jackson Automobile Co., Jackson; Knox Automobile Co., Knox.

Locomobile Company of America, Locomobile; Lozier Motor Co., Lozier; Mack Bros. Motor Car Co., Mack trucks; Matheson Motor Car Co., Matheson; Maxwell-Briscoe Motor Co., Maxwell; Mercer Automobile Co., Mercer; Mitchell Motor Car Co., Mitchell; Moline Automobile Co., Moline; Moon Motor Car Co., Moon; Mora Company, Mora; National Motor Vehicle Co., National; Nordyke & Marmon Co., Marmon; Olds Motor Works, Oldsmobile; Packard Motor Car Co., Packard; Palmer & Singer Mfg. Co., Palmer-Singer; Peerless Motor Car Co., Peerless; Pierce-Arrow Motor Car Co., Pierce-Arrow; Pierce Motor Co., Pierce-Racine; Pope Mfg. Co., Pope-Hartford; Premier Motor Mfg. Co., Premier; Regal Motor Car Co., Regal; Reo Motor Car Co., Reo; Royal Tourist Car Co., Royal Tourist.

Alden Sampson Mfg. Co., Sampson

## STUDEBAKERS LOSE THIRD SUIT

**Another Court Refuses to Enjoin E-M-F., and Criticizes Procedure—E-M-F. Wants a Pool Dissolved.**

Little was accomplished in the controversy between the E-M-F. Co., of Detroit, Mich., and its former selling agents, the Studebaker Automobile Co., of South Bend, Ind., by the action of the Studebaker Company in again instituting proceedings in Cincinnati, Ohio, for an injunction against the E-M-F. The hearing, which took place on Monday before Judge Warrington, of the United States Circuit Court, resulted in his refusing to go into the case or pass upon it. He referred the complainants back to Judge Swan, in Detroit, who two weeks ago permitted them conditionally to withdraw a similar complaint in that court.

"When this matter was first presented to me," Judge Warrington said, "I stated distinctly that I should consider myself open to investigate and pass upon the question of whether I ought to hear the cause. There are two considerations which press upon me. One is a matter of comity. Certain proprieties must be observed in the practice of the law, at the bar and in the administration of justice on the bench, and that is what I mean when I speak of the rules of comity.

"The other consideration partakes largely of the first, and that is whether I ought under any circumstances to attempt to revise the action of another judge, when I am sitting with no more power, in no different capacity from the position he occupied when he was called upon to act."

Continuing, he pointed out that a suit begun by the complainants had been brought before Judge Swan and that the exercise of a restraining power had been asked but was denied. The impropriety of a second judge of like power granting what the first refused, he declared, was obvious.

Attorney for the Studebakers called the Court's attention to the fact that in the case before Judge Swan the Studebakers made a motion for an injunction and, pending that motion, had asked for a restraining order. The latter was not granted, and before the hearing for the injunction was held the motion was withdrawn and was not determined by Judge Swan. Consequently, in the attorney's view, Judge Harrington would not be revising Judge Swan's judgment.

trucks; Selden Motor Vehicle Co., Selden; Simplex Automobile Co., Simplex; F. B. Stearns Co., Stearns; Stevens-Duryea Co., Stevens-Duryea; Studebaker Automobile Co., Studebaker-Garford; E. R. Thomas Motor Co., Thomas; Waltham Mfg. Co., White; Willys-Overland Co., Overland and Marion; Winton Motor Carriage Co., Winton; York Motor Car Co., Pullman. For

This view, however, failed to convince, and the Court ordered an entry indicating only a refusal to hear the case. The complainant's attorney then asked if such action bound up the case "to the judge who has taken no action."

"It does with me," replied the Court. "It is not for me to say that in this case he will not assume jurisdiction and exercise the power in the circumstances that have been described. Now let the case take care of itself in the course in which it was started."

As a result of the Court's attitude, the likelihood of a restraining order preventing the E-M-F. Company from selling or delivering cars to others than the Studebakers is exceedingly remote. The latter, however, yesterday filed a new motion before Judge Swan, the motion being along the same lines as their previous bills. It now is probable that the injunction will be fought to a finish before that court.

Additional legal entanglement has been introduced into the situation by the alarm of a number of the E-M-F. stockholders over a pool which it transpires was entered into last April by holders of approximately 70 per cent. of the shares. The Union Trust Co., of Detroit, was made the trustee, the agreement being that all of the shares should be voted in accordance with the wishes of the majority in the pool. Since the trouble with Studebaker has arisen, some of those in the pool do not care to have their shares tied up in such an arrangement any longer and have decided to their own satisfaction that the pool is illegal. A fear is expressed that under the pool the Studebaker interests could gain control by having a majority of the pool, so that 36 per cent. of the total company stock would serve as well as 51 per cent. without the pool. Such pressure has been brought to bear that the trust company has filed a bill in the Wayne County Circuit Court, asking a judicial opinion as to the legality of the pool, in order that the company may know where it stands.

### Profit Bonuses for Ford Forces.

Repeating the profit distribution plan that was started a year ago, the Ford Motor Co., of Detroit, Mich., has given a bonus of \$79,502 to employees, divided according to salary and years of service. Those who have been employed one year received 5 per cent. of their year's earnings; for two years, 7 per cent., while for three years service the bonus netted the factory "veterans" 10 per cent.

practical purposes it is to be remembered that the Hewitt license applies to the Metzger Motor Car Co., of Detroit, Mich., through the latter's purchase of the Hewitt Motor Co., and the Waltham Mfg. Co.'s license applies to the White Co., of Cleveland, O., which some time since acquired that franchise though the White Company's name has not yet been formally substituted.



## ACCESSORY JOBBERS IN SESSION

**Conference with Manufacturers Produces Satisfying Assurances—Initiation Fee and Annual Dues are Increased.**

Because of a meeting of the cycle jobbers held on the same day, the general meeting of the Motor Accessories Jobbers Association scheduled for yesterday (Wednesday) at the Hotel Belmont, did not develop a quorum at the first gathering, but upon the meeting being adjourned a number of late arrivals were encountered and those present reconvened. Matters relating to the future activity of the association were discussed in an informal way and a call was issued for another meeting on Thursday morning when those who had been absent by reason of attendance at the cycle jobbers conference could be on hand.

The latter meeting resulted in the raising of the initiation fee from \$25 to \$50, and the annual dues from \$20 to \$50. The committee consisting of Messrs. Loomis, Willis and Baum, which on Monday conferred with a committee of the Motor and Accessory Manufacturers, composed of Messrs. Raymond, Byrne and Wainwright, reported the results of its conference, these indicating that the accessory manufacturers are eager to co-operate with the jobbers in efforts to curb price abuses and in other trade matters affecting them both. Several accessory manufacturers were present by invitation, and they spoke on different aspects of the relationship between the jobber and the manufacturer. Assurances were given of no antagonism between the United Manufacturers and the jobbers, but considerable spice was added to the proceedings by a more or less open defiance of the jobbers by an Indianapolis concern. One new member was added to the rolls.

### Franklin Opening Two More Branches.

The Franklin Automobile Co. this week is opening a branch in St. Louis under the management of W. E. Brearley and will open one in Cincinnati about February 1st. They now are seeking a suitable location in the Ohio city.

### York Company to Take Its Car's Name.

The York Motor Car Co., York, Pa., is preparing the necessary legal formalities to change its corporate title to Pullman Motor Car Co. When the change is made the company and its product will bear the same name.

### Hudson Company Chooses Officers.

Following its separation from the Chalmers-Detroit Motor Co., under whose guidance and protection it originated, the Hudson Motor Car Co. has elected the list of officers slated at the time of the first announcement of the separation. The new

officers are as follows: J. L. Hudson, chairman of the board of directors; R. D. Chapin, president; H. E. Coffin, vice-president; F. O. Bezner, secretary, and R. B. Jackson, treasurer and general manager.

### Tincher to Manage Economy Company.

R. L. Tincher, of Chicago, who built a massive \$6,000 touring car that led to his financial undoing, has engaged with the Economy Automobile Co., of Joliet, Ill. He will become its manager and designer and as such will perfect the popular priced Economy car which during last year was made on a limited scale.

### White to Open in New Orleans.

The White Company, of Cleveland, O., shortly will open a branch in New Orleans, La. It will embrace both a show room and a garage. L. H. Wise, from the Cleveland factory, is assisting Abner Powell, the local White agent, in preparing the establishment for an early opening.

### Woodruff Made a Chalmers Director.

C. A. Woodruff has been appointed purchasing agent and a member of the board of directors of the Chalmers-Detroit Motor Co., of Detroit, Mich. He was with the National Cash Register Co. before he some time ago joined the Chalmers forces.

### Hartford's Little Strike Settled.

The so-called strike of the Hartford Rubber Works Co.'s operatives has been entirely settled. The strike, which was participated in by a very small part of the company's large force, was greatly exaggerated by some of the printed reports of it.

### Doherty Goes from East to West.

Harry W. Doherty, formerly of the Cameron Motor Car Co., has been made sales manager of the Car Makers Selling Co., 1251 Michigan avenue, Chicago, Ill. The company has the selling of the Anhut and De Tamble outputs of cars.

### Hawley Disposes of His Business.

P. E. Hawley has sold his interests and control in the Auto Equipment Co., of Detroit, Mich., which is locally prominent in the supply and accessory business. F. E. Evans is the purchaser and will assume charge at once.

### New Company Buys Puritan Plant.

The Puritan Gas Tank Co., of Canton, Mass., has been bought by a new company which has been formed for its purchase. The latter is styled the Compressed Gas Tank Co., and it will operate the present plant.

### More Tires Coming from Akron.

The Miller Rubber Co., Akron, Ohio, which heretofore has produced mechanical goods only, is preparing to begin the manufacture of tires. A large brick factory is being erected for the purpose.

## PALACE SHOW SEEN BY 104,600

**A. M. C. M. A. Gives Out Official Figures and Declares a Dividend—Annual Meeting May Prove Momentous.**

The resignation of Alfred Reeves as general manager of the American Motor Car Manufacturers Association was presented by him at the meeting of the committee on management held yesterday (Wednesday) at the association's New York headquarters. It was accepted with regrets, as the association has found in him in the past a general manager who in building up the membership, extending the association influence and conducting shows has proved a tower of strength. Reeves, as stated in last week's Motor World, will be today elected general manager of the Association of Licensed Automobile Manufacturers.

Reporting on the results of the Grand Central Palace show, Chairman R. E. Olds of the show committee, declared that in attendance, in the amount of business done and in the profits, the show exceeded any previous motor car exhibition held anywhere. The total attendance in round numbers was 104,600, exceeding the figure for last year's Palace show by several thousand. The last three days saw the heaviest attendance, Friday, the closing day, admitting more than 19,000 people. The dealers' register showed 1,284 names.

A dividend of 72 per cent. on the amounts paid by them for show space was declared to the Importers Automobile Salon and to the Motor and Accessory Manufacturers, which organizations were interested with the A. M. C. M. A. in the conduct of the show. It was officially announced that the present Grand Central Palace will not be torn down this year, and will be available for an automobile show next winter.

No little significance attaches to the fact that a letter was approved for transmission to every member of the association relative to the annual meeting which is to be held in Chicago on February 9, for action on the association's agreement, which expires by limitation on that date. It is pointed out that an important clause concerning the association's membership reads as follows:

"The term of this agreement is for five years, but any party hereto shall be considered as withdrawn from the terms thereof who fails to pay the sum or sums hereinafter mentioned within thirty days of demand therefor by the committee heretofore created." As nearly all of the more prominent members have either joined the A. L. A. M. or secured Selden licenses, the future of the A. M. C. M. A. is shrouded in considerable doubt.

On the part of the association it was voted to present Chairman Olds, of the 1910 show committee, a loving cup in appreciation of his services to the association

in the successful conduct of the show. Those attending the meeting were Chairman H. O. Smith, Premier Mfg. Co.; W. H. Van Der Voort, Moline Automobile Co.; R. E. Olds, Reo Motor Car Co.; Charles Lewis, Jackson Automobile Co.; Benjamin Briscoe, Maxwell-Briscoe Motor Car Co.; Henry Plow, Mitchell Motor Car Co.; C. C. Hanch, Nordyke & Marmon Co.; S. H. Mora, Mora Co.; and Alfred Reeves, general manager.

#### The Week's Incorporations.

Detroit, Mich.—Reynolds Motor Car Co., The, under Michigan laws, with \$40,000 capital.

Grand Rapids, Mich.—Kent Motor Car Co., under Michigan laws, with \$2,000 capital.

St. Louis, Mo.—Pope-Hartford Motor Car Co., under Missouri laws, with \$50,000 capital; to handle Pope-Hartford cars exclusively.

Indianapolis, Ind.—Ricketts Automobile Co., under Indiana laws, with \$30,000 capital. Corporators—R. Ricketts, L. F. Ricketts and E. Ricketts.

Detroit, Mich.—Standard Auto Accessory Mfg. Co., under Michigan laws, with \$4,000 capital, and Detroit Electric Vehicle Co., with \$5,000 capital.

Chicago, Ill.—Auto Vending Machine Co., under Illinois laws, with \$5,000 capital. Corporators—William W. Evans, Andreas Hummel and Rex Mackenzie.

Dallas, Tex.—Childress-Brush Motor Co., under Texas laws, with \$5,000 capital. Corporators—B. N. Childress, C. W. Childress, Ed. R. Bumpass and R. M. Hordeman.

Louisville, Ky.—Auto Parcel Delivery Co., The, under Kentucky laws, with \$8,000 capital. Corporators—A. O. Lewis, Smith Sayres, Charles New and Hubert Levy.

New Haven, Conn.—Belmont Motor Car Co., under New York laws, with \$100,000 capital. Corporators—Dr. C. B. Tiley, William J. Smith and Frank B. Frisbie, all of Hartford.

Chicago, Ill.—Chicago E-M-F. Co., under Michigan laws, with \$20,000 capital; to manufacture and deal in automobiles and accessories. Corporators—Fred A. Kerry, C. S. McDonald and William J. Zeb.

New York, N. Y.—Riverview Garage, under New York laws, with \$20,000 capital. Corporators—Joseph Convan, William A. Sanders, Hugh E. Weston, all of New York, and George Maier, Jamaica, L. I.

Middletown, N. Y.—Hotel Brown Garage Co., under New York laws, with \$10,000 capital. Corporators—Milton E. Slawson, William H. Goldsmith, Theodore A. Weller, and Bradley Post, all of Middletown.

New York City, N. Y.—Hofacker Mfg. & Supply Co., under New York laws, with \$30,000 capital; to deal in motors, engines, automobile supplies, etc. Corporators—G. Hofacker, L. Huethwohl and C. Huethwohl.

## FRENCH MAKERS' FALLING PROFITS

### Financial Reports Show Their Greatly Reduced Earning Capacities—Overproduction Worse Than Panic.

The season of 1907-8 was recognized in Europe as an especially bad one. America was undergoing financial trouble and it required but a short time for this to reflect itself in Europe. Motor car manufacturers abroad were among the first to suffer. But recent reports have been optimistic in the extreme, and it was supposed, on this side, until the latest financial reports began to make their appearance that the industry in Europe was not in just the condition most desired by the men in it. The Financial Times reports how that in the amount of net profits the seven companies showed a loss of \$291,000 for the season of 1908-9 over the season of 1907-8. In the amount carried forward the season of 1907-8 shows an excess over 1908-9 of \$67,415. The story of the dividends is also an interesting one and should tend to show that the stories of vast profits in the motor car industry are not very well founded. In 1907-8 the seven companies paid an average of 7.5 per cent. to the stockholders, but that overproduction served as even a greater blight than money stringency the dividends for 1908-9, when these same companies paid an average of only 4.28 per cent., show in a conclusive manner.

	Net Profit.		Ordinary Div.		Carried Forward.	
	1908-9	1907-8	1908-9	1907-8	1908-9	1907-8
Belsize .....	\$64,505	\$2,910*	6	nil	\$35,890	\$22,310
Charron .....	31,040†	355,505	nil	9**	100,880	210,005
Daimler .....	113,490	239,105†	nil	nil	91,665	.....
Darracq .....	491,790	801,705	7½	20	120,765	171,690
De Dion-Bouton ...	40,255	108,640‡	4	7	11,640	21,340
Delahaye & Co.....	89,725*	104,760†	6½	6½	12,125	17,945
Rossleigh .....	14,065	7,275	6	10	26,190	23,280
	\$844,870	\$1,135,870°	Av. 4.28%	Av. 7.5%	\$399,155	\$466,570

\* Loss on 18 months business. † Before deducting depreciation. \*\* On preferred ordinary. ‡ Loss. \$35,405 withdrawn from general reserve account to cover debit balance. § For 18 months. ° To December 31st, 1908. h To December 31st, 1907. ° Total after deducting loss of \$242,015 by two companies.

The fact that some companies have been able to conduct their business with profit is commented on by The Financial Times as follows:

"As usual, the experiences of the different companies have been varied, for in the motor trade so much depends upon the temporary popularity of one particular type of car that even in the worst seasons a concern which happens to produce something which hits the public fancy may be able to give a good account of itself." Explaining the situation in another line, it says:

"Another factor, and one which has to be taken into account in estimating the future possibilities of the trade, is the slackening off in the demand for public utility and trade vehicles, such as motor 'busses, motor cabs and motor wagons and lorries. Although the horse is steadily being superseded by

the motor, the pace at which the alteration is being carried out is not quite so fast now as it was, and after the first demands were satisfied there came the inevitable reduction in the number of fresh orders, while profits had been reduced owing to the greatly increased competition. It is not surprising, therefore, that the majority of the companies with which we are able to deal today exhibit declines in their net earnings even against the poor figures of 1907-8 and perhaps the most surprising thing is that three of the seven have managed to improve their condition."

American manufacturers have been free in past years to admit their indebtedness to Europe for its share in the development of the motor car. Matters of design, however, are not the only ones from which they might draw lessons. In Europe the shares of a number of companies are listed on exchanges and by reason of that fact their annual reports are made public. Reports from several companies whose stock is listed show in a clear cut and most conclusive way what over production has done across the Atlantic.

By way of explanation it should be said that the Pierce-Arrow Motor Car Company, of Buffalo, has as one of its business principles the keeping in close touch at all times with all its dealers. This includes sending them information of various kinds bearing on its cars, the status of the industry and other matters that would be to their interest to know. In line with this policy it has just sent to its dealers a resume of the

financial reports of seven European companies as given in The Financial Times of London.

#### Mitchell to Exhibit at Brussels Show.

La Touraine carried as part of her cargo when she last sailed from New York, the express consignment of the Mitchell Motor Car Company, of Racine, Wis., for the automobile show at Brussels. The Wisconsin company will there exhibit one polished chassis, a five passenger car fully equipped, and one seven passenger machine and a roadster.

#### Robertson Hangs Out His Shingle.

George Robertson, the race driver, has entered the selling side of the business. He has taken the New York agency for the Parry, made in Indianapolis.

## IN THE RETAIL WORLD.

William Watkins has opened a garage in Medford, Okla.

Boyd & Vangilden are preparing to open a garage in Beatrice, Neb.

E. A. Perkins, Waterbury, Conn., is building a new garage. It is located in Prospect street.

C. W. Pearson, Vineland, N. J., is having built a garage. It will be situated on Landis avenue, near Eighth street.

The Selden Motor Car Sales Co. has been formed in Kansas City, Mo., to handle the Selden car; it has located at 913 East Fifteenth street.

The Memphis (Tenn.) Automobile Co., is to have a new home erected at the corner of Fourth and Monroe avenues. Its dimensions will be 150x75 feet.

The Boise Automobile Co., of Boise, Idaho, has had plans drawn for a new garage. It will be erected at the corner of Eleventh and Grove streets.

C. P. Grimes, Nenacook, N. H., has let the contract for the construction of a new garage on South Main street. The building will be of wood, two stories high.

The Craig Auto Co., of Detroit, Mich., which has the agency for the new Abbott car, has opened a salesroom. The location is Jefferson avenue and Beaubier street.

Keck, Gonnerman & Co., Evansville, Ind., have taken possession of their new garage on Pearl street. It is a two story building, 30x80 feet, with a power plant on the second floor.

C. W. Cain, Columbus, O., has leased quarters in the new building at Fourth and Spring streets, where he will open an up-to-date garage. He will represent the American car.

The W. & R. Motor Truck Co., Taunton, Mass., has leased the garage which is being erected on Washington street by the Old Colony Investment Trust. The structure is 40x100 feet.

The F. A. Ballou Co., Buffalo, N. Y., one of the old established motor boat and marine engine dealers in the Bison City, have "taken on" automobiles. They are representing the Selden car.

The Irvin Automobile Co., Jefferson, Pa., has taken possession of its fine new garage situated in the rear of the First National Bank building. The establishment is the most pretentious in the town.

The Collings Carriage Co., which for 83 years has been engaged in the vehicle business in Philadelphia, has entered the automobile trade. It will handle the Rainier car at 1719 Chestnut street.

The Seattle, Wash., automobile colony has received still another acquisition. The new concern will handle the Overland, Marion, Thomas Flyer and Waverley electric. H. C. Fenn will be general manager.

The Binghamton (N. Y.) Motor Car Co., has let the contract for the construction of

a new garage at 195-199 State street, opposite its present location. The structure will be built of pressed brick and will cost \$20,000.

Dayton View, which is a suburb of Dayton, O., now possesses a garage of which Florence Lamp is the proprietor. It is situated on Grafton avenue, between Neal and Summers streets, and a frame one story structure.

The Electric Garage Co., Minneapolis, Minn., have had plans drawn for the erection of a garage on Hennepin avenue at Fifteenth street. It will be a brick structure, 125x37 feet, two stories and basement and will cost \$12,000.

George H. Jewett, a carriage manufacturer of Worcester, Mass., is having built a garage and carriage factory combined, in Shrewsbury boulevard. The building will be of fireproof construction, 115x55 feet, three stories, and will cost \$30,000.

Ditmars, Kerr & Co., West Liberty, Ia., a large mercantile firm of that place, are going after the automobile business of the town in earnest and are erecting a large garage. It will be constructed of veneered brick, with dimensions 40x64 feet.

Savage & Son, Rockford, Ill., who operates a large general machine shop are building a garage adjacent to their plant, which will be opened in the spring by Fred Savage as a garage. It will be equipped with modern and complete facilities for repair work.

Des Moines, Iowa, has a new automobile firm in the Herring Motor Car Co., which has "opened up" at 912-14 Locust street. C. L. Herring and B. W. Scott comprise the firm, which will act as Iowa distributors of the Ford. Both of them are old automobile men.

William F. Wagner, Massillon, O., whose garage was destroyed by fire in October last, will rebuild. His new establishment will be 50x108, built of pressed brick and will be located at the corner of North Erie and North streets. It will be ready for occupancy in the spring.

Moser & Lampe, Altoona, Pa., who are making ready to embark in the automobile business in that town, have let the contract for the construction of a garage at 1722-24 Eleventh avenue. The building will cost \$3,500, and is expected to be ready for occupancy by February 1.

Smith & Hubbell, Springfield, Mass., have completed the work of transforming the former Swedish church on Union street into a garage, and are installed in the remodeled structure. The building now consists of two stories and basement with a fully-equipped repair shop.

L. C. Smith, of Armstrong & Smith, Cheyenne, Wyo., has purchased the holdings of T. C. Armstrong, who retires from the firm, and admitted H. Blacock to partnership. The enterprise, which is located at 1708 Central avenue, will continue to be oper-

ated as the Cheyenne Auto and Supply Co.

W. E. Stalnaker has become president and general manager of the Premier Motor Car Co. of Illinois, with headquarters at 2329-31 Michigan avenue, Chicago, succeeding Webb Jay, who severs all connection with the company. The latter, however, will continue to serve the Premier in the capacity of factory traveling representative.

The new building in Chicago of Tennant Motor, Ltd., at the southwest corner of Michigan avenue and Twenty-fifth street, is expected to be completed by March 1. It will be in the French renaissance style of architecture, four stories high and built of gray terra cotta relieved with green. The estimated cost is \$200,000.

The Northwestern Stearns Co., incorporated to handle the Stearns cars in the northwest, has taken salesrooms at 1202 Hennepin avenue, Minneapolis, Minn. The company will have a branch office in Duluth and its agents will cover Minnesota, Wisconsin, Montana and North and South Dakota. A. G. Fitzgerald is manager of the company.

Seattle, Wash., has another new automobile concern which styles itself the F. A. Bardshar Automobile Co. They will handle the Stevens-Duryea in Western Washington and soon will let the contract for the building of a large garage. The senior member of the firm, F. A. Bardshar, formerly handled the Stevens-Duryea in California, while his partner, Thomas G. Young, comes from the Olympic Car Co., a local establishment.

Theodore Winningham, Kansas City, Mo., has filed suit in the Superior court against John T. Neil, superintendent of buildings to compel the latter to issue a permit for the erection of a garage on South Main street. Winningham claims that he has complied with all the provisions of the ordinances recently passed governing the erection of garages, and that though the building inspector granted him a permit, Superintendent Neil is holding it up.

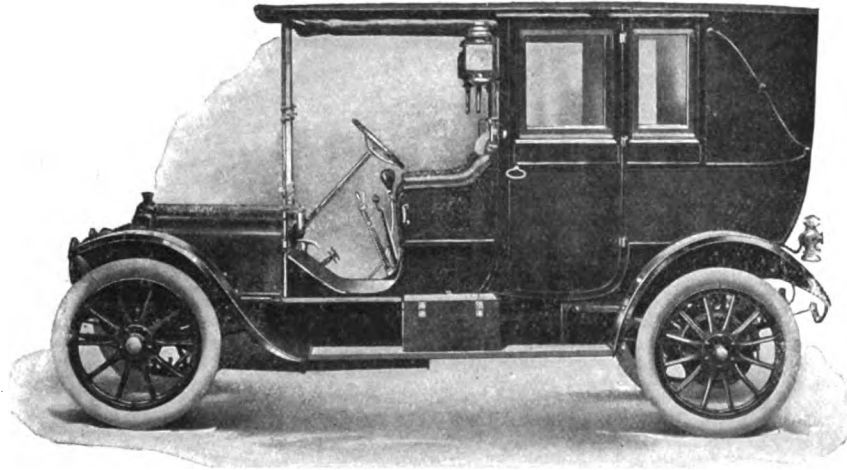
New Bedford, Mass., will have better garage facilities when several establishments which are in process of construction are completed. Thomas S. Hathaway has moved an old building to a new location on the south side of Hawthorn street and is transforming it into a garage. Wayland L. Sturtevant is having built a garage of cement blocks on Hickory street, and Charles R. Hunt also is awaiting the completion of a new garage on Elm street.

Having secured the state agency for the Everitt, the Security Automobile Co., Detroit, Mich., has closed a deal for the erection of a mammoth garage on Woodward avenue near Warren street. Pending the completion of the structure, which will be 60x250, and is expected to be ready by February 15, the concern will have temporary quarters at 872 Woodward avenue. John A. Sibley and W. J. Sasterton, who constitute the firm, are well known in the trade.

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### Courts, Not Law, at Fault.

It scarcely required the recommendation contained in the Governor's message to the legislature, to promote tinkering with the New York automobile law. That has become a legislative pastime that recurs each year, and though heretofore it has served merely to waste time and breath, that this year's effort to turn the law inside out and evolve a new one will be more serious than ever, there is no doubt. The desire to extract more money from the motorist's purse is strong, as is the notion that suspending or revoking a citizen's right to use the common highway is a cure for all evils.

Despite the fact that double taxation in whatever guise is wrongful in letter and in spirit, and that converting an inalienable right into a revokable privilege is opposed to the principle of equal and exact justice and also in spite of the fact that experience in other states has demonstrated that as cure-alls these alleged remedies are of small effect, it will cause no surprise if the pres-

sure brought to bear does not result in enacting such provisions into the laws of New York. Hysterical newspapers, professional crusaders and reformers, and some shallow-thinking motorists, and some others who like to see their names in print, both have lifted their voices in praise or in demand of such exactions. It therefore will require but a tragic happening carrying big headlines properly to impress the legislature at the psychological moment.

Leavening the mass of flubdub that the subject has created, the views expressed by Mr. H. H. Franklin, the Syracuse automobile manufacturer, stand out like a searchlight of truth. In effect, Mr. Franklin maintains that the only thing the matter with the present law is the lack of enforcement, which is an opinion that reaches to the very heart of the situation.

"Is the law too lenient as regards penalties for violating speed provisions?" he asks in discussing it, and answers: "Clearly not. If it were too lenient we would expect to find justices of the peace and courts of special sessions giving convicted violators of the motor vehicle law the full penalties prescribed. On the other hand, it is doubtful if a case can be found in the State of New York where the punishment of the convicted offender has been as severe as the law would allow. If the speed provisions and the penalties for their violations are as severe as they should be, clearly there is nothing further that the public needs for its protection except the enforcement of the law. Enforcing the law will stop speeding and stop accidents more than all the amendments to the existing law and more than any new law that the next legislature can enact."

Every thinking man who is not subject to hysteria or to the spell of expediency must know that Mr. Franklin is right. The present New York law is as fair a one as ever will be obtained until motorists, as such, actively "go into politics;" its preservation and its enforcement are worth fighting for. Its penalties are ample to meet all needs. For no other law that ever may be enacted will serve better purposes, as there is no reason to believe that it will meet with better enforcement.

While lack of enforcement usually suggests laxity, or worse, on the part of the police, and undoubtedly such laxity enters into present conditions, Mr. Franklin might have added to the service he rendered had he pointed out the manner in which the courts themselves are responsible for such states of affairs as make the law appear in-

adequate and give rise to periodical outbursts of public hysteria. For the ultimate blame does rest on the courts. They are too greatly susceptible to that personal influence which is brought to bear whenever the law is offended, and which is the undoing of so very many wise measures. Tempering justice with mercy is a fine quality, but the suspended sentence and the farcical imprisonment of chronic offenders, who are able to bring influence to their aid, constitute the seat of all the trouble.

If Governor Hughes or any reformer or crusader sincerely desires to better conditions, he should examine the court records. He will find "influence" written all over them and will discover, also, what Mr. Franklin remarked, i. e., that no effort, or small effort, has been made to administer those corrective penalties for which the existing law provides. The courts, not the legislature, is the source from which real relief must come; the batteries should be turned in that direction.

### Development of the Catalog.

Not the least of many remarkable developments in the automobile industry is the development of catalogs devoted to the better class of cars. To style them "editions de luxe" is but mildly to convey an idea of their appearance and their quality. Not a few of them are positively regal in their richness of their design, texture and coloring. For industrial purposes it does not seem possible that the arts of the painter, the engraver, the printer and the paper maker can attain to much greater heights; those arts appear well nigh exhausted. While the person who has seen one, or two, or three of these catalogs may be able to form conception of the others, it is only when a collection of a dozen or more are viewed that the real extent and lavishness of the effort properly is appreciated. Few libraries hold more superb creations or more exquisite variety. The catalogs of themselves represent a princely fortune.

### About the Reputation of Cars.

Fostering the social career of their cars with all the vigilance and foresight of a Newport mother with a handsome daughter, there are several makers who intend that their products shall not become the property of the unwashed, and who are perfectly willing to leave it to others to supply cars for the masses, in the figurative sense, while they themselves diplomatically devote strict attention to the classes. To the un-

initiated a revelation of what rigid policies and farseeing psychology govern the sales methods of some of the most prominent manufacturers, in relation to discriminating as to the retail customers their dealers may take, is calculated to throw an entirely new light on a phase of the automobile business which in many respects is remarkable.

That there are distinctly fashionable prejudices for certain makes of car as against others of the same price and capacity is more or less generally recognized, but these prejudices or favoritisms are felt most keenly by the competing dealers and manufacturers who find it impossible to oppose them. In the same connection, there is a negative phenomenon which is hardly observable until one's attention is called to it. It lies in the fact that certain well known cars rarely are found in the control or possession of stage people, liquor dealers or conspicuous "high fliers," and also they are not the cars bought by persons of unpleasant or doubtful reputation, although these same persons may have both the inclination and money for the purchase of the particular cars in question. Similarly these cars are not pictured in newspapers and magazines with "Dotty Dimples" and her gay companions at the wheel or in the tonneau.

Patching all the individual evidences together, it still is difficult to grasp the thoroughness and cool calculation that underlies the building of a social reputation for a car, unless the general scheme be known. Each individual machine is chaperoned with the utmost strictness until a purchaser of suitable social position is found for it, the dealers and branches being controlled rigidly by the factory, whose instructions in this regard they dare not violate. The "high society" and fashionable atmosphere is created and stimulated by all the arts that can be summoned for the purpose. Magnificent salesrooms with decorative effects that are rich, but repressed from gaudiness; salesmen whose masculine pulchritude and aristocratic connections make them cotillion leaders as well; pictures representing the car in scenes heavy with the life, avocations and pastimes of the elect—these and many other "properties" are used with a view to establishing the car as an accessory to fashionable social existence, and to placing it in the accepted list.

Very little blatant "reason why" campaigning on the mechanical side is done. This is not at all due to any reason for silence on that score that exists in the

## COMING EVENTS

January 8-15, New York City—Association of Licensed Automobile Manufacturers' tenth annual show in Madison Square Garden.

January 13, New York City—Second show meeting of the Society of Automobile Engineers at the Engineering Society's building, 25 West Thirty-ninth street. Dinner in the evening.

January 15-29, Philadelphia, Pa.—Automobile Trade Association's ninth annual show in Second Regiment armory.

January 17-22, Kansas City, Mo.—Motor Car Trade Association's show in Convention Hall.

January 24-29, Portland, Ore.—Portland Automobile Club and Dealers Association's show in Armory.

January 24-30, Washington, D. C.—Washington Automobile Dealers Association's fourth annual show in Convention Hall.

January 28-February 5, Edinburgh, Scotland—Scottish Motor Trade Association's annual show in Waverly Market.

January 29-February 5, Grand Forks, N. D.—Northwestern Implement Dealers' first annual automobile show.

February 4-6, New Orleans, La.—New Orleans Automobile Club's annual Mardi Gras speed carnival.

February 5-12, Chicago, Ill.—National Association of Automobile Manufacturers' ninth annual show in Coliseum.

February 14-19, Buffalo, N. Y.—Automobile Club of Buffalo's eighth annual show in Convention Hall.

February 14-19, Hartford, Conn.—Hartford Automobile Dealers Association's third annual show in Foot Guard Armory.

February 14-19, St. Louis, Mo.—St. Louis Automobile Dealers Association's annual show in First Regiment Armory.

February 19-26, Minneapolis, Minn.—Minneapolis Automobile Show Association's exhibition in National Guard Armory.

February 19-26, Newark, N. J.—Associated Automobile Clubs of New Jersey's show in Essex Armory.

February 19-26, Salt Lake City, Utah—Automobile show in Auditorium.

February 21-26, Binghamton, N. Y.—Automobile show in State Armory.

February 21-26, Cincinnati, O.—Automobile Club of Cincinnati's annual show in Music Hall.

February 21-27, Cleveland, O.—Cleveland Automobile Dealers Association's annual show in Central Armory.

February 22-27, Milwaukee, Wis.—Milwaukee Automobile Club's second annual show in Auditorium.

February 24-March 3, Toronto, Can.—Ontario Motor League's show in St. Lawrence Arena.

February 28-March 4, Omaha, Neb.—Omaha and Council Bluffs Automobile Dealers' show.

February 28-March 5, Kansas City, Mo.—Kansas City Automobile Dealers Association's fourth annual show in Convention Hall.

March 5-12, Boston, Mass.—Boston Automobile Dealers Association's eighth annual show in Mechanics Building.

March 12-19, Syracuse, N. Y.—Syracuse Automobile Dealers Association's annual show in State Armory.

March 21-28, Denver, Col.—Denver Motor Club's annual show, in Convention Hall.

March 26-April 2, Montreal, Can.—Fourth National Automobile and Sportsmen's show.

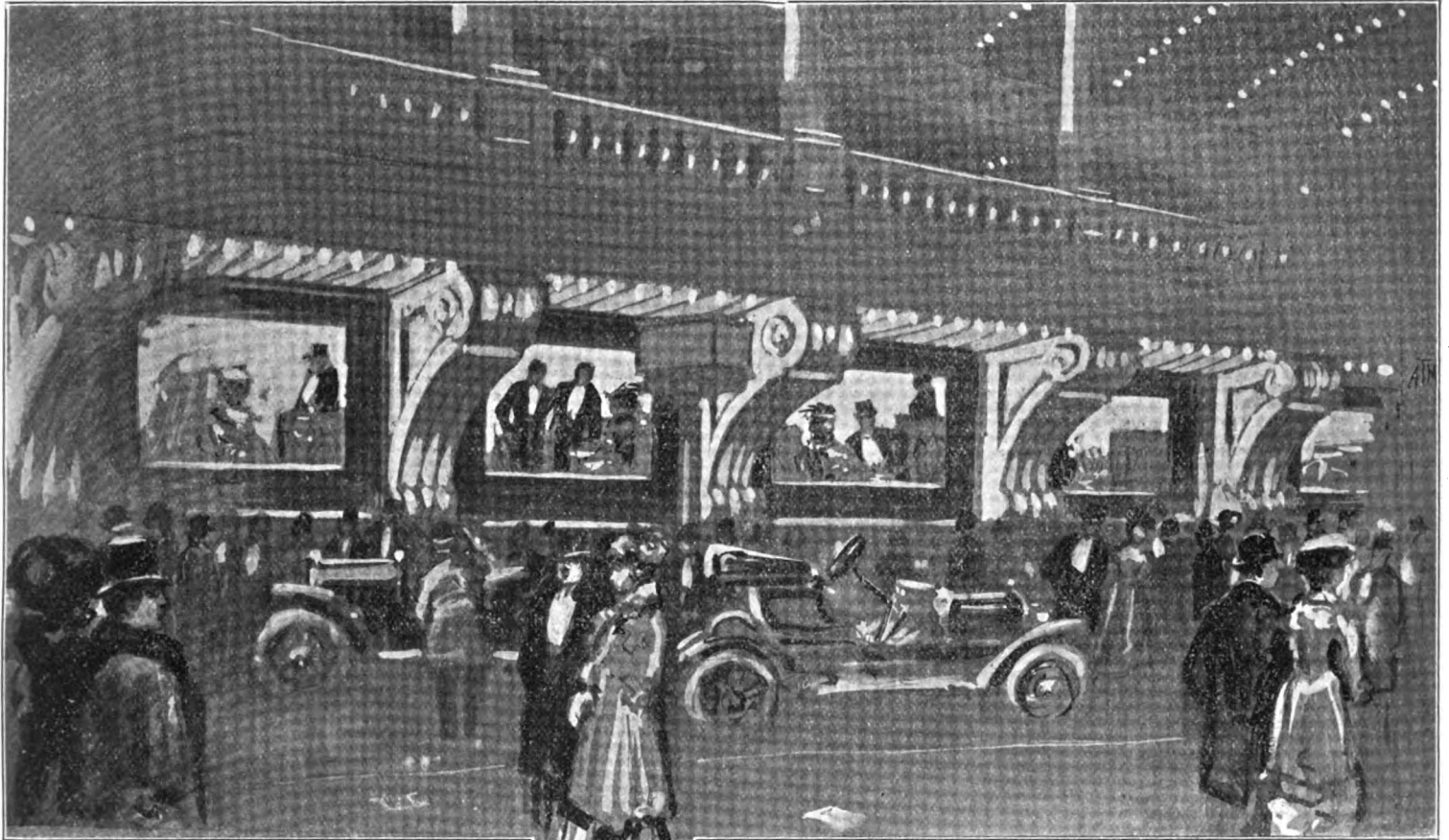
mechanism, because the latter in each instance represents the manufacturer's best efforts for perfection. The "reason why," however, is apt to be a bit of a bore to the people who are being sought as customers, and perhaps would require for its digestion rather more mental effort than they are prepared to give it. It is not presented, therefore, until it is demanded. Anyway, the cars are purchased on reputation, and if they were mechanically faulty they would have no reputation socially.

So secure have some cars become in fashionable and social approval that a species of what almost amounts to snobbery and offensive "climbing" has grown up in connection with certain classes of customers, these being the sort who select this or that make with confessed disregard of whether it is better or worse mechanically than another, but because it is the kind that is

socially approved. When a car has such customers, it has "arrived."

It is evident that the design, construction and mechanism, the features of body, finish and equipment, and the matter of price do not alone or in combination wholly decide the saleability of cars to certain classes of trade. Disappointed manufacturers who cannot understand why they are ignored in favor of others where this trade is concerned must recognize that their more successful rivals have an intangible but effective advantage which has been created by foresight and unrelenting policy. The magic of reputation in this application also has a lesson for makers of "popular" cars, in suggesting that they take into account not only the obvious elements of their field of sale but consider also some of the more obscure forces which may exist, relating to public approval and esteem.

## Garden Show Superb from All Standpoints



INGENIOUS AND ARTISTIC

ARRANGEMENT OF THE PRIVATE BOXES

Of all the public exhibitions ever held in Madison Square Garden, and perhaps in any other building in New York or any other city, it is fairly safe to say that in impressive splendor none is comparable with the automobile show of the Association of Licensed Automobile Manufacturers, which has occupied that structure since Saturday evening last, 8th inst., and which will occupy it until Saturday night next. By comparison, all former decorative efforts appears to have been either much overdone or underdone; they were either too fantastic or too austere. It is a far cry to the Swiss villas and Italian gardens of other years, with their great expanses of theatrical canvas paintings and their white staff statuary; they now appear almost Coney Islandish, while the severely formal "dressing" of last season now seems so chilling that the wonder is that it ever appeared in any other light.

Technically, the decorative scheme of the

present show is that of a Roman amphitheatre, and so great and so striking is its effectiveness that few minds will disagree that, with certain obvious modifications, Madison Square Garden would be the better were the plan a permanent part of the architectural design. Neither words nor photographs can do the display full justice.

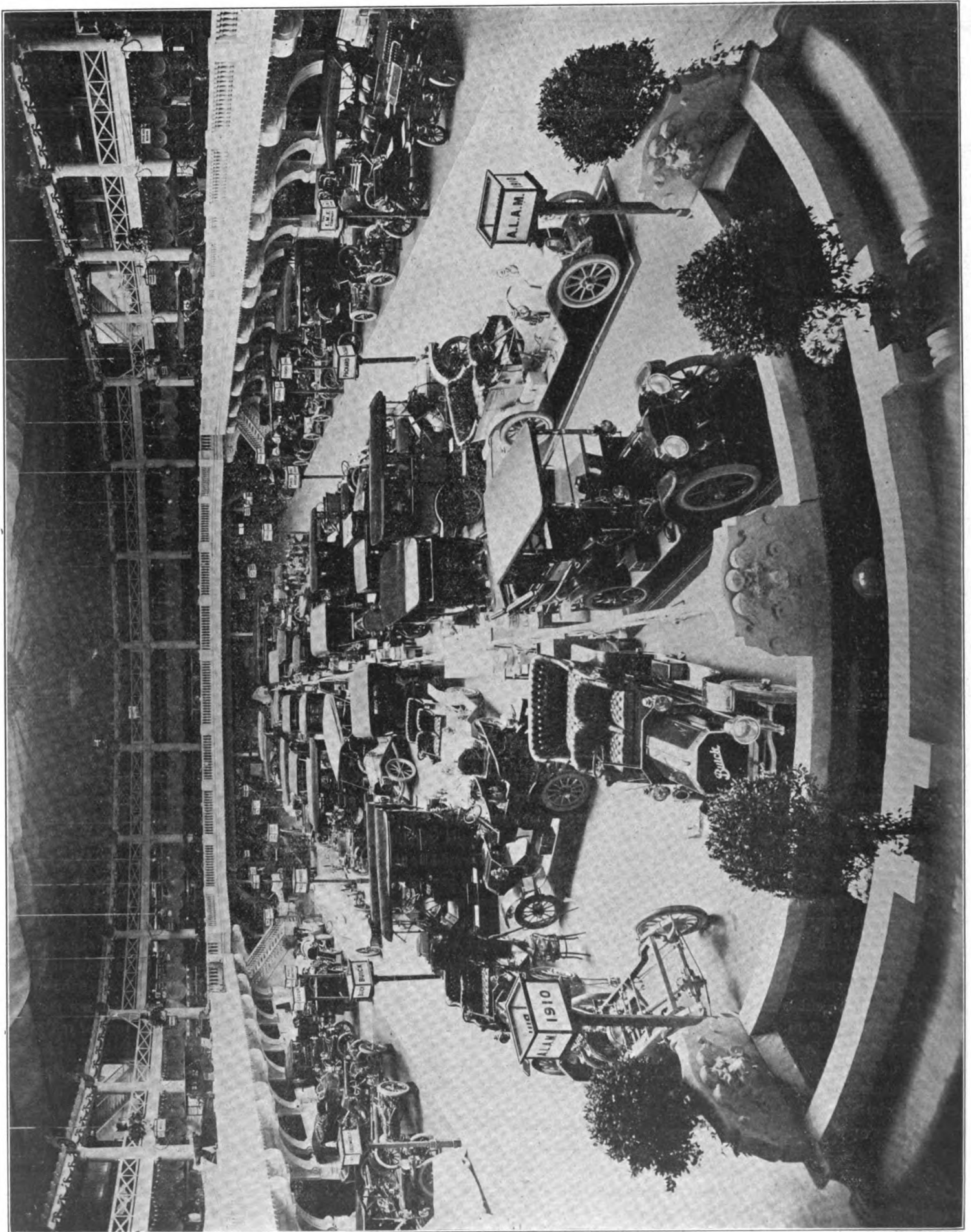
White is the dominant color in the decorative scheme; it is relieved by red and green of not too obtrusive shades and just enough of them not to mar the clean, wholesome picture. The girdered ceiling of the big building is wholly hidden by a deep blue fabric that simulates the sky when the myriads of electric lights are turned on at night.

The pure white balustrade extends all the way around the elevated platform, and huge Doric columns extend up from the aisle on the elevated platform to the top of the building, with their ends at the edge of the deep blue fabric that conceals the

ceiling. The show emblems, great artillery wheels with red spokes and surmounted by golden eagles, are used to top off the thirty columns that are placed at regular intervals around the arena. The upper balcony has a railing of Greek lattice work, painted white, and both platform and balconies are edged with electric bulbs.

The signs of the names of the cars exhibited on the main floor and elevated platform are of red letters, painted on white glass backgrounds, the glass being the windows of big lamps at the tops of tall green lampposts of ornamental design. The signs for the exhibits on the elevated platform are suspended overhead.

If the general effectiveness of the design is impressive, less cannot be said of the splendid and surprising manner in which seating accommodations have been provided for spectators who desire them. At previous shows the private boxes which surround the arena have been built over for



GENERAL VIEW OF THE MADISON SQUARE GARDEN SHOW



exhibition purposes, but this year they serve the object for which they were designed, and without sacrifice of space. The boxes are located behind the exhibits on the main floor, of which they command a good view, and are set beneath the overhang of the elevated platform. Each box is made to appear separate by a framing and drapery of rich red plush, and the effect adds immensely to the general scheme, the framing of the box seats lending to them and their occupants an appearance of elegance and exclusiveness that is not to be gainsaid. The contrasting effect is such that these same boxes as they appear at the Horse Show, when they are occupied by perfumed and bejeweled society folk, make that function and those occupying the seats seem plebeian indeed. The transformation of the boxes was but one of the several happy ideas of the designer and decorator, W. W. Knowles, and of the A. L. A. M. show committee, Col. George Pope, Charles Clifton and M. L. Downs, and if ever the automobile show becomes a semi-social function such as the Horse Show, where the upper crust goes to seat itself in order to see and be seen, the present arrangement of the boxes should play a largely contributing part in achieving that result.

The red framing of the box seats is the touch of color that relieves the surrounding white on the main floor, but the red background of the signs over the accessory exhibits on the galleries overhead are sufficient to further relieve what otherwise might be monotonous whiteness. The green in the color scheme is supplied by the carpeting and lampposts. White and red are the colors carried into all parts of the building—the galleries, the concert hall and the basement. The walls are hidden by panelings of tan above green and surmounted by white signs with red lettering.

The show was inaugurated on Saturday evening without other ceremony than the opening of the doors; and since they were opened the crowds have flocked in in increasing numbers, save on Tuesday, one of the two days on which the admission fee was doubled. The building has been thronged at all hours; during the afternoon and evenings it has been literally packed—that is, the main floor—and progress has been possible only by moving with the tide of humanity. At night, it is doubtful if more than half of the visitors have obtained more than a cursory glimpse of the cars, as the other half has congested the exhibit spaces, particularly those on which anything having "action" or anything unusual is displayed. During the morning hours the trade attendance has been large and much business has been transacted, most of it being in the nature of sales by visiting agents to visitors from their respective towns, for very many of the manufacturers long since disposed of their product to their agents. Generally speaking, the accessory exhibitors also appear to be doing well, but, as always, it is the cars that the

crowd comes to see and only a comparatively small portion of it climbs upstairs or goes down to see the small wares, or even the notable display of trophies which, arranged in glass cabinets, is located in the

#### CENSUS OF THE SHOW.

Total Exhibitors .....	310
Cars .....	43
Accessories .....	267

#### PLEASURE CARS.

##### Gasolene:

Two cylinder .....	1
Four cylinder .....	106
Six cylinder .....	31
<b>Total Gasolene Pleasure .....</b>	<b>138</b>
Electric cars .....	33
Steam cars .....	1
<b>Total Pleasure Cars .....</b>	<b>172</b>

Landulet .....	7
Touring car .....	51
Torpedo .....	10
Toy Tonneau .....	16
Limousine .....	22
Roadster .....	15
Brougham .....	7
Coupe .....	8
Runabout .....	17
Town car .....	5
Racing type .....	1
Victoria .....	10
Close Coupled .....	2
Demi Tonneau ....	1

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172

Enclosed cars ..... 49

#### CHASSIS.

Four cylinder .....	24
Six cylinder .....	9
Electric chassis .....	1
<b>Total Chassis .....</b>	<b>32</b>
Air-cooled cars .....	4
Water-cooled cars .....	166
Shaft drive .....	159
Chain Drive .....	12

#### COMMERCIAL CARS.

##### Gasolene:

Two cylinder .....	7
Four cylinder .....	10
<b>Total Gasolene .....</b>	<b>17</b>
Electric .....	5
<b>Total Commercial .....</b>	<b>22</b>
Commercial chassis .....	8
Gasolene .....	4
Electric .....	4
Air-cooled Commercial .....	3
Water-cooled Commercial .....	18
<b>Total Gasolene Vehicles .....</b>	<b>190</b>
<b>Total Electric Vehicles .....</b>	<b>43</b>
<b>Total Steam Vehicles .....</b>	<b>1</b>
<b>Total all Vehicles .....</b>	<b>234</b>

basement. But there are more "show cars" and more show features than ever before for the spectators to see. One rather hypercritical tradesman described the show as an exhibition of the body building art, which,

if not exactly right, is not altogether wrong. There is so much variety and color in bodies that, to employ the vernacular, it may be said the rainbow has nothing on the Garden show. The so-called torpedo, or gunboat, bodies are, of course, the striking novelties, and they are finished in colors that make them even more striking, the radical P-S and Winton in white and the Franklin in "battleship grey."

Of striking finishes—striking either because they "scream" or because of unusual or pleasing hues, there are a number. A Knox red torpedo and a red Apperson are two of the "screamers;" a Haynes painted in violet appears unusual; a Pope-Hartford in chocolate with upholstery to match is off the usual, but not offensively so; an Alco in French grey, with broad black and white striping, "looks sassy," while a Columbia torpedo of the rational type finished in dark cream, with gold and white striping, catches the eye because of its unobtrusive modesty and yet lack of monotony.

The polished show chassis is not nearly so numerous in evidence as in former years. The painted chassis is taking its place. The Stearns, Thomas and Royal display chassis are finished in white, the P-S, E-M-F. and White in grey and the Haynes in black. Of all efforts made to display chassis to educational advantage none has been more novel or ingenious than that of the E. R. Thomas Motor Co.; theirs is a tumbling chassis; it is suspended by rods at either end, which are supported by pedestals in which are concealed electric motors which cause the whole chassis to rotate sidewise; as it rotates, electric lights successively flash in opaque glass boxes arranged at feature points and reveal the explanation of the several features, which is lettered on the glass. The Chalmers-Detroit and the Hudson companies employ electric motors to operate cutaway engines which illustrate the action of pistons and valves; Chalmers-Detroit also demonstrates the ease of running of its crank shaft bearings by means of an electric fan, the wind from which is sufficient to cause the shaft to rotate.

One other unusual exhibit is located in the press room and near the doorway, where passers-by may see. It is a very large photograph of a man wearing a cap and an overcoat, which bears the caption, "The wizard of the motor world." The "wizard's" name is said to be Durant, who is guiding a small portion of the automobile industry into the realm of high finance, assisted by a dollar sign, a figure 6 and seven naughts. These figures apparently so greatly impressed a photographer that he is trying to sell the "wizard's" pictures for souvenirs. At one time he had the sample photograph labeled "Napoleon of the Automobile Industry," but some one apparently told him what happened to the original Napoleon and he changed the sign. "Wizard" is safer and more variegated.



VIEW SHOWING ARRANGEMENT OF EXHIBITS ON THE ELEVATED PLATFORM

## The Remarkable and Striking Display of Bodies

Unquestionably the most pretentious and utilitarian of the strictly "show cars" is the Pierce limousine-landaulet, which combines in harmonious fashion practically all the essentials of touring car, limousine, landaulet, pullman car and lady's boudoir. Externally it is as striking in appearance as all show cars should be: done in brilliant coach yellow with fine stripings, glossy black top and folding hood over the driver's seat. To add tone to the exterior, the lamp equipment, which is of special design, is of black finish, while further distinction is lent to its general appearance by the special swinging wind shield which is set back close to the steering wheel. The back carries a couple of sizeable trunks, while room for more personal impedimenta is provided on the roof. The interior is most elaborately equipped, the accessories of comfort including even a folding lavatory, much the

same in style as is used on small cruising yachts.

Upon the adjoining stand, and conspicuously presented at the very entrance to the big arena, no less than four Packard show cars are on view, which, in the aggregate outrival any other exhibit in point of gorgeousness and lavishness of composition. This is the first of many shows in which no Packard chassis is on view. Its place at former exhibits is occupied by a delicate confection in pale tints, almost too delicate to mention by name lest they fade, and which is embellished with gold plated lamp trimmings, handles and fittings, neatly tied up with silken cords. One of its neighbors is a landaulet, finished in golden bronze, very gaudy when seen at a distance, and very rich when viewed at close range; while a third is an elaborate berlin or double limousine, which is a beautiful example

of the carriage maker's art, unblushingly giddy as to coloring. The final jewel in the setting is an old "delft" creation, in limousine form, with vertical stripes covering the hood side and rear panels, in which blue and white alternate, the white bands being ornamented with the stately fleur de lis. The interior is upholstered in deep, rich blue and in white brocade, while the soberer tone, but in lighter shades, is carried out in the trimming of the upper bodywork. The lamps and other accessory equipment are enamelled in blue to match the general tone of the car.

Another striking and unusual, though less conspicuous car is the brougham fitted to the Thomas town car chassis. With its special lamp equipment, glazed extension front and clean lines, it is one of the most attractive of the new style vehicles in the show. More utilitarian in its nature, but

still of a catchy type, is the Marion town car, which is of the landaulet order, with hooded front seat.

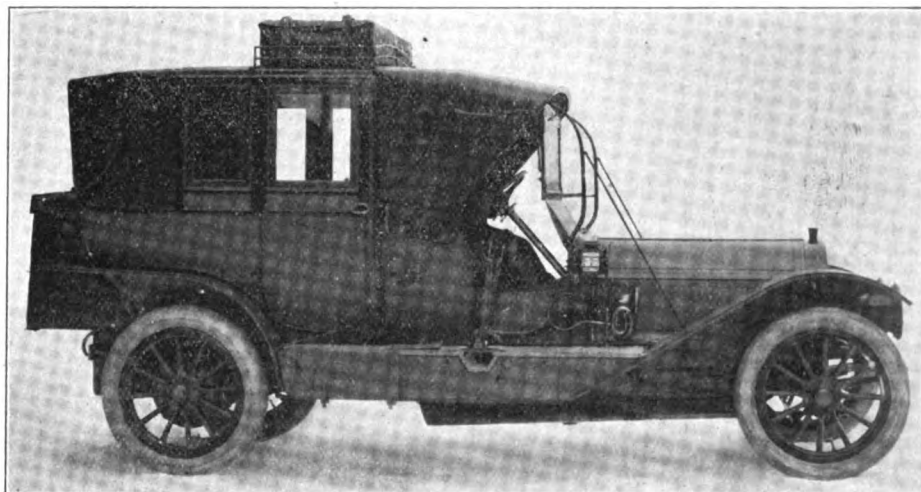
Limousines, of the more conventional order, but exhibiting original peculiarities in respect to excellence of equipment or delicacy of taste in choosing the decorative scheme, are shown on the Stevens-Duryea, Locomobile, Alco, Studebaker and Knox stands. Deserving of special mention in this connection is the Columbia limousine, which in clean finish and modest elegance of interior, reflects the long experience of its builders in the production of bodies for motor vehicle work.

But to return to the show features of the exhibition, perhaps the most radical and striking element is the array of torpedo bodies and semi, demi and semidemi approximations to that novel class. Basically, the torpedo type, whether exhibited under that or any other name, is a dust and weather-proof form of vehicle, which just now is making a vast impression on such of the American manufacturers as are ready to acknowledge themselves as of open mind. How craftily this new possibility of introducing novelty has been turned to account in the production of show models is evidenced on at least a half dozen stands, and in most conspicuous fashion.

Apparently distended with pride at its ultra unconventionality, the Winton, white and spotless in its newness, stands forth as probably the most striking presentation of this type. To say that this particular model is all puffed up, expresses but mildly the

aisle, nor on the stand. But those who are disposed to view it seriously, as a possible forerunner of a distinguished class of vehicles, are able to discern in its lines of low air resistance, ample comfort and protection for the driver and his sole companion, and an almost unlimited amount of luggage space, wherein plenty of supplies and per-

nautical parlance—falls away to a lower level which is uniform until a rise similar to that of the front, is produced by the elevation in the rear, while the middle section is of uniform height. A sturdy victoria top hoods in the rear seat, adding considerably to the novel appearance of the vehicle as a whole. Access to the



PIERCE-ARROW LIMOUSINE-LANDAULET

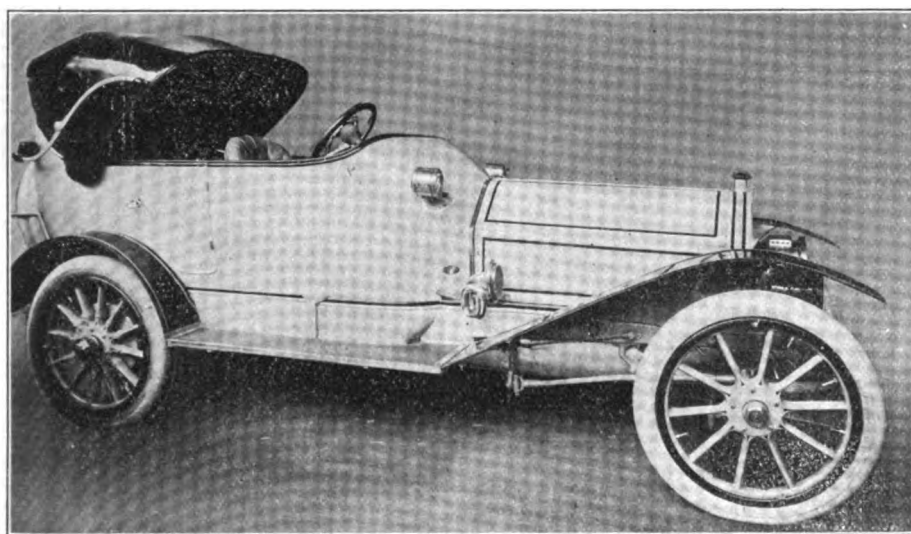
sonal baggage may be stowed in a secure and convenient manner.

Palmer & Singer, in an elevated platform space, also display both ingenuity and what may be termed "broad minded freedom from the conventional" in the design of a four-passenger torpedo which possesses many

cosey interior is gained through either of two side doors, one admitting to the front section from the left, while the rear section may be entered from the right. Another point of novelty as well must be conceded the interior, since the seat next that of the driver is swivelled, like an arm-chair, and may be made to face either forward or back. The rear of the tonneau is convexed liberally, thus providing luggage space under the rear seat, while a rack for extra tires is provided externally on the extreme rear.

In the adjoining booth, the Royal Tourist appears in somewhat mild torpedo form, with relatively low sides and a close-coupled effect which leaves a bit of flat platform exposed over the rear of the chassis. Its outstanding peculiarity is that the rear portions of both front and back seats are much alike, and that the "fat" section of the forward member is, due to the fact that a large tank is concealed within its midst. Properly carrying out the warlike suggestion of its name, this model is finished in a sort of battleship grey.

With its large tires and rather high set spring equipment, the floor of the Franklin torpedo is raised considerably above the ground, quite in contrast to other vehicles of its type. Also an original characteristic, the seat backs and stright sides are not excessively high, while further distinction is added by the shape of the sloping bonnet, which has been drawn somewhat after the Renault pattern, or perhaps more in the manner of the Darracq lines of ancient automobile history. Mounted on an adjustable stand directly in front of the steering wheel is a round wind shield, not over 8 or 9 inches in diameter, its tripod support be-

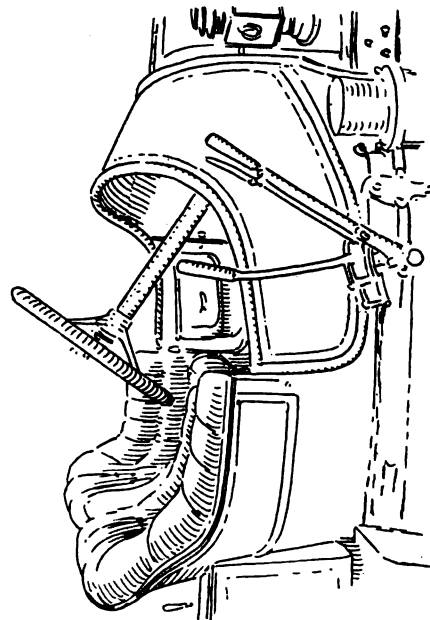
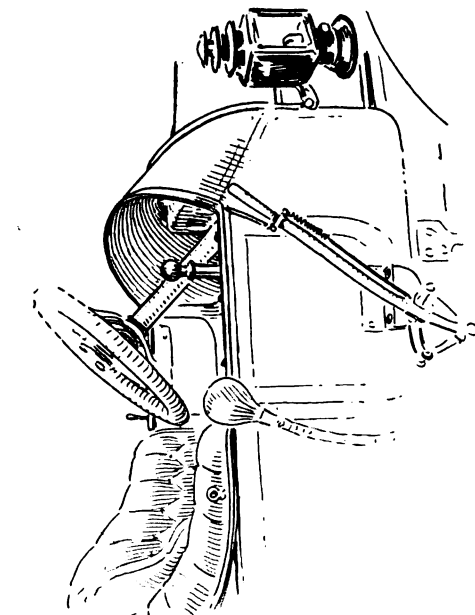
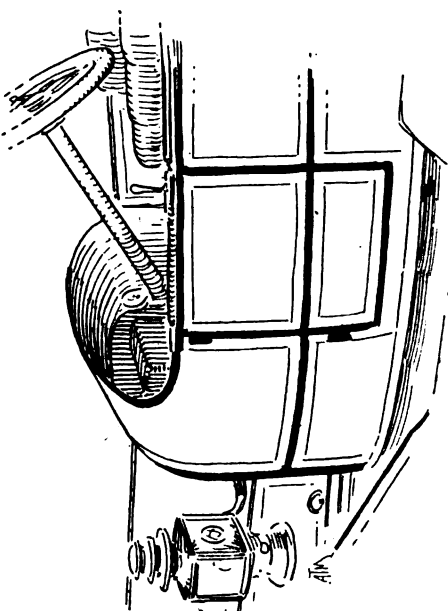
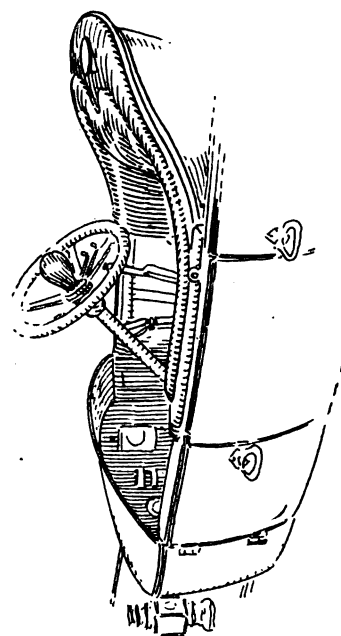
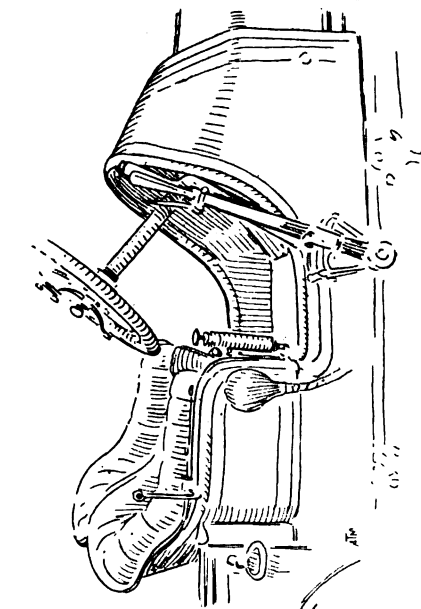
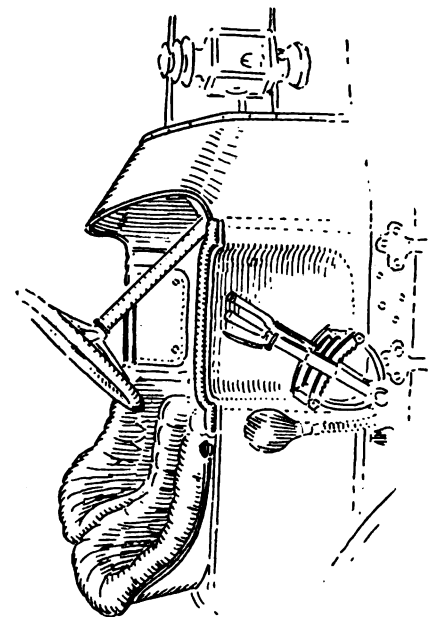
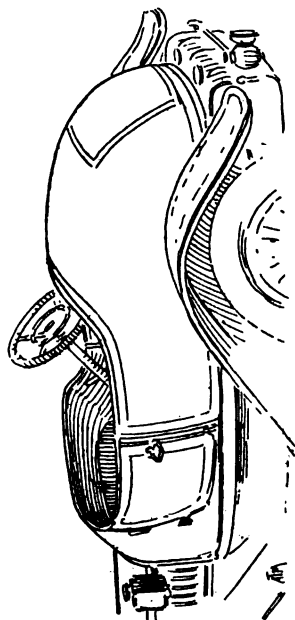


PALMER-SINGER WITH "DREADNOUGHT" BODY

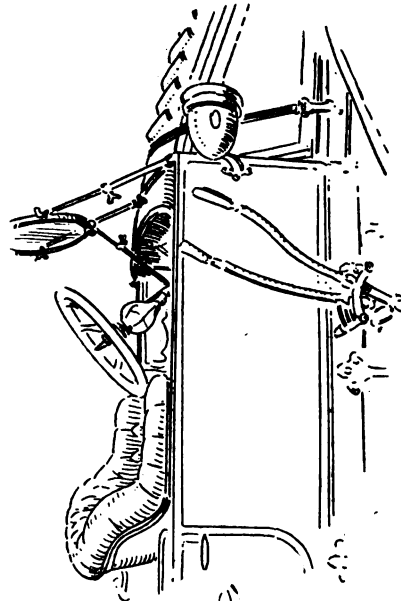
first impression which its appearance creates. It is literally bloated. The swelling begins just back of the hooded dash, where the sides are carried well up above the level of the seat, and extends to the important-looking rear portion, which in bulging convexity extends clear to the back of the long chassis. Suggestions as to its proper designation and the probable prototype from which its ample shape was derived are not lacking in the adjoining

points novel even to this apparently simple field of body construction. To begin with, the dash is brought up nearly to shoulder level in a flattened curve, which conceals from the man in the middle of the street all but the heads of the driver and his companion in front, and such part of their alleged anatomy as is popularly supposed to grow over the shoulder blades, but actually comes off with the coat in many instances. At the sides the top rail—the "gun'le" of

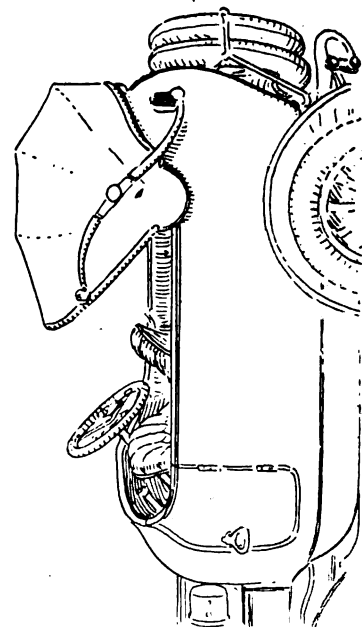
CONTRASTING TYPES SHOWING DEVELOPMENT OF SCUTTLE DASH AND TORPEDO BODY



WINTON  
ROYAL  
COLUMBIA



PALMER-SINGER  
SELDEN  
FRANKLIN



MATHESON  
KNOX  
PALMER-SINGER

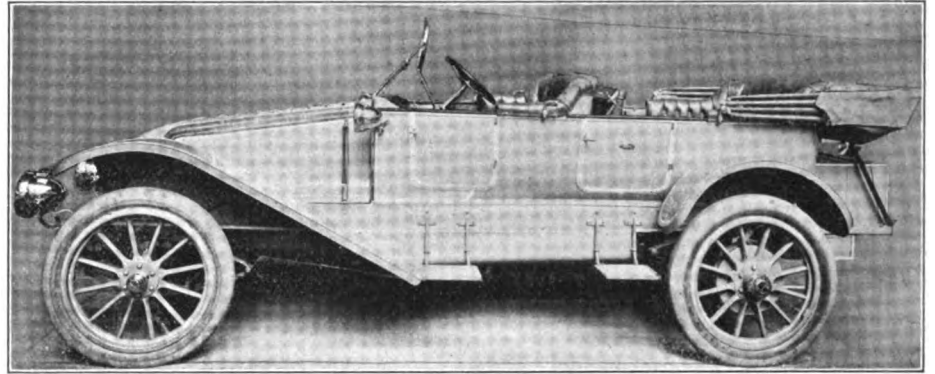


ing so contrived that the distance in front of the driver's face, as well as the height and inclination of the glass, may be regulated to individual taste. From the contents of the various compartments and cases in the tonneau to the silver plated trimmings and the bullet shaped side lamps, which are electrically lighted, all accessories are of special design and construction.

Less pronounced than either of the types so far mentioned, is the Knox body, which, nevertheless, has very high sides, a deep inclined hood over the dash, and an air of distinctiveness peculiar to itself. In the new Columbia, the top of the dash—the hood, properly speaking—is curved into general conformity to the bonnet section, and the sides are brought down in a sweeping curve below the doors which afford access to the front seat, in a way suggestive of the newest types of roadster. Here is plain evidence of evolutionary tendencies. For stripped of its doors to front and rear seats, the Columbia would match pretty closely with a number of very modern and snug-looking roadsters on the floor. With the doors, it is a very modest and clean-looking little torpedo. The same, in a general way, applies to the Selden body of the new sort, which, however, is prettily set off by crossed mouldings, which give a not unbecoming panel effect to the exterior. The torpedo design which is applied to the new White gasoline car, is even less radical in its proportions, and appears a natural and thoroughly rational transition from the true roadster to the enclosed torpedo type.

In turn, a rational and natural development from the convex dash of former years, the hooded or skuttle dash is a prominent

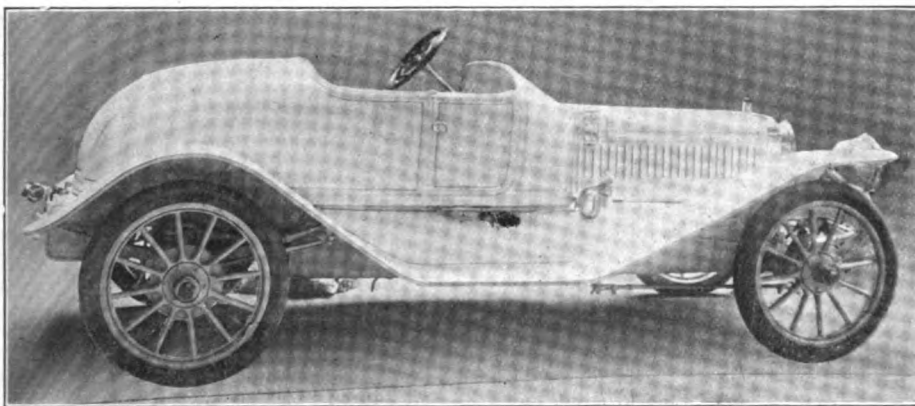
be declining in numbers, that is to say, judging solely on the basis of vehicles of the sort displayed at the Garden. There are, to be sure, the Palmer & Singer torpedo runabout, with its modern lines and snug interior, the unrivaled Winton creation aforementioned, the Franklin, with its high sides and enclosing top, and a number of others. But it is evident that the more conventional manufacturers have embraced



FRANKLIN TOURING CAR WITH TORPEDO BODY

the idea of interchangeability in body construction as well as in the more mechanical features, and have begun to treat the runabout, with or without the additional rumble, merely as natural phases of what may be termed the general utility type. It is not so very long since nearly every manufacturer staged the rumble runabout in one form or another. Now it is the custom to show preferably the four passenger roadster or the small detachable tonneau, and to trust to the experience of the visitor in such matters, and to the catalogue, for the

more nor less than a form of tame racing car. riation of the same idea though with a single rumble seat behind, which is mounted on a trunk, while the vehicle is fitted with full touring equipment in the shape of top, wind shield and other accessories. The speed car, regardless of size, it may be mentioned, is to be distinguished by the mounting of round or oval tanks back of the principal seat, as in the full fledged racing cars. Indeed, generally, it is nothing



WINTON ROADSTER WITH GUNBOAT BODY

feature of many roadster and runabout designs. It is found on the Locomobile, Haynes, Pope-Hartford, Chalmers-Detroit, Mercer, Overland, and, in a very conservative form on the Studebaker tourabout model. Its purpose is the worthy one of protecting the all-weather operator from physical discomfort while driving in wet and breezy weather, and also of protecting the few fittings which are left on the dash, from dampness and breakage.

As a distinct and separate entity, it may be observed that the runabout appears to

information that accommodation for two, three or four passengers, may be had merely by slight manipulation and a minor interchange of body sections in the back of the car.

The conventional two-passenger runabout, of course, survives, and it is ably defended in several quarters, though not to the same extent as formerly. There are, as examples, the Apperson, Marion, and Flanders, large, medium and small types of speed cars, respectively, while intermediate between them is the new Haynes, which is shown a va-

more nor less than a form of tame racing car.

Of the roadster class, meaning the new class of vehicle which has detachable rear seats, but which is exhibited in four passenger form, conventional examples are placed on the Overland stand among others, while instances in which more elaborate effects have been produced are found on the Matheson, Locomobile and Pope-Hartford stands, some cars of this class indeed, betraying absolutely no traces of such interchangeability as actually may exist. The white Pope-Hartford, in particular, is a neat and striking vehicle, with individual seats of similar form in front and rear, and possessing a sturdy outline which has both strength and beauty about it. The Studebaker tourabout is another of the same class, while the so-called suburban pattern, originally introduced on the Studebaker cars, now is carried out in neat and pleasing form on the new Flanders car, which, in its bonnet lines as well, reveals a touch of Studebaker influence.

The type of body in question is very like the surrey of carriage lore. As a matter of fact by some makers, roadster and surrey are held to be practically interchangeable. All agree, however, that by placing a door on either side behind, a small tonneau is created, though it sometimes is known by other and more fanciful names. This class also is much in evidence, and grades smoothly in point of evolution up to the five passenger touring car as exhibited in the Locomobile, Chalmers-Detroit, Haynes and other standard products. A particularly effective example of it is shown in the new Stearns 15-30 touring body, which is low, extraordinarily wide of rear seat, and somewhat suggestive of the phaeton, or even the cabriolet, if the side doors be overlooked for the moment.

With all the modern phases of body design, however, the truly standard touring car, whether designed for five or seven passengers, remains the mainstay of production, almost without exception, and really the characteristic stock type. Exhibiting more decided leanings toward straight line effects, but improved in many instances by the adoption of the cut-under rear seat form, whereby extra width is gained, effective and thoroughly standard types are shown among the exhibits of the Thomas, Matheson, Elmore, Autocar, Lozier, Winton and other makers.

Fittings and finishes, naturally continue to improve with the growing experience of the respective body building departments, many of which, contrary to former practice, now are incorporated directly into factory organizations. Much of the improvement in this direction naturally may be traced to the efforts of the accessory makers. In not a few instances, however, specialized fittings have been installed.

The most noteworthy example of this tendency is to be seen in the new and exclusive lamp designs, which a number of the makers have adopted this year. The selection of the more prominent accessories with a view to harmony with the general appearance of the car as a whole, is an important point, which has been overlooked by many builders in the past, but which promises not to be overlooked in the future. Among the cars in which are displayed either exclusive or striking lamp fittings, are the Corbin, Overland, Thomas, Matheson, Pope-Hartford, Packard and Alco. The Pierce-Arrow, Studebaker and Franklin, in particular, show electric as well as gas and oil lamps.

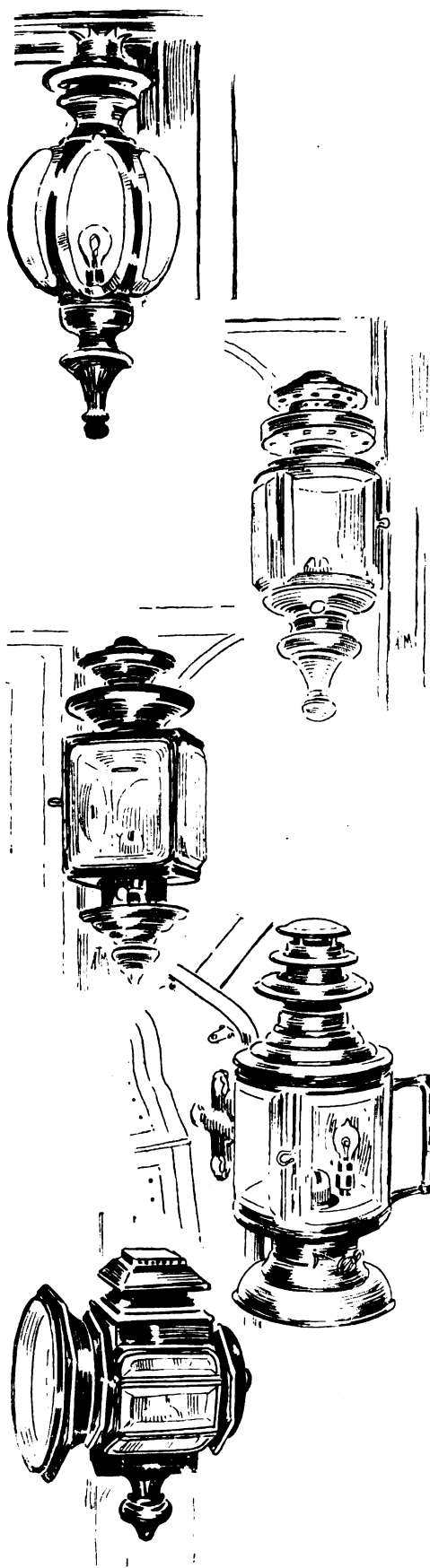
#### THE NEW CARS IN EVIDENCE.

New cars, such as the conventional show-goer lusts after and literally devours in his eagerness to catch at novel structural details, by no means are an overwhelming quantity at the Garden. Indeed, counting the new models produced by exhibitors of long standing, and the new models exhibited by companies which have gained admittance to the licensed fold since the last show, there are barely a dozen cars which can be called really new.

Unquestionably the most eagerly awaited of these newcomers, partly because of its joint origin with the noted E-M-F. car, which was first exhibited at last year's show, partly because of the remarkably low price at which it is made to sell, is the Flanders "20." Revealing at every point the refining hand of the experienced production engineer, and exhibiting the expected traces of economy in manufacture as well, it is, nevertheless, a most promising appearing little car. Its outward form, which is thoroughly in good taste, already has been mentioned. The chassis is no less pleasing.

Its block cast motor is of the conventional, vertical pattern, with the accessories

#### EXCLUSIVE LAMP DESIGNS



THOMAS                      POPE-HARTFORD  
STEVENS-DURYEA        STUDEBAKER  
PIERCE-ARROW

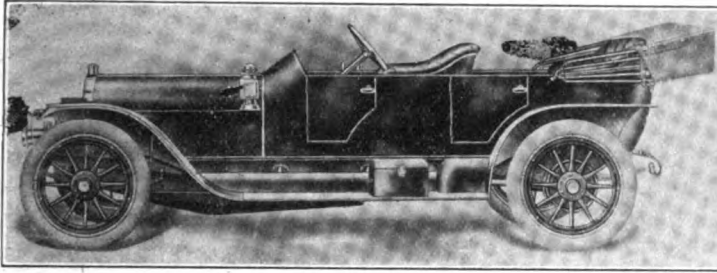
and valves on the left side, this arrangement providing ample room on the right for the large gravity oil tank and for the steering gear, which is bolted to the sub frame and motor at its forward support. The axle mounted form of change gear is used, as on the parent E-M-F. car; but only two forward speeds are deemed necessary, and they are actuated progressively by a lever mounted inside the frame and held by a stiff spring against a ratchet segment. The emergency brake lever, which is mounted coaxially with it also is held by a cross spring against a ratchet plate. The inverted cone type of clutch is employed, while by a most ingenious arrangement, a finger attached to the clutch yoke mechanism applies the service brakes, when the clutch pedal is fully depressed. The torsion tube, which houses the propeller shaft, is suspended in front, by a large sized ball and socket joint, which is carried by a cross frame member located just back of the clutch, and therefore well up in the waist of the car.

The frame is of substantial proportions, with a raised cross member, strongly suggestive of E-M-F. practice, in the middle section, and with a tubular sub frame by way of engine support, so contrived that the power plant may be demounted readily. The rear axle appears well proportioned, is original in design, like the remainder of the chassis, and carries the lay shaft above the driving member, while the pull-out rod which actuates the sliding member of the gearset, lies below the torque tube.

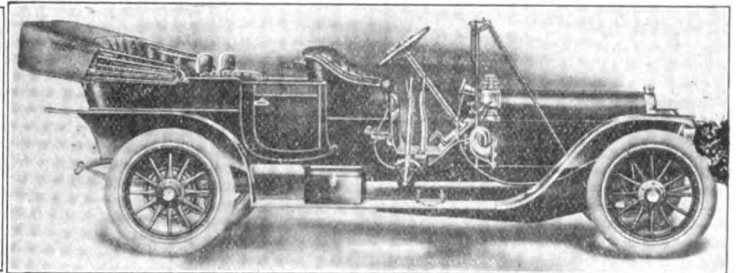
Its older sister car, the E-M-F., now entering upon its second year, counting from show to show, remains about as heretofore. The front axle has been redesigned and strengthened, a new cone clutch adopted, and—as a matter of course—the bodies have been slightly enlarged. Its general characteristics, however, the twin cast cylinders, oil tank located in the rear crank case support on the left side of the engine, double cardan shaft, and pressed steel torque rod, remain as in the original cars. The tire sizes have not been increased, and the wheel base remains unchanged.

A brand new car, exhibited for the first time at a New York show, and by a newly organized company, relatively speaking, of course, the merits of the Hudson are expounded with the aid of a most creditable sectioned chassis, polished and shown in operation. Being credited with 22 horsepower, this machine also belongs within the small car rating, despite its ample external proportions and nicely finished body work. The popular block type motor, selective sliding gear transmission and drive to the live rear axle, are its outstanding features.

With the valves and engine auxiliaries mounted on the left side of the car, the right side of the frame is left free for the mounting of the steering gear, well to the



KNOX MODEL "R" TORPEDO



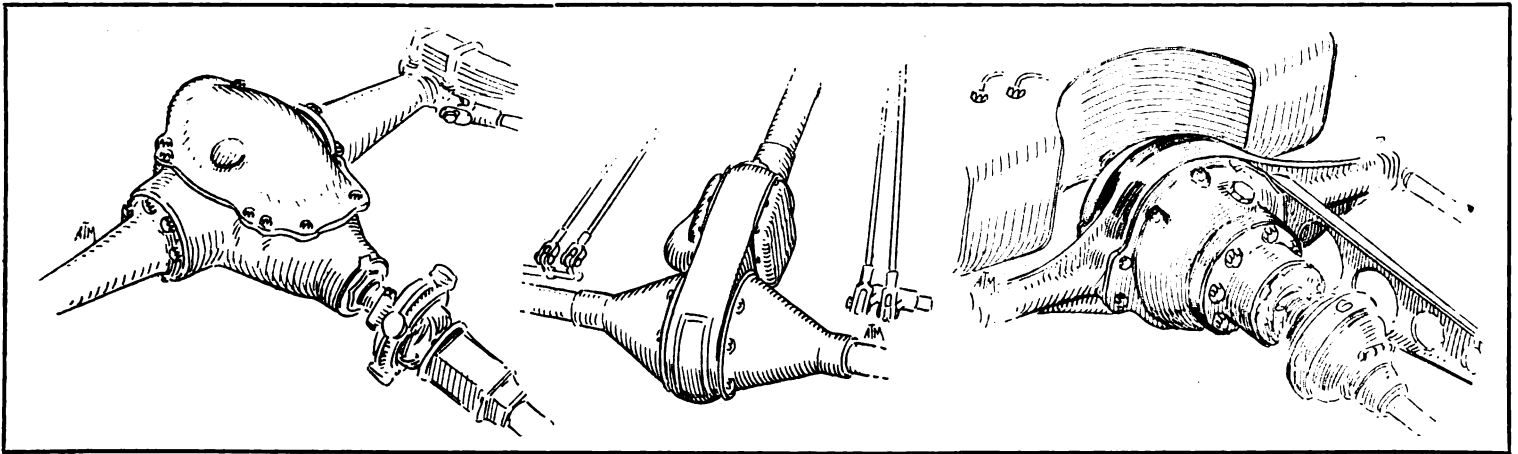
KNOX MODEL "S" TOURING

front, in the position which is demanded by the inclined steering column. The pressed steel channel sectioned sub frame, which carries the power plant entire, is reinforced by a gusset plate, which joins it to the main frame for the entire length of the plant; thus affording rigid support for the engine and gearset, and also providing an efficient preventive of weaving in the principal frame members. Between the cone clutch and the gear box, a double cardan

One of the minor structural details worthy of passing mention, is the accelerator pedal arrangement, which is handily worked out. The pedal surface is in the form of a concave curve, the point farthest away from the operator rising to a sharp point. Such is the shape of the upper surface, that full engine control may be obtained merely by sliding the foot forward or back, without raising the toe from the footboard, but always keeping the edge of the sole against

The Marion cars have a well known type of four-cylinder motor, multiple disc clutch, original axle-mounted change gear, affording three forward speeds, and selectively actuated; and are of prepossessing appearance as exhibited in runabout and town car forms. The horizontal steering arm, brought back of the axle to protect it from injury, change gear actuating devices, quadruple, internal expanding brake system; and new style radiator, mounted on trunion sup-

## THREE NEW TYPES OF REAR AXLE



WHITE

FLANDERS

ALCO

shaft is introduced, while the single joint in the driving shaft, together with the torque tube load, is carried by the rear gear box bearing.

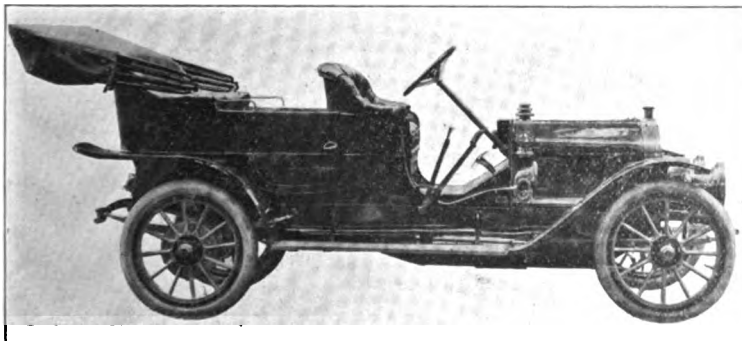
The gear box, due to the arrangement of the gears, is exceedingly short, and possesses the further advantage of enclosing the entire selective mechanism. Three-quarter elliptic suspension is employed in the rear, and the traction load is carried by the lower member at its forward end.

the curved pedal. The arrangement is as simple as it is convenient.

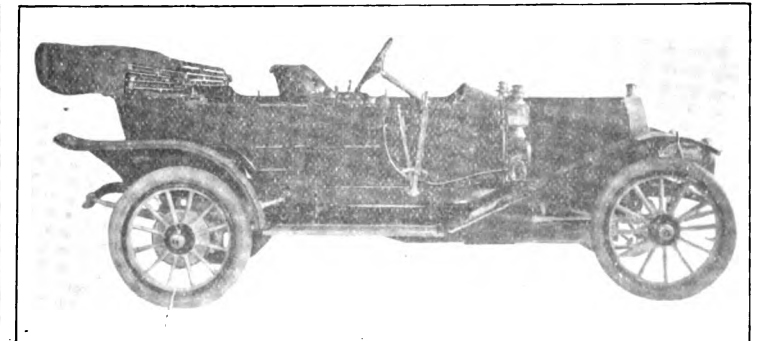
Never before exhibited in the Garden, though machines of considerable repute in the medium priced class, the Overland and Marion products are in the ranks of the new recruits. Although produced under a joint administration, and marketed by the same distributing company, the cars are distinctly different in form.

port, are among the new features now exhibited for the first time.

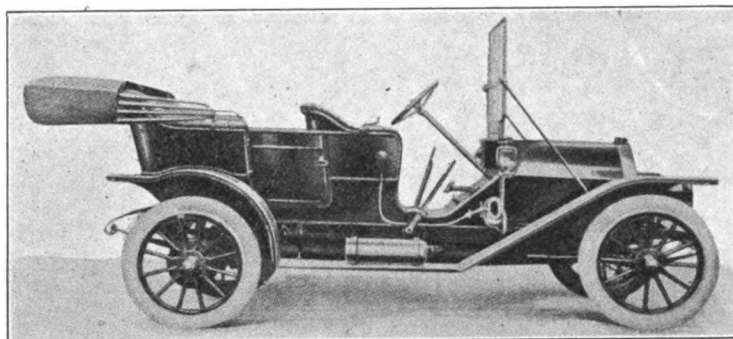
One striking peculiarity of the Overland, and one which is reputed to have gained many sales for it in the past, is the use of an all-pedal control system, on two of the three models. Use of a special and exclusive form of axle mounted planetary change gear, which has now served successfully for several years, permits the usual side gear controlling lever to be dispensed



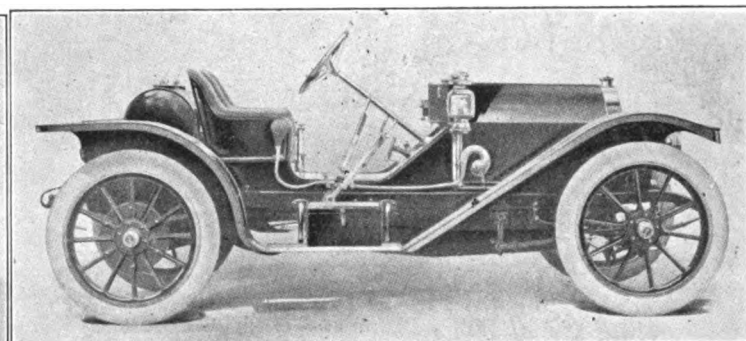
SELDEN MODEL "T" TOURING



SELDEN MODEL "P" TORPEDO



OVERLAND MODEL "42" TOURING



MARION TWO-PASSENGER ROADSTER

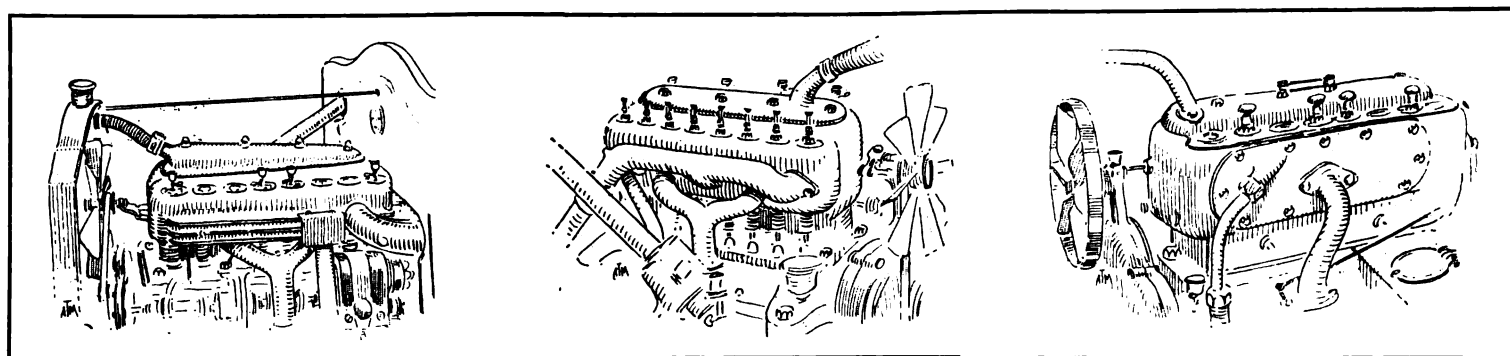
with, leaving only the emergency brake to be controlled by hand. The 40 horsepower car, also may be equipped optionally with the conventional sliding gear system of the selective pattern. Magneto ignition as a stock feature; a redesigned and enlarged engine, larger wheels and longer wheel base prevail on the larger models. The 35 horsepower car, uniform in general style with the larger model save that the pedal

by reason of its very existence, the White Co. now is numbered within the licensed aggregation. It has the latest type of block motor, in improved and specialized form, with only the magneto mounted on the right, while owing to the general simplicity of the design, the housing of the valve springs and tappets and the absence of needless parts, the space on the left hand side appears to be almost equally free from

and compact oiling system, however, which is of the splash order, with automatic replenishment through two sight feed glasses on the dash, the reservoir being located in the rear crank case supporting arm, on the left side of the car.

A new car, exhibited by a new company, but succeeding directly to the license and good will of an old established concern, the

## THREE NEW TYPES OF BLOCK MOTOR



FLANDERS

HUDSON

WHITE

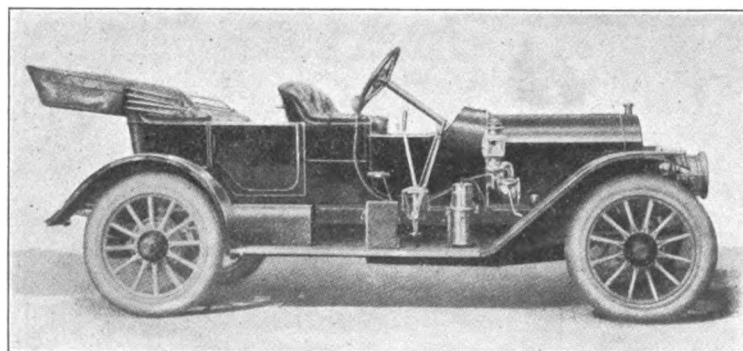
control is exclusively employed, is new this year.

A first product in the way of gas engine propulsion, though of an ancient and honorable line, the new White car, is still another of the debutantes. Externally conforming in some respects to the standard White lines, long ago standardized in the steam car which bears so enviable a reputation, it reveals a number of mechanical points which are well worth studying. The car is further noteworthy as a newcomer, since

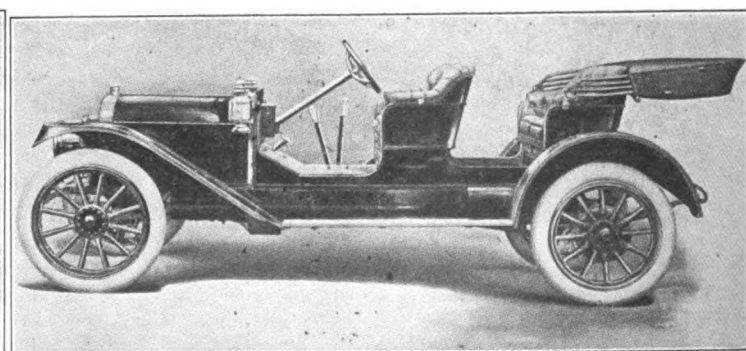
encumbrance. Unusual on so small an engine, but none the less useful, is the compression relieving device, which is mounted on the dashboard, and which operates by moving the exhaust cam shaft endwise in its bearings.

Selective type change gear, double cardan shaft drive, three-quarter elliptic rear suspension, with spring drive and the lower member set a trifle off center to obtain a reduced radius rod effect; are the remaining noteworthy features of the chassis. Special mention should be made of the simple

Mercer enters the popular medium priced ranks. In general it possesses no strikingly radical characteristics, having the conventional four cylinder motor, selective gearset and shaft transmission. A particularly solid-looking rear axle is employed, together with double cardan propeller shaft, triangular torsion rod, hinged in the vertical plane at its point of attachment to the differential housing; and radius rod drive. In connection with the suspension equipment, which is of the three-quarter elliptical pattern in the rear, considerable stress



NEW COLUMBIA IN TORPEDO FORM



CORBIN MODEL "18" AS A ROADSTER



is laid upon the fact that the traction stresses are absorbed by the radius rods, and not by the springs themselves, as is done on many cars of equivalent type. The argument is that where the springs carry the driving load in addition to the dead weight on the chassis their action must be very materially interfered with and rendered less free.

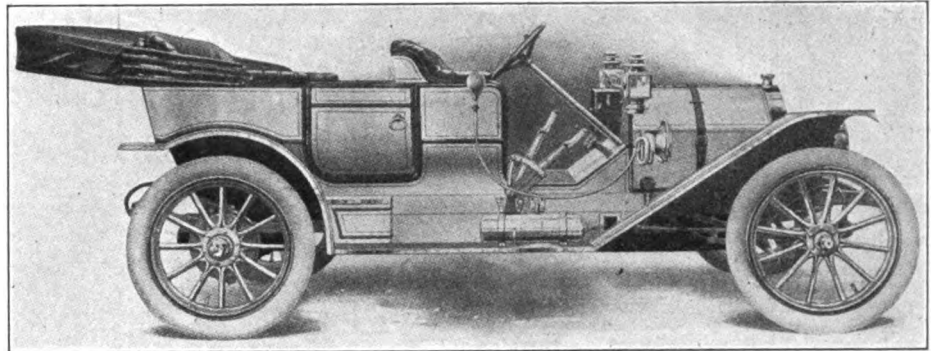
In connection with the 44-disc clutch, which is unusually powerful, considering the weight of the car, a special intermediate reducing linkage is introduced between the foot pedal and the throw-out yoke. By means of this additional leverage, the pressure of the 160-pound engaging spring is reduced to only about one-third of that amount, it is stated. The braking strains are balanced by equalizing levers, and all tension rods are carried inside the frame.

Rated as a new model, because it has not before been exhibited in the Garden, the new Haynes is a particularly sturdy little car, which exhibits in chassis formation a number of radical departures from the former practices of its long-experienced builders. To those who have been familiar with the former Haynes products, one of the most noticeable of these is the adoption of the conventional rear axle construction, with double cardan shaft, together with a very long pressed steel torque rod, which is anchored to the rear of the power plant. Another change involves the entire redesign of the engine and change gear system and the adoption of a particularly stable looking unit power plant of the sectional type. The gear box is made integral, with staunch, boxed members which are bolted on either

and an old and familiar Haynes feature, is the contracting band clutch, one of its numerous advantages being that the elasticity of the steel band permits it to free the fly wheel drum absolutely when disengaged, thus providing an absolute release as well as for smooth engagement. Lubrication is accomplished by forcing oil from a pump on the right side of the motor through a

different weights. Upon opening the throttle the increased suction causes these valves to unseat progressively, this bringing into action the jets which lie beneath them. At low speed and small throttle openings the supplementary valves are held to their seats by a cam device.

The new P-S town car chassis is another new feature on the same stand. In many

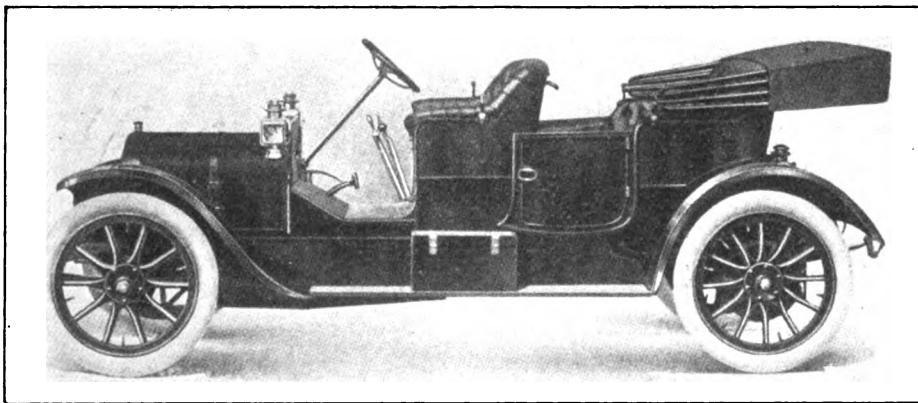


HAYNES NEW MODEL "19" TOURING CAR

single sight feed glass on the dash, and ways it resembles its predecessor, but a then along a special conduit which is carried along side the ignition cable support to the forward end of the motor and fed into the gear housing. From that point it is circulated through the engine automatically.

Exhibiting for the first time their new motor, the first to be made directly under the supervision of the company's engineering department, Palmer & Singer, for the first time also, appear under their own license. The new motor is of conventional

different style of rear axle coupling considerably alters the general arrangement of parts. A substantial-looking gear box is mounted well forward in the chassis, just under the foot board, while back of the cross frame member, which supports its rear end, is the trunion support for a long torsion tube, housing the propeller shaft. This style of construction is new to these particular constructors. Rather an unusual feature of the axle construction is that the brake rocker shafts, applying both expanding brakes in the rear hubs, are carried behind the axle tube, to a point well inside the frame, from which the tension rods are led to equalizing bars. Steering arms brought over the axle, double universal joints, replacing the common ball and socket connections in the steering rods; and small sized grease cups mounted on every important articulation in the whole chassis, are other features of merit on the car. An important structural point on all cars of this make is the use of ball and socket radiator supports, which form an important means of protection for the constitutionally delicate cooler.



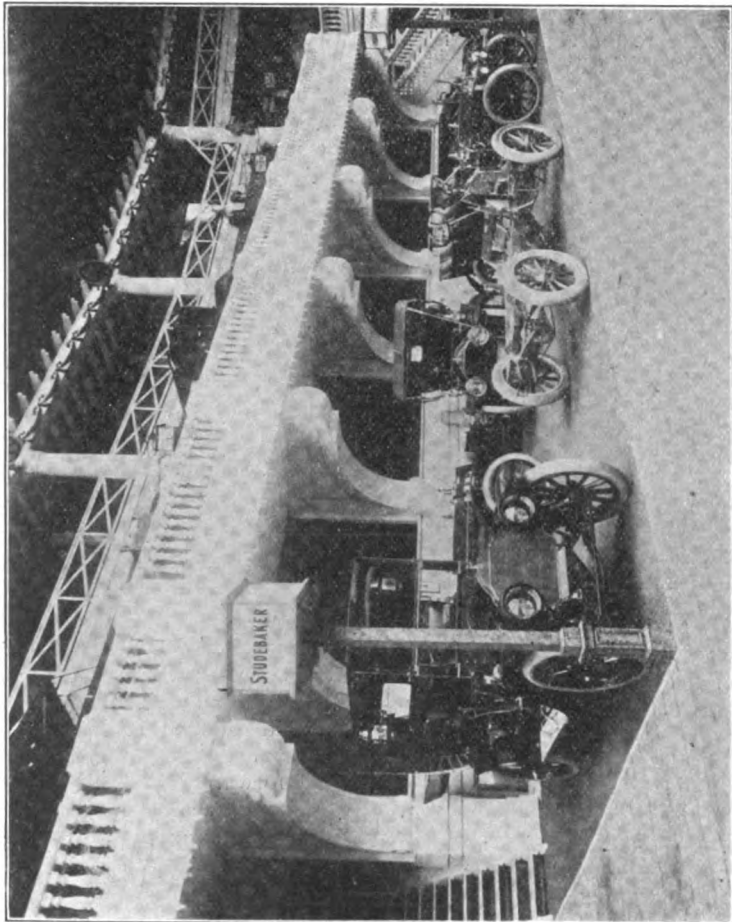
NEW WHITE GASOLENE TOURING CAR

side to rear extensions of the crank case, the arms in question spanning the fly wheel and forming, with the engine, a complete unit. The cylinders, which are cast in pairs, and are of T-head construction, are equipped with large valves, liberal jacket allowances, and large intake and exhaust manifolds with siamesed connections at the cylinders. The plant complete includes not merely the motor and change gear device, but also the engine auxiliaries complete, the steering gear, and the clutch and brake pedals.

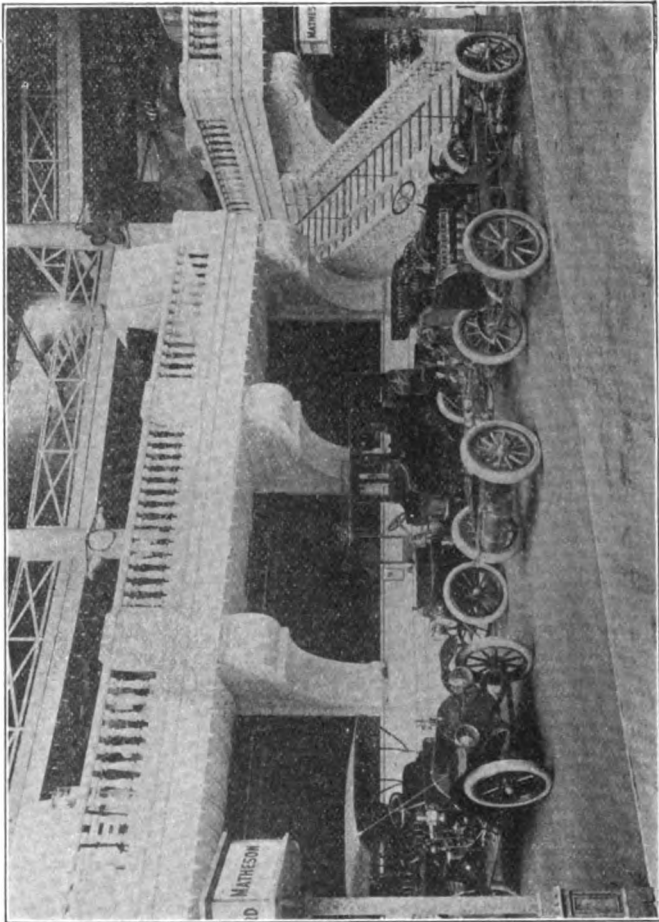
One element which is out of the ordinary

pattern, save for the enormous size of its valves, and the attendant port design, which is thought to add much to its satisfactory pulling abilities. In connection with the motor, which is shown in both four and six cylinder forms with cylinders cast in pairs, there is shown the new P-S carburettor, which is a triple jet affair. Three venturi tubes are clustered about a common centre within a cylindrical housing; one, which has an adjustable jet, being in action at all times, while the other two are closed at the top by poppet valves of

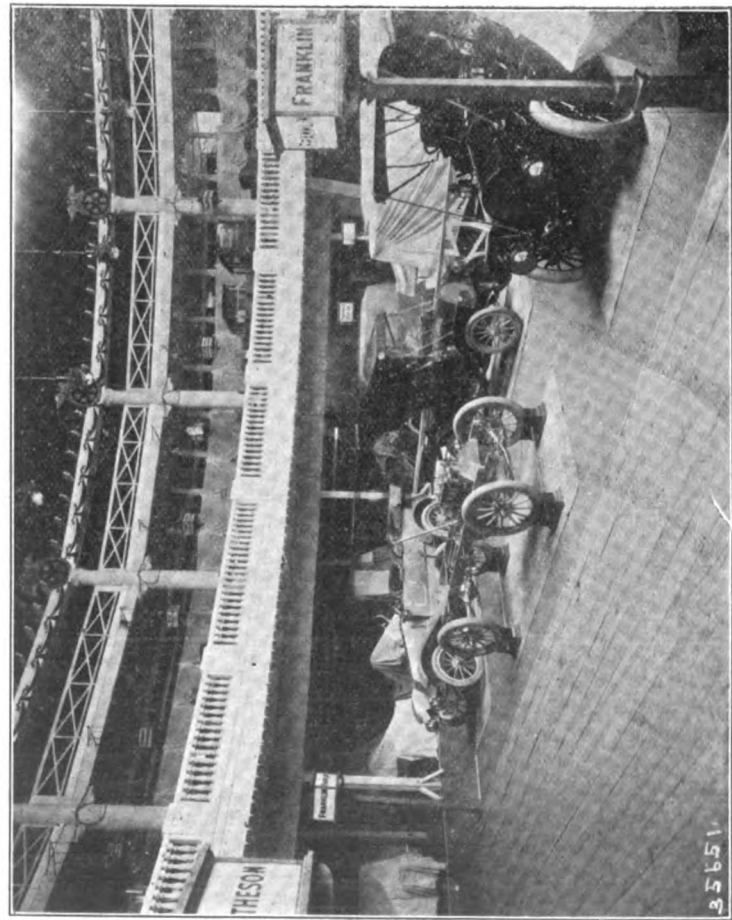
Although exhibiting for the first time, the Columbia Motor Car Co. is a direct off-spring of the Electric Vehicle Co., which, as original purchaser of the Selden patent, and one of the pioneer concerns in the American industry, long maintained a position of prominence in its annals. The new Columbia cars, being direct developments from the final and excellent product of the "E. V. Co.," as it was familiarly known, are not exactly new productions. At the same time, the standard chassis has undergone a number of alterations which entitles it to more than the passing consideration which mere improvements of a minor nature usually warrant.



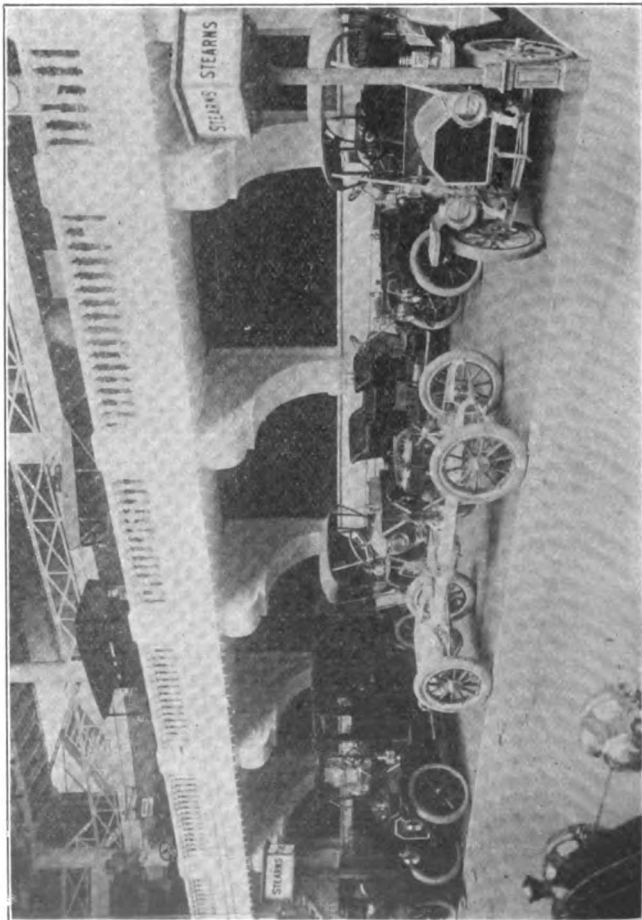
STUDEBAKER AUTOMOBILE CO.



MATHESON MOTOR CAR CO.

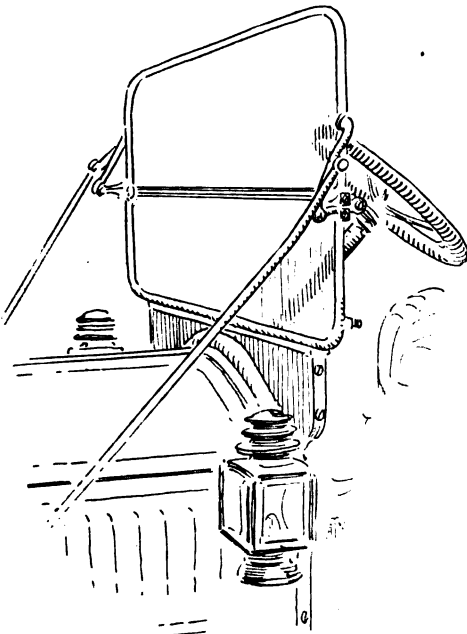


H. H. FRANKLIN MFG. CO.



F. B. STEARNS CO.

Of generally standard proportions, rated at a little over 32 horsepower, and having the shaft drive and other familiar features, it yet possesses a number of original and unexpected elements, several of which are new at this time. Among them may be mentioned the quadruple ignition system. The Columbia is one of the three makes of cars on the floor to have the make and break system of ignition in its simplest form. Electrical energy for the spark may be secured either from the low tension magneto, which is part of the quipment, or from a storage battery, which also is carried regularly on the car. In addition to the make and break system, the Seeley high frequency system is employed, with jump spark plugs. Energy for this system may be obtained either from the magneto or the bat-

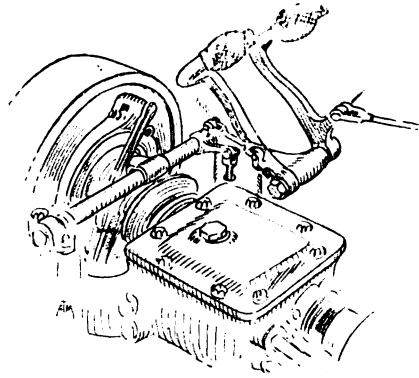


HUDSON WIND SHIELD

tery. Thus there are virtually two dual systems in use, or practically four in all.

The motor sizes have been increased since last year, thus necessitating some strengthening of dependent parts, such, for example, as the rear axle and propeller shaft. The valve springs and lifters are now completely encased behind removable covers; the general appearance of the motor has been altered by the adoption of a form of squared induction pipe; and a new and larger radiator has been adopted. Rather an unusual feature is the use of a wood-filled cross-frame member just back of the dash, upon which the floor boards rest, and which, like several other stay members in the frame, is of channel section through the greater part of its length, but is flattened out at the ends for riveted attachment to the main frame members. Adjustable pedals of the disappearing type, and an original form of foot accelerator, so contrived that it can be operated without the need of removing the foot from the toe board, are others of the new points to be observed.

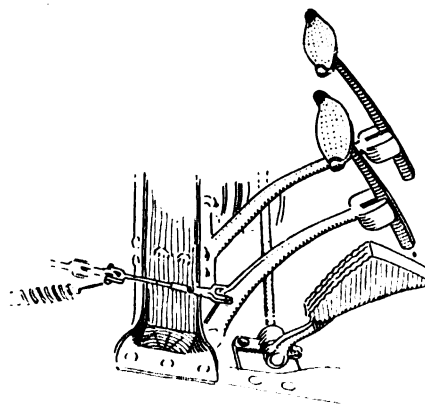
Although known to have been under construction for some time, the Peerless 20 horsepower town car makes its initial public appearance at the show. It is provided only in enclosed types, as limousine or landaulet. That it was designed exclusively for this use is evidenced by the adoption of left hand control, with the brake and gear shifting levers mounted in the centre of the floor board. The motor is of quadruple pattern,



HAYNES TRANSMISSION

with cylinders cast in pairs, and in general bears a close resemblance to the standard touring car of larger power and price. One noteworthy point of difference in motor construction, however, is the arrangement of the valves, which, on the smaller car, are mounted on the left side of the engine. The larger models of this car, in both four and six cylinder sizes, remain practically as hitherto. The expanding band type of master clutch, tapering intake manifold, with extra air inlet valve located at the junction of the Y-shaped distributor section, and other exclusive features being retained.

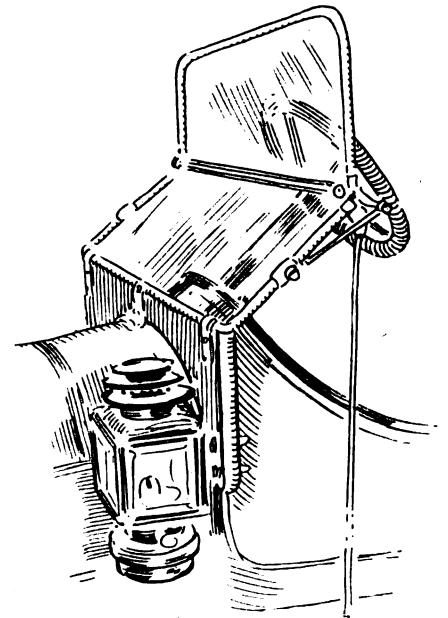
The new Selden model, while in many respects a direct successor to the standard



COLUMBIA ADJUSTABLE PEDALS

product of last year, has undergone a general expansion and enlargement such as to merit for it designation as a new car. In addition to the distinction of being named after, and produced in the interests of the originator of the Selden patent, and so occupying a position of semi-official honor in the show, the Selden also is claimed to be the first American car to be equipped with a true torpedo body.

Formerly rated at 29 horsepower, the cylinder dimensions have been increased to  $4\frac{3}{4}$  by 5 inches, as against  $4\frac{1}{4}$  by  $4\frac{1}{2}$  last year; thus bringing the rating up to 36 horsepower by the A. L. A. M. formula. The wheel base has been increased a couple of inches, on the roadster model, and to 122 inches on the seven-passenger touring car. The mechanical arrangement of the chassis, also has undergone considerable alteration. The power plant is carried on a sub frame, which is extended further back into the waist of the chassis than ordinarily, thus affording support for the cylindrical fuel tank, which is permanently mounted on it. A new type of selective gearset has been adopted, together with a new carburetter of standard pattern, while the operating leverage between the disappearing foot pedals and the cone clutch has



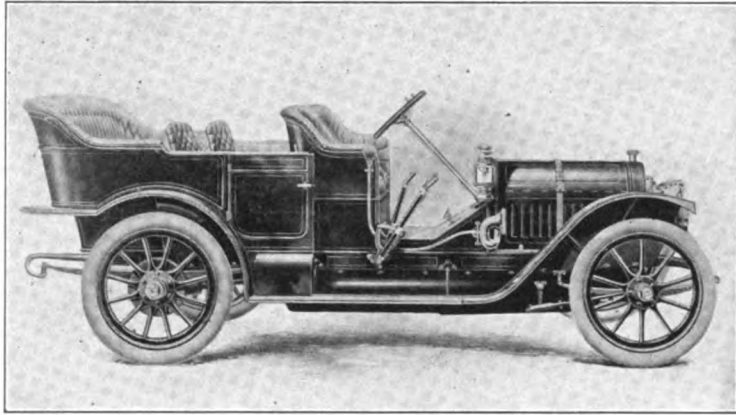
CHALMERS-DETROIT DASH

been increased to relieve the foot of the driver. Externally, the appearance of the car has been altered somewhat by the adoption of a new style radiator.

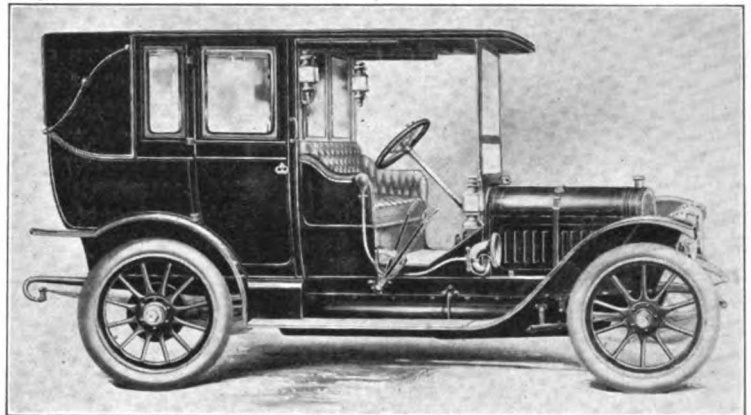
#### NEW FEATURES OF OLD CARS.

Around the arena and on the elevated platform, a majority of the manufacturers are displaying cars, which, though they may be known by other designations than were employed last year, are close successors to them in regard to most of their specifications. With such, the interest of the hurried showgoer focuses first on the more striking and original peculiarities, and second on any possible innovations which may have been introduced during the interval since the Garden last housed an A. L. A. M. show.

Franklin cars, for example, are produced, as heretofore, in three different chassis sizes, which are uniform as to general structure, and which possess, as unusual qualifications, laminated wood frames, full elliptic springs and air-cooled motors, which are



POPE-HARTFORD SEVEN-PASSENGER TOURING



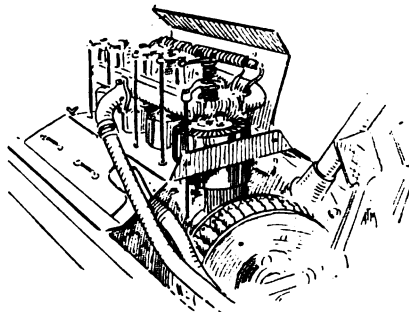
POPE-HARTFORD MODEL "T" LANDAULET

of peculiar and original construction. Following a practice which was tried out successfully on one model last year, all models now are equipped with magneto ignition, together with set spark control, whereby the operator is relieved of all responsibility in regard to the regulation of the ignition. Larger tires prevail on all models, the 42 horsepower touring model having the unusual combination of 36 by 4½ in front and 37 by 5 in the rear.

The conspicuous feature of the line, however, and, indeed, one of the most remarkable and radical developments presented anywhere at the show, is the motor itself. Into this has now been incorporated a new and most ingenious method of securing uniform distribution of air over the heated surfaces of the cylinders. By forming vertical radiating flanges on the cylinder walls, and surrounding them with light metallic jackets open at top and bottom, but fitting tightly into an air-tight deck which subdivides the engine space beneath the bonnet, two separate compartments are formed; the only avenues of communication between which is through the spaces between the radiating fins on the cylinders. A powerful exhaust blower, which constitutes the flywheel and the driving portion of the clutch as well, creates a strong suction in the lower of the two compartments, causing an inrush of air from above. The engine is further distinguished as possessing the only form of concentric valve which ever has come into

regular use upon a stock machine. This feature, which is of several years' standing, together with the use of auxiliary exhaust ports in the lower portion of the cylinder walls, constitute the more striking elements of the motor.

Another engine, which is considerably out of the ordinary, both in theory and in manner of achievement, is mounted on the

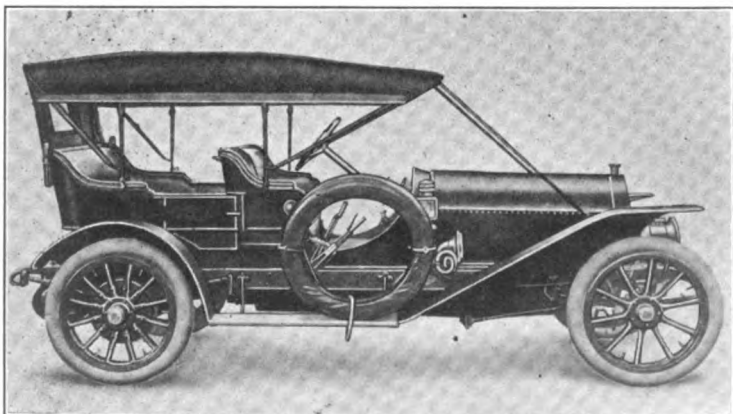


FRANKLIN ENGINE

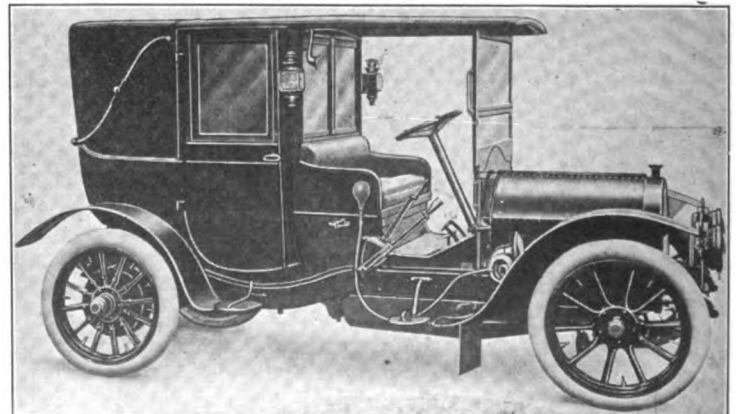
Elmore model "46," which, though not exhibited in chassis form, is to be found on at least two of the complete cars which are on the stand. Like the older Elmore motors, one of which is continued in four-cylinder form from last year, it is of the two-cycle type. Its particular claim to distinction, however, rests on the fact that the differential type of piston is employed, or that in which a double piston of two different diameters, fits into a cylinder which is

correspondingly counterbored; and also in the use of a rotary valve or distributor, for handling the charges. Though there is little externally to indicate its nature and construction, it is readily understood, when it is explained that at each up-stroke of each piston, a charge previously inducted into the annular compartment surrounding the lower part of the piston, is compressed and forced through the distributor, which is in the form of a small revolving drum close to the crank case, to another cylinder, which is just ready to receive its fresh charge. The distributor is divided longitudinally into two compartments, one for drawing live gas from the carburetter, and the other for distributing the compressed charges to the cylinders. The action within the combustion space of the cylinders is precisely the same as with the ordinary three-port type of engine, save that the gas is received under higher tension than is possible ordinarily with crank case compression. The engine is neat and compact, and presents a clean exterior.

In the complete chassis, two Elmore models are produced this year. One of them replaces a three-cylinder model of last year, in point of price, but has practically the same four-cylinder engine as was used in a more expensive machine of last year's build. The "46" is an entirely new car. Changes in chassis construction which have just been brought out, include the adoption of the three-quarter elliptic rear suspension,



P-S SIX-CYLINDER SMALL, TONNEAU



P-S TOWN CAR EXTENSION LANDAULET



enlarged brakes, increased frame sizes, improved cone clutch and larger tires.

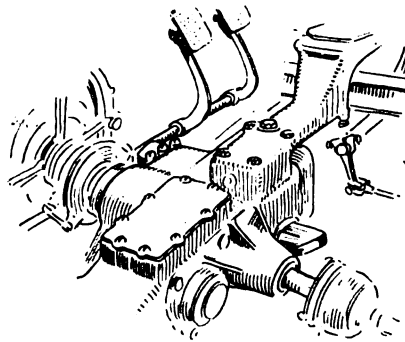
Matheson cars are among those which are reproduced this year with no changes of any sort announced. The four and six cylinder motors are of entirely different design, the former having the characteristic valve-in-the-head construction, together with an original form of carburetter, and make and break ignition. The latter is of more conventional pattern, also with valve-in-the-head motor, though of a totally different type. The methods of driving by side chains and shaft are exemplified on the two models also. The six-cylinder car, in particular, has a very strong example of good design in its axle-mounted change gear. The method of extending flanges from the sides of the crank case to meet the side frame members, and also the axle and torque tube construction noted, are exclusive and sterling features.

A 4-inch increase in wheel base, 36-inch wheels, instead of 34, and longer springs, constitute the visible alterations in the Pope-Hartford chassis. In addition to this, however, sundry structural details have been changed. The new oiling system which has been adopted is unique. In addition to a standard form of mechanical lubricator, a supplementary pump is added, which draws from a sump underneath the crank case, into which is filtered all overflow from the case. An overflow pipe in the lubricator reservoir serves to regulate its contents to constant level, the device thus being kept at work under absolutely constant conditions. A new trussed, tubular torque rod also has been added to the chassis, which is hinged to the axle housing at the rear, and suspended from a cross frame member in front by means of spring buffers. Adjustable radius rods absorb the driving strains by the new arrangement, while the springs are swiveled on the axle tubes, and are shackled at both ends.

Locomobiles, long distinguished alike for the uniformity of their performances and the unchanging quality of their design, show no symptoms of abatement in either respect. The third product in the show to be equipped with make and break ignition, they are distinguished as the only product for which the entire ignition system, as well as the bulk of the car, is produced in the plant of its origin. Save for an increase in the size of the brakes on the 30 horsepower, shaft driven model, and some trivial alterations to the larger, chain driven car, no changes are recorded.

Without abandoning the original form of power plant which has been employed on the Knox cars for several years, a considerable modification of design has been effected, such that the gearset now is reduced to about its lowest conceivable terms, in point of external dimensions. The shafts,

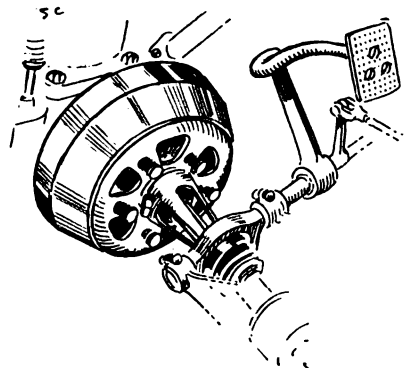
it may be mentioned in passing, are of hardly more than 5 inches swing between bearings. The model has been increased in engine dimensions, and it is rather noteworthy that it is of the short stroke pattern, having cylinder dimensions of 5 by 4¾ inches, bore and stroke, respectively. Although the unit power plant structure is retained the gearset now may be demounted independently of the engine, while



KNOX IMPROVED TRANSMISSION

a number of minor changes, such, for example, as the introduction of safety pump-drive, intended to prevent damage to the circulating pump in the event of a freeze-up in the water system, having been effected. An unusual feature which may be mentioned in connection with the engine is the method of driving the pump and lubricator by means of short, transverse independent shafts, which are actuated by spiral gears from the cam shaft. The valve-in-the-head motor construction is retained.

The new dry-plate clutch is one of the chief alterations introduced in Stearns practice at this time—in fact, it is practically the only innovation. The 30-60 horsepower model is equipped with it, and the change is thought to be an exceedingly beneficial one. Briefly, the idea is to secure the uniformity of action of the cone clutch, with



STEARNS DRY PLATE CLUTCH

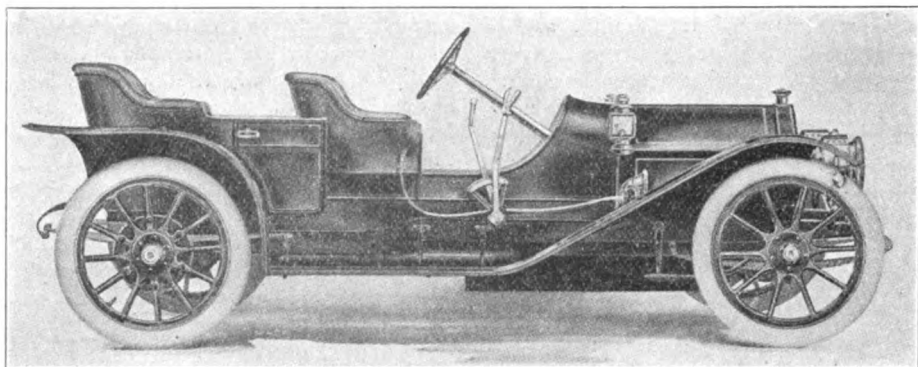
the "sweetness" of the multiple disc pattern, merely by altering the construction of the latter to permit of the introduction of a special asbestos fabric. The result is an assemblage which runs without lubrication, and which is of true multiple disc form. The clutch is of large diameter, and is engaged by means of a half-dozen helical springs

spaced around the outer spider. Either double chain or shaft drive may be had with this model, but only the shaft-driven form is on view at the show. It has a strongly mounted, selective gearset, heavy torque tube construction, and a new rear axle, which follows the general lines of the type introduced on the 15-30 model last year. In this a heavy steel forging forms the body of the member, with the differential and gear housing supported within a diamond-shaped opening between its upper and lower branches. This design, which is a particularly strong one, is original, and in the smaller car is used to support an axle-mounted change gear. The double jet carburetters used on the Stearns cars are exclusive in design; and in point of ingenuity are thoroughly in keeping with the ingenious and intricate engine base castings which are used on both motors. Demountable rims are a new feature of the standard equipment now employed.

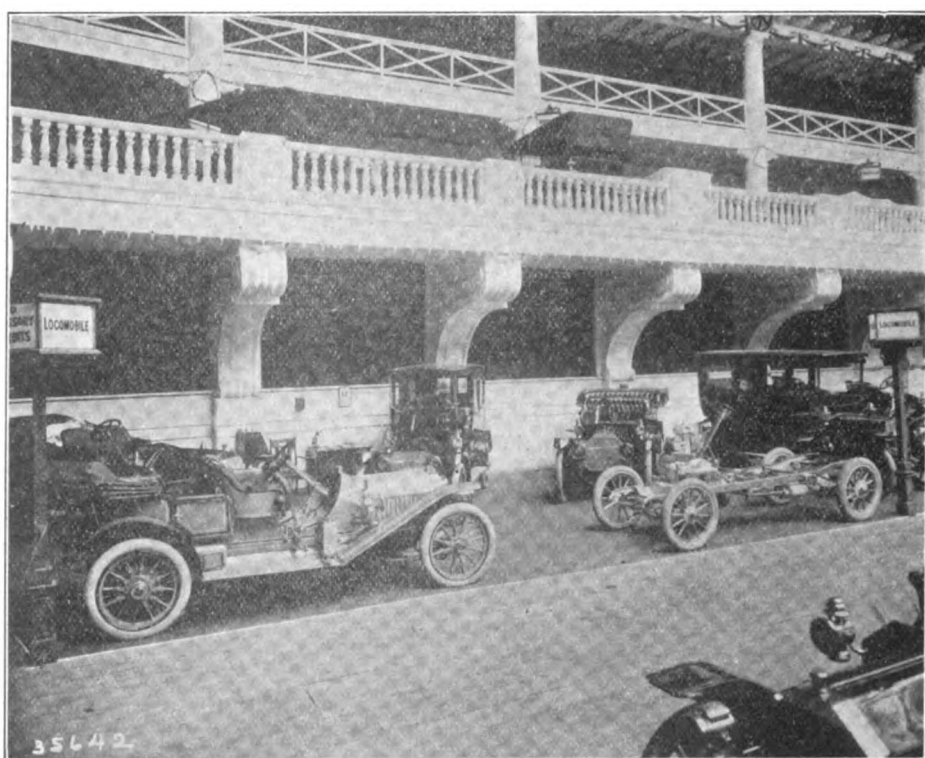
By an unusually clever method of coring, the new gearbox of the Lozier cars is poured into a single casting, with openings for one cover plate, and the large annular bearings which support the shafts. This construction, and sundry minor modifications in the design of the gearset, constitute the principal alterations in the chassis, saving the new radiator, which is of honeycomb type. The unit power plant form of construction is employed, the engine and gearbox being bolted strongly together. At the same time, the unit is so tied to the frame that that important structure is considerably strengthened by it. Combination gas-electric lamps and demountable rims as stock equipment are worthy additions to the latest specifications of these solidly built machines.

Characteristic practice which is continued in the case of the Corbin, along with practically all other original features of construction, is the use of a heavy steel plate which extends from the lower edge of the side frame members to the unit power plant. Besides furnishing ample support, this arrangement greatly strengthens the frame itself. The wheel base of the standard chassis has been increased from 108 to 120 inches, three-quarter elliptic suspension has been adopted in the rear, the two-to-one gears have been housed, and a few other changes of a minor nature introduced. In the main the car is not materially altered, however.

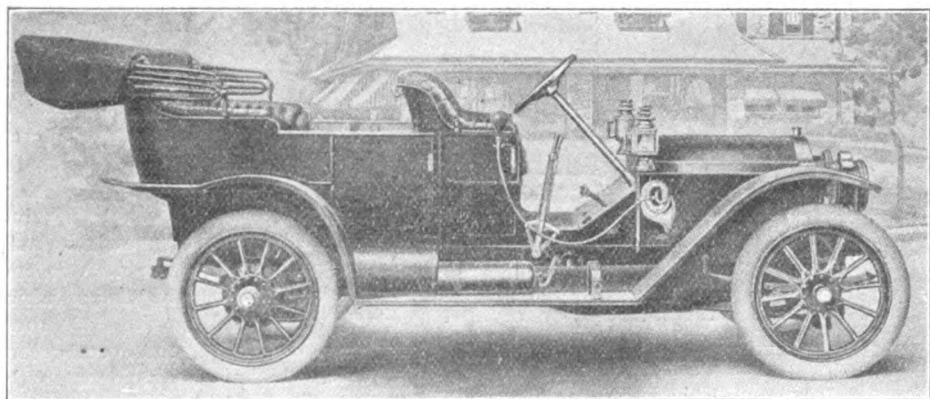
A massive and most admirable forging, constituting the basis of the new rear axle, is the most striking alteration in Alco construction. Adapted from the design which has worked out so well in the Alco town cars and taximeter cabs for several years, the new axle, which is an incident to the abandonment of side chains in favor of shaft drive, is one of the most solid equipments to be seen at the show. Tapered at the



CHALMERS-DETROIT "30" WITH SMALL TONNEAU BODY.



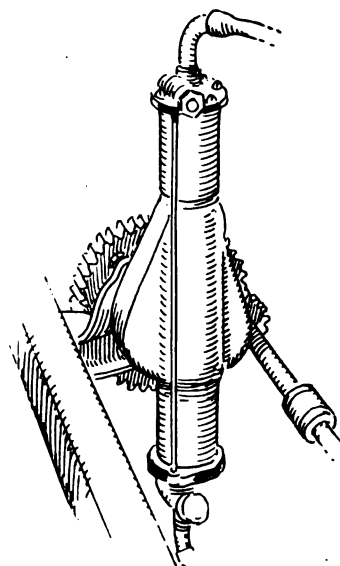
WHERE LOCOMOBILES ARE STAGED IN THE ARENA.



STUDEBAKER-GARFORD 40 HORSEPOWER TOURING CAR

ends to economical proportions, the centre section of the main forging is enlarged in the vertical plane to form a large ring. The cast steel differential and bevel gear housing, which also supports the rear end of the torque rod, is bolted to the front side of this, while the rear position is enclosed by a cast aluminum cover. Other alterations include the abandonment of the engine governor, formerly employed; the improvement of the clutch, which now has a braking device to prevent spinning when disengaged; and the adoption of a trunion support system for the radiator.

The only makers in the show to equip all stock models with a mechanically driven air pump for tire inflation purposes, the Pierce-



PIERCE-ARROW AIR PUMP

Arrow Motor Car Co. thereby has added considerably to the laurels it already possessed. The three sizes of the six-cylinder product, which is the only one produced, have been considerably increased as to engine dimensions, without other material change in the power plants. Wheel bases have been lengthened out noticeably and the tire sizes have been increased. On the 66 horsepower touring model, the present specifications call for 37 by 5 inch tires in front and 38 by 5 in the rear. This is an increase of one inch diameter in front and two in the rear, as compared with last year. In common with a very few others of the more advanced manufacturers, the Pierce-Arrow Co. equips all cars with combination gas-electric lamps.

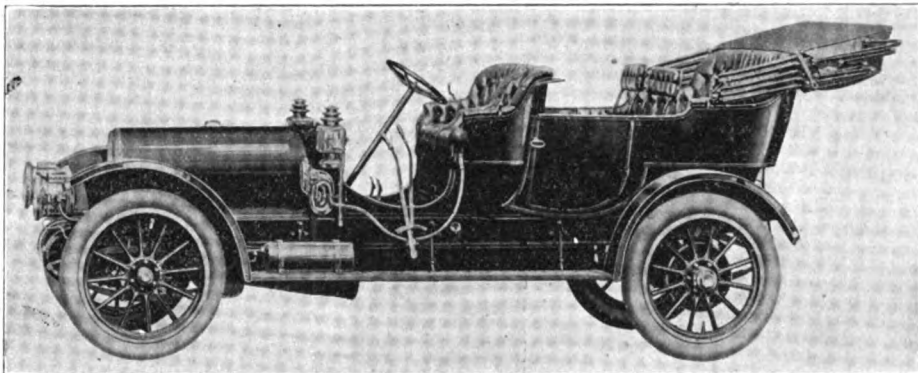
Continuing the successful block motor and unit power plant construction which is original with the car, the latest forms of Chalmers-Detroit are somewhat enlarged, but otherwise little altered. The cylinder bore has been increased  $\frac{1}{8}$  inch, raising the rating by formula from 24 to 25.6 horsepower; the wheel base has been increased 5 inches. Housing the gear-shifting mechanism, removing the lubricating pump on the motor

to a more accessible position on the left side of the crank case and in the rear, and installing a new form of foot-accelerator, of the popular sort which relieves ankle strain, summarizes the improvements which have been found necessary. On the Chalmers Forty, an 11-inch increase in wheel base and a 2-inch increase in tire diameter have been introduced, as well as a new form of hinged, triangular torsion member; a remodeled gearset and a new clutch throw-out linkage, which is of somewhat increased leverage.

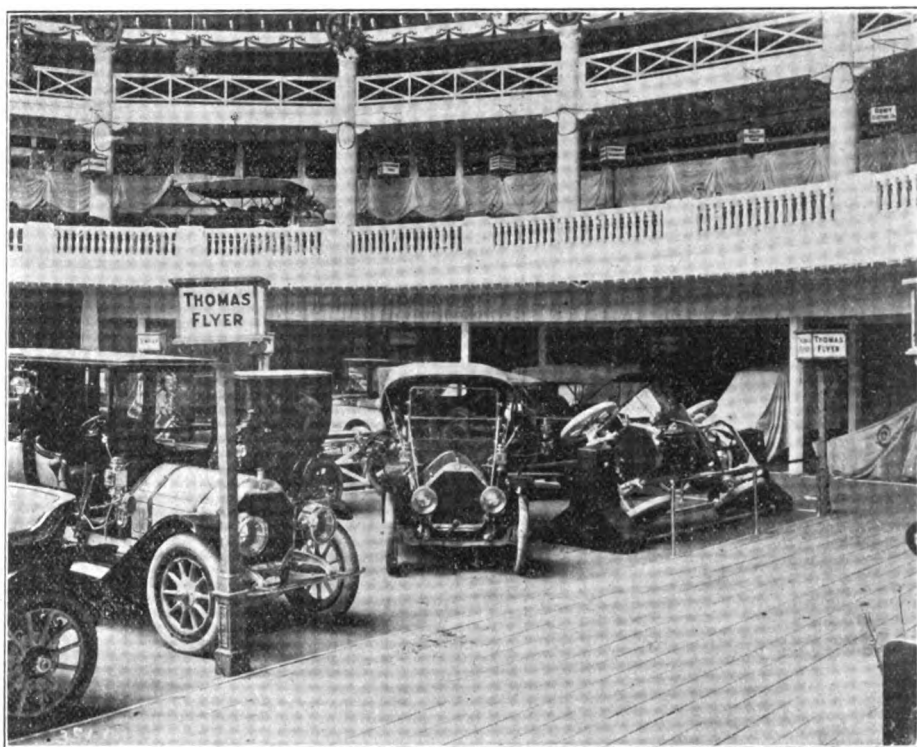
Thomas Flyer models "F" and "K" remain practically unchanged. Model "M," however, is considerably altered. Summarized, the changes on this one model are: Long stroke motor ( $4\frac{1}{2} \times 5\frac{1}{2}$  inches bore and stroke); cylinders cast in pairs, with valves on opposite sides; valves one-half the diameter of the cylinders; one-piece crank case; longer wheel base; shaft drive, with gearset mounted in the waist of the chassis; full-floating axle; larger frame; larger tires (36 by  $4\frac{1}{2}$  inches); larger brakes; ball and socket joints on small control mechanism; stronger and more compact transmission and less noisy action due to closer fits, reduced valve clearance and improved workmanship. It is this chassis which so successfully submits to the washing machine motion of the Thomas stand in the Garden, and which, therefore, comes in for perhaps closer inspection than any other single vehicle in the show.

Distinctive in its use of the magnetic plug, which effects the same sort of spark as the mechanical make and break ignition system, the Studebaker-Garford cars remain apparently unaltered as compared with last year. The mounting of the mechanical oiler under the incline of the floor board, so as to free the dash of all contrivances and leave it perfectly plain; the three-quarter platform rear suspension, solid torque bar construction and radius rod drive, are points of originality which are standing the severe test of continued service.

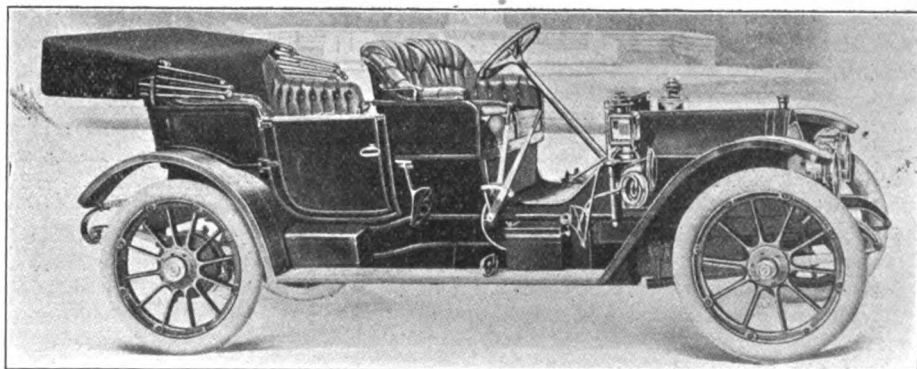
Stevens-Duryea is another name intimately associated with constancy in automobile design. Six years ago the unit power plant idea first was expressed in this car. Today it remains practically unchanged, and unapproached in its originality. Principally displayed in the "X" and "Y" models, which are of six cylinder construction, the same principle also is applied to the four-cylinder model "AA," which is shown in chassis form. Mounting the crank shaft and gear case in the form of one long housing of tubular section, carrying the cylinders upon the forward part of this structure and mounting the whole on three points, are the basic ideas upon which the plant is based. In structural refinements, it is worked out to a fine point of accessibility and direct action. The use of three-quarter elliptic rear suspension on the show chassis, is practically



FRANKLIN SEVEN-PASSENGER TOURING CAR



"TUMBLING CHASSIS" EXHIBIT OF THE THOMAS CAR



STEARNS FIVE-PASSENGER TOURING CAR

the only noticeable structural change in the entire line.

Winton cars now are equipped with a brand new carburetter, which is one of a very limited number of innovations. It is of the single jet type, simple in construction, and minus any attempt at automatic regulation of the air component of the mixture. Instead, a double throttle arrangement is provided, together with interconnected control. A four-speed gearset is now employed, instead of one having but three; the wheel base has been increased by a small amount, and semi-elliptical springs of enlarged proportions are used to support the chassis. In original design, respecting the six-cylinder motor, self-starting device, and other characteristic features, the car is unchanged.

Setting up a straight-front, square-cornered dash, in place of the characteristic convex member of former models, lengthening the hood and slightly altering the outline of the fenders has more than slightly changed the external appearance of the Royal Tourist. Beneath the surface, however, it remains practically the same as hitherto. One recent addition is in the way of an oil filtration device, which, together with modifications in the lubricating system is thought to have improved the action of the machine from the standpoint of reliability. Such original features as the differential gear arrangement for equalizing the brakes, the heavy rear axle system and the large and expensive cylinder formation, are retained practically without change.

Introducing the dry plate clutch, Packard cars reveal even fewer changes than has usually been the case since the one-design policy was adopted some years ago. Among the limited number of alterations disclosed at this time, may be mentioned the altered arrangement of the gear shifting lever, whereby it is given a selective action in the control of the exclusively designed axle mounted gearset. The use of a protecting tube for the primary wiring between the battery and coil boxes, and a "kick-switch" on the coil box, are new, as are mud guard and apron extensions on the standard chassis, and a generous enlargement of dimensions in the rumble seat for the bodies in which that item is included. The hydraulic governor, Eisemann ignition system, special carburetter and other original features are retained.

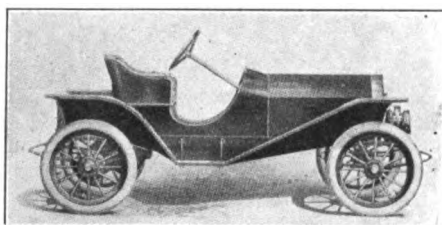
Among other cars which appear without ostensible improvement upon previous construction, may be mentioned the Autocar and Simplex. The Oldsmobile, which, on the four-cylinder model, now has longer wheel base, larger wheels and a four-speed change gear system; is mounted, when it comes to the six-cylinder creation, on 42-inch wheels—the largest in the show. Throughout the line, dual ignition, three-quarter elliptic rear springs and combina-

tion gas-electric lamps as standard equipment, are rated as new. Cadillac cars, which nominally have remained unchanged for some little time, now have more power than before, due to a quarter inch addition to the cylinder bore; longer wheel base, larger tires, and a new axle equipment. An enlarged radiator, a redesigned and more satisfactory change gear system, and an improved steering gear, have been added to the Buick 30 horsepower model.

Apperson cars are equipped with a new semi-floating axle, which is of original design and constructed at the home factory of the Jack Rabbit and its companion products. A four-speed change gear on the 50 horsepower model, a newly designed drop frame, which enhances the body design not a little, together with slight improvements in brake construction, comprise the more important alterations in the line.

#### AMONG THE ELECTRICS.

After the riot of gold and color in the "Roman amphitheatre" there is almost a solemn hush of somberness in the prevailing glistening black which constitutes the



WAVERLEY ELECTRIC ROADSTER

exterior finish of most of the vehicles to be found in the section devoted to pleasure electrics, this section being in a room by itself to the right of the main lobby. The effect is somewhat accentuated by the fact that the aisles, instead of being packed with struggling crowds, are peopled with sedate persons who move slowly from car to car in stately dignity. When one is really in the midst of them, however, it is possible to discover in the electric showing some relieving color effects which make it very plain that the electric need not always be in modest black.

An electric "roadster" in cream yellow is the first eye catcher in a color way that is encountered, and it has its place almost in the center of the space of the Waverley Co., of Indianapolis, Ind. The machine is on exceedingly gasoline-ish lines, and boasts a runabout top and a folding wind shield. Its "juice" equipment is 32 Exide cells, which are claimed sufficient for a speed of 27 miles per hour or for 75 miles of travel in ordinary service. A victoria, a four passenger brougham, a two passenger coupe and a Stanhope bearing the Waverley brand, likewise are on view. A demonstrating motor and controller set finished in nickel serve to make clear the merits of

the Waverley drive system and the safety provision which prevents the car from being started except from the neutral lever position, which constitutes one of the Waverley's "talking points." The presence of an electric braking device for use in high speed emergencies also is disclosed, as an exclusive Waverley feature.

Three models constitute the representation of the Columbia Motor Car Co., of Hartford, Conn., in the electric section. The company, which is a reorganization of the Electric Vehicle Co., has a long lineage in the electric field, and offers types which are products of ripe experience. These include a Mark 68 brougham, with 44 cell equipment; a Mark 70, Lot 2 victoria phaeton with 24 cells, and a Mark 75 victoria phaeton with 24 cells. The latter model has a pressed steel chassis which permits the removal of the phaeton body and its replacement by a coupe landaulet body, of which one is shown unmounted. The Mark 70 is a continuation of the construction where no chassis underlies the body, the spring horns or dumb irons being fastened directly to the body. This method is so economical as to permit a popular price on the model embodying it.

An exposed chassis gives opportunity for examination of the motor and drive mechanism of the Baker electrics, and the arrangement of the running gear. Shaft drive to bevel gears is the characteristic, and by the fitting of a new form of spring shackle, the use of torsion rods is avoided. Five Baker models, made by the Baker Motor Vehicle Co., of Cleveland, O., are arrayed in full panoply of body and trimmings. Two of these, including a racey runabout and a runabout coupe, having wheel steer with current control lever on the steering wheel. Both have 30 cells. An extension front coupe with gold mountings and an interior upholstered in golden bronze brocaded satin, with silk curtains and draperies, presents an example of electric luxury, but is rivalled by a straight front coupe finished in red silk velour. These are 28 cells. A victoria phaeton completes the group.

Striking in a pure white finish, the Model Twelve "roadster" exhibited by the Babcock Electric Carriage Co., of Buffalo, N. Y., also is very much to the petroleum distillate in its general appearance, and it is claimed to have a maximum speed of 30 miles per hour on its 42 cells. The latter are represented as having a capacity of 100 miles at 17 miles per hour under the best conditions. The company stages likewise a Model Six victoria, a Model Ten three passenger coupe, a Model Eleven seven passenger town car and a Model Fourteen four passenger coupe. The latter is a new model, not heretofore present in the line. The novelty is chiefly in the body and a wheel steer with break joint, allowing ingress or egress from either side. Double chain drive is



the construction on all the models, the latter having exclusive Babcock features in a safety foot control which is declared to be highly efficient in preventing accident, and an anti-theft or safety Yale lock device which is incorporated in the starting switch.

Borrowing from gasoline car practice not in respect to motive power or outside appearance, but in some of the constructional features of the rear axle and the expansion hub brakes, the Studebaker Automobile Co.'s offerings, which consist of two victorias, a landaulet and a coupe, are to be differentiated from other electric vehicles of the same general class by the fact that they have full floating rear axle mounting in connection with chain drive, and rear wheel drums which take internal as well as external braking friction. The driving or floating axle is not required to do anything other than rotate the rear wheels. It is connected to these by means of dog clutches fitted with square sockets. The driving axle floats free in the housing and does not come in contact with anything except the sockets in the differential and in the dog clutches at the wheel end. Particular emphasis also is placed on the battery trays of the vehicles emanating from the big South Bend (Ind.) factory. The metal bands of the trays completely surround them and the metal corner irons reach from top to bottom. The Studebaker controlling system has an interlocking device which prevents throwing the switch which completes the circuit between the motor and the batteries unless the controller is at neutral. A Yale lock also is applied to the controller making it impossible to move the latter when the key is removed.

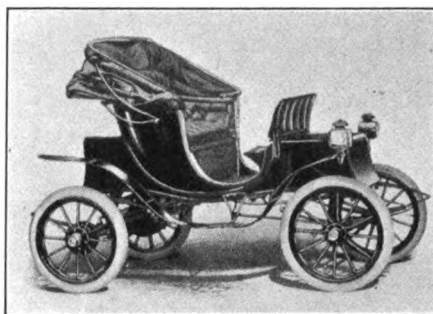
An entirely new model has been produced by the Woods Motor Vehicle Co., of Chicago, Ill., and it has its first disclosure at the Madison Square Garden show. It is styled the No. 12 brougham, and two examples of it are shown, each equipped with 40 cells. A No. 10 brougham and No. 100 Queen Victoria make a quartet of Woods offerings.

Three sets of brakes instead of the customary two are provided in the Detroit electrics, made by the Anderson Carriage Co., of Detroit, Mich. In addition to an internal expanding hub brake there is a brake on the motor and another on the ends of the countershaft. Victoria models A and B are displayed, together with a four passenger Model D brougham.

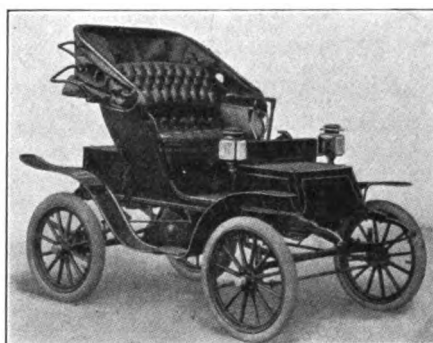
A chassis construction which permits a great variety of body changes on the interchangeable system distinguishes the cars of Rauch & Lang, Cleveland, O. Four complete cars in four types of body are put on view, including a victoria, extension coupe, landaulet and runabout, the chassis being identical.

Three makes of electric commercial vehicles are on view in the basement, includ-

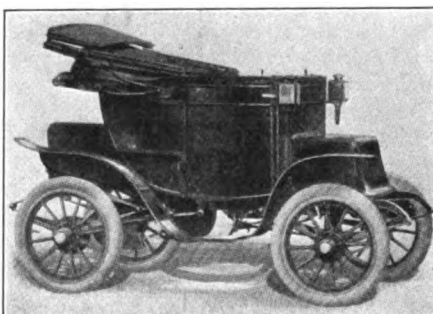
ing Studebaker, General Vehicle and Baker. An exposed chassis of the Studebaker Model 26 is at the front of the space of the Electric Vehicle Department of the Studebaker Automobile Co., South Bend, Ind. It shows the general construction employed in all the models from one to five tons, and is marked by double motors giving an independent drive to each rear wheel. Two sets



WAVERLEY VICTORIA PHAETON



STUDEBAKER STANHOPE MODEL



STUDEBAKER ELECTRIC LANDAULET

of brakes are provided, one set applying to the motors and the other to the rear wheels direct. The carrying crate for the batteries is suspended on coil springs in its relation to the frame, relieving the cells from minor vibration which might not be taken care of by the main springs when the vehicle is running light. The Model 26 is also shown complete with delivery body, a Model 20-14, complete with 44 cell Exide equipment and twin tires in the rear, mounts a rack side body. Its normal capacity is two tons. Westinghouse motors are utilized, in connection with the new Westinghouse "continuous torque" controlling system. Because it is impracticable to subdivide so small a motor unit, a single motor is fitted on the Model 25, which is of 850

pounds capacity, and has 26 cell equipment. The Baker exhibit comprises a 1,000 pounds truck and a chassis of the ton truck, while the General Vehicle Co. shows two of its heavy service electric trucks.

#### IN THE COMMERCIAL SECTION.

Little alteration from last year is disclosed in the Hewitt two ton truck, made by the Hewitt Motor Co., of New York (which shortly will become the Everitt Motor Car Co., of Detroit), although a variation has been made here and there with a view to a perfection of the details. The motor, as before, is of the double opposed type, and is rated at 24 horsepower, the cylinders being  $5\frac{1}{2} \times 5$  inches. Planetary transmission is continued, the control being entirely by pedals and a throttle button. Fixed spark permits a complete clearing of the steering wheel. Square axles are used, front and rear. Plain solids,  $34 \times 4$ , are the front wheel equipment, while the rear wheels have dual blocks,  $34 \times 3\frac{1}{4}$ . The drive is by side chains. Both the oiler and the magneto are actuated by a spiral gear shaft, and the radiator is protected by a frame and helical spring mounting. For the ten ton Hewitt truck the four cylinder motor has been redesigned to some extent, its characteristics being very long pistons and connecting rods, to give a low angle of pressure on the pistons. The latter can be removed from the cylinders without dismantling the engine, by opening doors in the side of the crank case. The dimensions of the engine,  $4\frac{1}{4} \times 5\frac{1}{2}$  inches, give a formula rating of 28 horsepower, but 36 brake-horsepower is claimed. Two forward speeds and a reverse are supplied by planetary transmission, and the same simple control obtains as on the lighter truck that is shown.

The three ton Alco truck of the American Locomotive Co., of Providence, R. I., which stands alone in the company's space in the commercial section, is a large affair, measuring 197 inches over all, with a wheel base of 110 inches. The four cylinder motor is the same as used in the Alco cabs. It is located under the foot boards, which with the seat are located on a bridge-like structure which just clears the tops of the cylinders. Removable side shields make the motor readily accessible from the sides. The bore is 3 15-16, while the stroke is quite long in proportion, being  $4\frac{3}{4}$ . The governor being set for 1,000 r.p.m., the engine can develop 24 horsepower. Selective transmission, three forward and a reverse, is fitted. The length of the loading space is 12 feet with the standard body, the width being optional. Drive is by side chains. The truck, which sells for \$3,500, weighs 5,200 pounds with everything on. Solid tires are used, the equipment for the rear wheels being twins,  $36 \times 3\frac{1}{2}$ , while the front tires are  $36 \times 5$ .

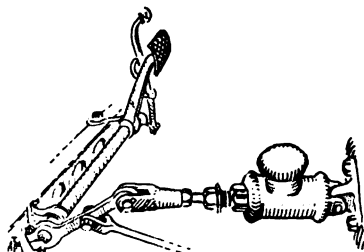
Worm drive remains as a characteristic

of the Franklin 2,000 pounds truck, the type L-4 being shown. The new Franklin motor and air cooling system, by which the air is drawn down around each cylinder through jackets by means of a sirocco fan fly wheel, is employed, the 18 horsepower engine being used. In addition to the full ellipses in front and the semi-ellipses in the rear, coil springs are used both front and rear. Pneumatic tires are the regular equipment, these being 36x5½, with quick detachable rims. The space also shows two other products of the H. H. Franklin Mfg. Co., of Syracuse, N. Y., these being a cab and a fire chief's speed car, both shaft driven, but by bevel gears instead of a worm. The former is on the 18 horsepower chassis, while the fire department car, which is painted a brilliant red and is equipped with axes, lanterns, chemical tanks and other light apparatus, is on a 28 horsepower Franklin chassis. Stout brass railings around each of the four bucket seats, for the occupants of the latter to grasp, indicate the speeds which the car is expected to make at times when it is put in service.

Several radical changes have been made in the Thomas taximeter cab, made by the Thomas Motor Cab Co., of Buffalo, N. Y. The hood has been altered to the Renault type, with the radiator up at the dash. The control levers have been placed in the center, operating directly down into the gear change, which no longer is on the rear axle, but which has the gear box forward underneath the floor boards. The driver's seat is on the left, so that the levers are at his right. The steering wheel has been freed of both spark and throttle levers. The spark is fixed, a magneto being used, and the throttle is controlled entirely by a foot button. The one pedal which accompanies the throttle button operates both the clutch and the brake, so that the whole control is of the simplest. An increase has been made in the wheel base, from 103 to 108 inches, and the general construction of the axles and frames is of a heavier order than before. Retaining the block type motor, the cab has a rated capacity of a little over 18 horsepower by the A. L. A. M. rating, though the cylinder dimension, 3¾ x 4.5-16, indicate the long stroke which must be taken into account. Thermo-siphon cooling is used. The exhibit includes both the chassis and a complete cab.

Taking into account the "slap-dash" and

careless methods of many drivers of commercial vehicles, the Autocar Co., of Ardmore, Pa., has incorporated in its 18 horsepower, 3,000 pounds, shaft drive motor truck an attachment which prevents the "slamming in" of the clutch, such as might result in sudden jerks. When the clutch pedal is entirely released by the foot it does not immediately come back into full clutch engagement, but is restrained to slow action by an hydraulic dashpot connected to the clutch pedal mechanism. The dashpot permits only a deliberate and easy engagement, and is calculated to save the



AUTOCAR CLUTCH RETARDER

machine many an abrupt and racking shock. As a further measure against drivers' indiscretions, the motor is equipped with a governor which limits the speed to 18 miles per hour. The governor is actuated by the water pressure in the circulation system and is wired and sealed with a lead seal so that it cannot be tampered with by the driver or anyone else without disclosing the fact.

The Autocar commercial chassis is, in fact, marked by a number of "kinks" which prove how thoroughly the commercial question has been given thought by its designers. The front end of the frame beyond the body is rounded to serve as a buffer. The motor is concealed under the driver's seat, and the latter is fitted with a crank at the side by which it is easily raised. The turning of the crank lifts the seat high in the air, where it is securely supported until the motion of the crank is reversed. With the seat raised the motor is very accessible. It is of the two cylinder double opposed type, as in the past, but shows several detail improvements in the disposal of its fittings. The magneto and the lubricator are mounted on the top of the crank case and are driven from one shaft. The spark is fixed. In the change gear, which is of the progressive type, there are three speeds forward and a reverse. Full elliptic springs

are used all around and the rear springs have the upper leaf of the lower half and the bottom leaf of the top half sharply arched out toward each other for emergency bumpers when heavy compression takes place.

In addition to the display chassis for revealing the construction, the Autocar stand also contains the same style chassis fitted with caged express wagon, ambulance, covered delivery and rack side bodies, respectively. Solid tires are the form of equipment shown.

Although it is the same chassis that was exhibited by the Alden Sampson Mfg. Co., of Pittsfield, Mass., last year, the big five ton Sampson truck gathers inquiring groups and gratifies the technical eye by the thoroughness and detail with which it has been worked out in every respect, from spring suspension to power plant, which latter comprises a four cylinder motor. An example of this thoroughness is afforded by the differential lock which is provided as a means to prevent drive wheel spin when the truck is stuck in mud or snow.

The Pope Mfg. Co., of Hartford, Conn., is represented in the commercial section by a screamingly erubescient fire wagon on a standard Pope-Hartford chassis. The machine is laden with chemical tanks, ladders, hose, ropes, lanterns, and similar emergency paraphernalia, and in addition to the two front seats there is standing room provision for a number of firemen at the rear, so that the wagon is a ready "first aid" for conflagrations.

Two water cooled trucks, each of 4,000 pounds capacity and rated at 40 horsepower, are shown by the Knox Automobile Co., of Springfield, Mass. The model R-5 has a covered rack body, and a wheel base of 103 inches, while the model R-14 has a caged body, and a wheel base of 125 inches. In each case the four cylinder motor, rated at 40 horsepower, has cylinder 5x4¾ inches. Solid tires are fitted, 34x4 in front and 34x5 in the rear, and the final drive is by side chains.

A three ton truck is staged by the Packard Motor Car Co., of Detroit, Mich., equipped with a caged body. A four cylinder motor is used, and the engineering features of the chassis are along conventional and approved lines.

## Summary of the Cars Exhibited and of Their Features

### GASOLINE PLEASURE CARS.

American Locomotive Co., Automobile Dept., Providence, R. I., and New York City—Alco gasoline cars. One 6 cylinder 60 h.p. chain drive racing car; one each 6 cylinder 60 h.p. shaft drive limousine; chassis and touring car; one 4 cylinder 40 h.p. shaft drive toy tonneau. New features: Shaft instead of chain drive, Bosch dual ignition system. Distinctive

feature: Solid single forged rear axle construction.

Apperson Bros. Automobile Co., Kokomo, Ind.—Apperson 4 cylinder gasoline water cooled cars. One 50 h.p. Jack Rabbit, one 40 h.p. touring car, one 30 h.p. touring car and one 50 h.p. touring car. New features: New differential, semi-floating axle, 4 speed transmission in 50 h.p. machines, drop frame, raybestos brakes.

Autocar Co., The, Ardmore, Pa.—Autocar shaft drive gasoline cars. One each 4 cylinder 26-30 h.p. runabout, small tonneau and chassis. One each 2 cylinder horizontal 18-20 h.p. town car and bus. No changes deemed desirable.

Buick Motor Co., Flint, Mich.—Buick 4 cylinder shaft drive cars. Three each 30 h.p. limousine and touring car, and one chassis; two 24 h.p. tourabouts (new

cars); one 18 h.p. runabout. New features on 30 h.p.: Larger radiator, redesigned heavier transmission, improved steering gear.

**Cadillac Motor Car Co., Detroit, Mich.**—Cadillac 4 cylinder 30 h.p. water cooled shaft drive gasoline cars. One enclosed drive coupe, one limousine, one demitonneau, one touring car, one runabout and one chassis. New features: Larger wheels and tires, longer base, larger power plant, roomier body, I-beam front axle, Timken roller bearings in rear axle.

**Chalmers-Detroit Motor Co., Detroit, Mich.**—Chalmers-Detroit 4 cylinder water cooled shaft drive gasoline cars. One 30 h.p. top tonneau, one 30 h.p. runabout, one 30 h.p. chassis, one 30 h.p. runabout, one 30 h.p. touring car, one 40 h.p. touring car, one 40 h.p. pony tonneau. New features: Larger power plant, general refinement, longer wheel base and larger wheels.

**Columbia Motor Car Co., Hartford, Conn.**—Columbia 4 cylinder shaft drive gasoline cars. One each 32 h.p. chassis, limousine and touring, and two torpedoes. New features: Double ignition with Seeley jump spark system, larger engine, sliding accelerator pedal, larger clutch, new propeller shaft and universal joints, valves enclosed, water jacketed carburetter, adjustable pedals, new style radiator and mounting, heavier steering column with new design knuckles and steering rods.

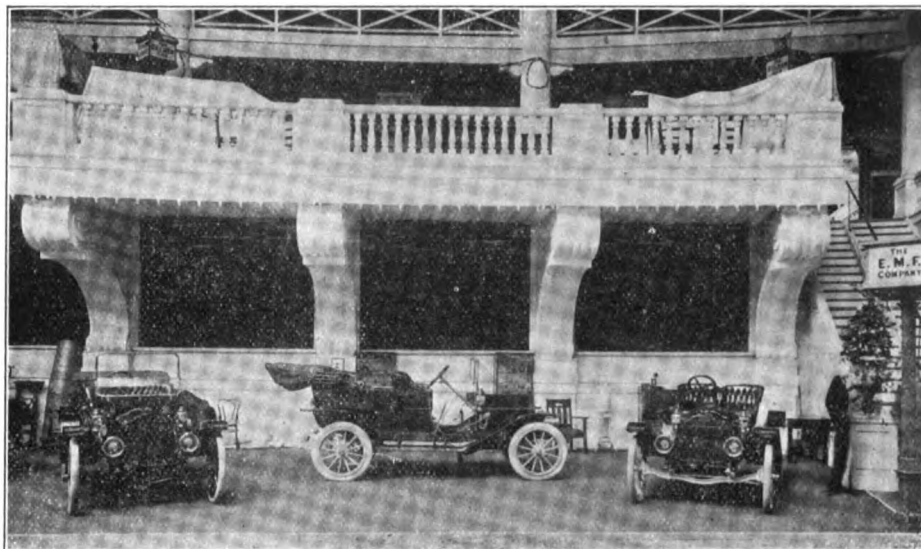
**Corbin Motor Vehicle Corporation, New Britain, Conn.**—Corbin 4 cylinder shaft drive gasoline cars. One each 30 h.p. chassis, roadster, limousine, touring car and toy tonneau. New features: Longer wheel base,  $\frac{3}{4}$  elliptic rear springs, with upswept frame, cam gears housed, new oil pump, right to left throw accelerator pedal.

**Elmore Mfg. Co., Clyde, Ohio.**—Elmore 4 cylinder, 2-cycle shaft drive gasoline cars. One 36 h.p. toy tonneau, one 36 h.p. touring car, one 36 h.p. chassis and two 46 h.p. touring cars. New features: Semi-floating rear axle, longer wheel base on 36 h.p., larger wheels, upswept frame rear, three-quarter elliptic rear springs, tubular radiator, new carburetter, under pan extended in front of radiator to protect it from mud splashing, new propeller shaft and universal joints, larger brakes, and thermo-syphon circulation. 46 h.p. new model.

**E-M-F. Co., The, Detroit, Mich.**—E-M-F and Flanders 4 cylinder shaft drive cars. E-M-F.: One each 30 h.p. touring car and chassis. Flanders: One each 20 h.p. chassis, tourabout and runabout. E-M-F. new features: Cone clutch, longer wheel base, new front axle and heavier front springs. Flanders (new car) features: Block engine, multiple disc clutch, transmission on rear axle, full elliptic rear springs, operating levers inside frame, pressed steel dash, steering gear on forward engine leg with transverse reach rod to left knuckle.

**Franklin Co., H. H., Syracuse, N. Y.**—Franklin air-cooled shaft drive gasoline cars. One 4 cylinder 28 h.p. chassis, one 4 cylinder 18 h.p. runabout (new model), one 6 cylinder 42 h.p. touring car and one 6 cylinder 42 h.p. torpedo. New feature: Suction pump cooling system.

**Haynes Automobile Co., Kokomo, Ind.**—Haynes 4 cylinder 30-35 h.p. water cooled shaft drive gasoline cars. One chassis, two touring cars, one runabout and one top tonneau (all new models). Features: Cylinders cast in pairs, extra large water jackets; semi-elliptic front and three-quarter elliptic rear springs, selective type



WHERE THE E-M-F. AND FLANDERS CARS ARE SHOWN

transmission, three speeds forward and one reverse, interchangeable inlet and exhaust valves, Splittorf magneto dual ignition, splash and force feed oiler located in bottom half of crank case, two separate systems of brakes, I-beam single piece drop forge front axle and full floating rear axle, Timken roller bearings throughout.

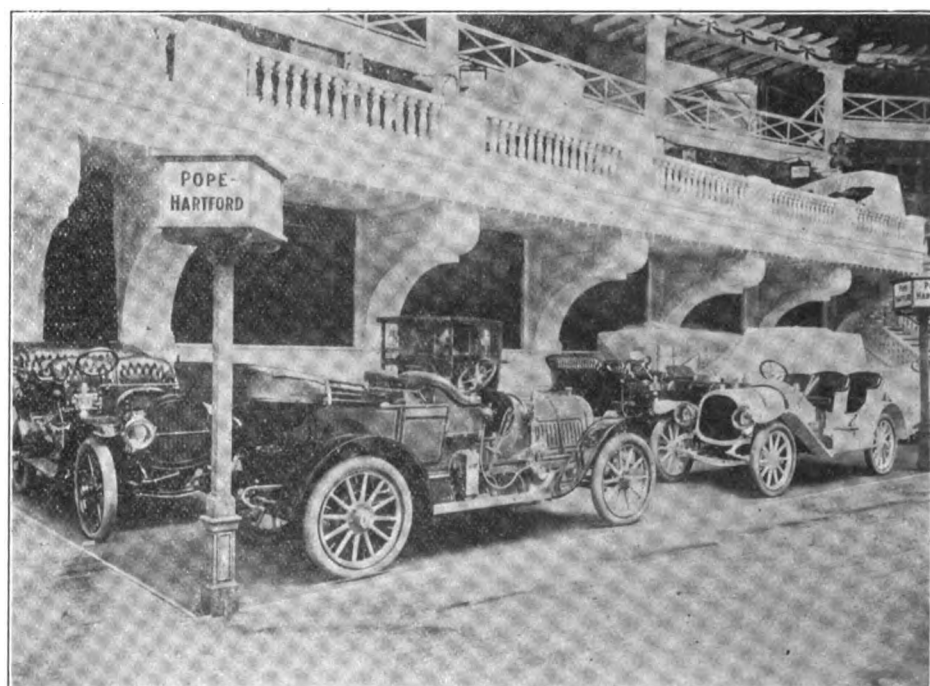
**Hudson Motor Car Co., Detroit, Mich.**—Hudson 4 cylinder 24 h.p. shaft drive gasoline cars. One chassis, two touring cars (new models) and one roadster. Features: Semi-elliptic front and three-quarter elliptic rear springs, Bosch high tension magneto, selective sliding gear transmission, three speeds forward and one reverse, centrifugal pump cooling, internal and external brakes on rear wheel hubs.

**Knox Automobile Co., Springfield, Mass.**—Knox shaft drive gasoline cars. One 6 cylinder 60 h.p. touring car (new car), one each 4 cylinder 40 h.p. torpedo, tour-

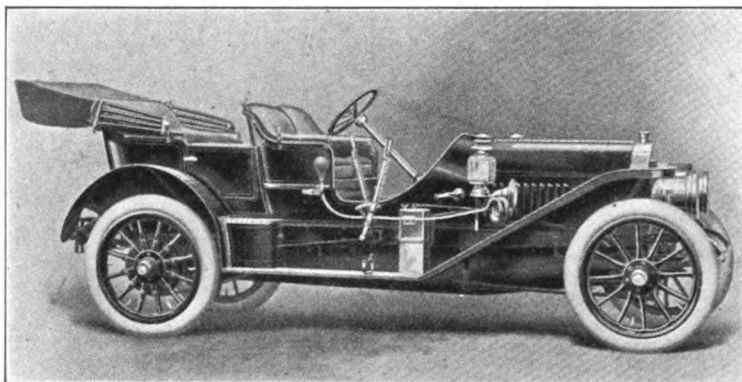
about, touring car, tonneauette and chassis. Changes on 40 h.p.: Larger engine, upswept rear frame,  $\frac{3}{4}$  scroll elliptic rear springs, larger wheels, I-beam front axle, transmission smaller and more compact, heavier frame, new screw and nut steering gear, transmission case demountable independently of engine, also retaining unit power plant construction, new brake equalizers, new fan driven by chain belt, spring safety ratchet drive on oil and water pump shafts, simplification of oiling system, front frame cross member reinforcement.

**Locomobile Company of America, Bridgeport, Conn.**—Locomobile 4 cylinder gasoline cars. One each 30 h.p. shaft drive chassis, touring car, limousine and toy tonneau; one 40 h.p. chain drive runabout. New features: Larger brakes on 30 h.p. Distinctive feature: Make and break ignition.

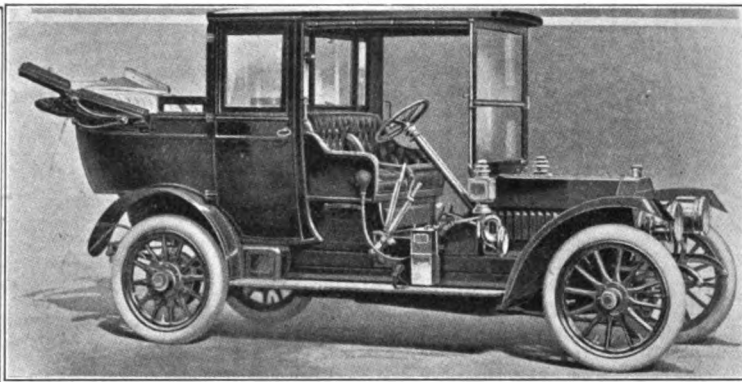
**Lozier Motor Co., New York City**—Lozier gasoline cars. One each 6 cylinder 50



POPE-HARTFORD CARS EFFECTIVELY DISPLAYED



LOCOMOBILE 40 HORSEPOWER ROADSTER



LOCOMOBILE 30 HORSEPOWER LANDAULET

h.p. shaft drive chassis and Briarcliff roadster; one each 4 cylinder 45 h.p. chain drive limousine and touring car. New features: Square tube radiator, more silent transmission and demountable rims. Distinctive feature: Unit power plant.

Matheson Motor Car Co., Wilkes-Barre, Pa.—Matheson gasoline cars. One each 6 cylinder 50 h.p. shaft drive chassis, touring car and toy tonneau; one each 4 cylinder 50 h.p. chain drive chassis and limousine. Changes not deemed necessary. Distinctive features of 6 cylinder cars: Motor base cast to form dust pan, rear axle transmission. Features of 4 cylinder car: Make and break ignition and overhead valves, all operated from outside cam shaft mounted on upper left side of cylinders.

Mercer Automobile Co., Trenton, N. J.—Mercer 4 cylinder 30 h.p. water cooled gasoline cars. One chassis, one limousine, one toy tonneau and one touring car. Features: Cylinders cast in pairs, three speed selective transmission, multiple disc clutch, three-quarters elliptic springs in the rear, double Spicer universal joint drive system with torsion and radius rods, centrifugal pump with protected tubular radiator, equalized brakes, radiator mounted on frame by trunnion.

Metzger Motor Car Co., Detroit, Mich.—Everitt 4 cylinder shaft drive gasoline cars. One 30 h.p. chassis, one 30 h.p. touring car. First time shown in New York City. Features: Block motor, double drop frame, selective transmission integral with rear axle, cylinders and upper half of crank case integral.

Olds Motor Works, Lansing, Mich.—Oldsmobile water cooled shaft drive gasoline cars. One 6 cylinder 60 h.p. chassis, one 6 cylinder 7 passenger touring car, one 6 cylinder 60 h.p. runabout, two 4 cylinder 40 h.p. touring cars, one 4 cylinder 40 h.p. close coupled, one 4 cylinder 40 h.p. 7 passenger touring car. New features: Changes on 4 cylinder models. Longer wheel base, larger wheels, 4 speed selective transmission instead of 3 speed, three-quarter elliptic springs in rear, new Bosch dual ignition system, combination oil and electric lamps. New feature on 6 cylinder cars: 42 inch wheels on all models except limousine. Other changes same as on 4 cylinder cars.

Packard Motor Car Co., Detroit, Mich.—Packard 4 cylinder shaft drive water cooled cars. One 30 h.p. limousine, one 30 h.p. Florodora limousine, one 30 h.p. phaeton, and one 18 h.p. landaulet. New features: Packard dry plate clutch, enclosed front for driver on Florodora limousine.

Palmer & Singer Mfg. Co., New York City

—P-S shaft drive gasoline cars. One 6 cylinder 60 h.p. dreadnought, one 6 cylinder 60 h.p. touring car, one 4 cylinder 30 h.p. chassis and one 4 cylinder 30 h.p. runabout. New features: Clutch in fly wheel and elimination of torsion rods.

Peerless Motor Car Co., Cleveland, Ohio—Peerless shaft drive gasoline cars. One 6 cylinder 50 h.p. touring car, one 4 cylinder 30 h.p. limousine, one 4 cylinder 30 h.p. chassis, one 4 cylinder 20 h.p. town car. New features: Town car new model, with valves on left side, and left hand steering, with levers in center. Double ignition, new carburetter, larger springs, larger steering wheel, new universal and rear axle housing of pressed steel.

Pierce-Arrow Motor Car Co., Buffalo, N.

Y.—Pierce-Arrow 6 cylinder water cooled shaft drive gasoline cars. One 48 h.p. chassis, one 36 h.p. runabout, one 48 h.p. touring car, one 36 h.p. brougham, one 66 h.p. landaulet. New features: Increased bore on 36 and 66 h.p. models, three-quarter elliptic springs on larger models, larger wheels and tires, mechanical pump for inflation of tires, combination electric and kerosene side and tail lamps.

Pope Mfg. Co., Hartford, Conn.—Pope-Hartford 4 cylinder shaft drive gasoline cars. One each 40 h.p. roadster, pony tonneau, landaulet, and two touring cars. New features: Larger wheels, new oiling system, rear axle strengthened, longer rear springs, steering reach rod placed above axle.

Royal Tourist Motor Car Co., Cleveland, Ohio—Royal Tourist 45 h.p. cylinder shaft drive cars. One dust proof, one touring car, one chassis, one close coupled and one limousine. New features: Four internal brakes on rear wheels with differential equalizers, one piece tubing in rear axle.

Selden Motor Vehicle Co., Rochester, N. Y.

—Selden 36 h.p. 4 cylinder shaft drive gasoline cars. One torpedo (new model), one limousine, one 5 passenger touring car, one 7 passenger touring car, one roadster and one chassis. New features: Larger power plant, 122 inch wheel base on 7 passenger car, Fedders square tube radiator, disappearing clutch pedal with adjustable foot pads, removable coil units, increased clutch leverage, frame lowered slightly, new carburetter, Brown-Lipe gears, positive brake equalizers carried inside frame, front and side fenders continuous, new axle, gas tank mounted on chassis.

Simplex Automobile Co., New York City—Simplex 4 cylinder chain drive gasoline cars. One each 50-70 h.p. chassis and limousine. No changes deemed desirable.

Stearns Co., The B. F., Cleveland, Ohio—Stearns 4 cylinder shaft drive gasoline cars. One each 15-30 h.p. limousine, touring car and toy tonneau; one each 30-60 h.p. toy tonneau, chassis and touring car. New features: On 30-60 h.p., dry plate clutch and Bosch dual ignition. Distinctive features: Solid single forged rear axle and demountable rims on all cars. Block engine on 15-30 h.p.

Stevens-Duryea Co., Chicopee Falls, Mass.—Stevens-Duryea shaft drive gasoline cars. One 6 cylinder 35 h.p. chassis, one 4 cylinder 24 h.p. limousine, one 6 cylinder 35 h.p. touring car, one 6 cylinder 40 h.p. touring car, one 4 cylinder 24 h.p. gentleman's roadster, and one 4 cylinder 24 h.p. passenger touring car. 6 cylinder 35 h.p. and 4 cylinder 24 h.p. cars new models. New features: Unit power plant on three point suspension, withdrawal of pistons without removing cylinders or breaking water connections, interchangeable intake and exhaust valves, independent ignition systems, full floating rear axle unit housing.

Studebaker Automobile Co., South Bend, Ind.—Studebaker-Garford 4 cylinder shaft drive gasoline cars. Two 40 h.p. roadsters, one chassis and one limousine. New features: Transmission redesigned, new type radiator, frame curved over rear axle. Distinctive feature: Make and break ignition.

Thomas Motor Co., E. R., Buffalo, N. Y.—Thomas water cooled gasoline cars. One 6 cylinder 70 h.p. double chain drive limousine, one 4 cylinder 28 h.p. shaft drive landaulet (new model), one 6 cylinder 40 h.p. shaft drive touring car (new model), one 6 cylinder 70 h.p. chain drive flyabout, one 6 cylinder 40 h.p. shaft drive chassis, one 6 cylinder 70 h.p. chain drive touring car. New features: Electric lighting on 70 h.p., 38 inch wheels, cast aluminum fan with new housing, Thomas radiators.

White Co., The, Cleveland, O.—White steam and gasoline cars. One 40 h.p. 7 passenger steam touring car, one 20 h.p. chassis, one torpedo and one landaulet. New features of steam car: Kerosene burner. Features of gasoline car shown for first time: Water cooled engine cast in block, mechanically operated and interchangeable valves, selective type transmission, four forward speeds and one reverse, shaft drive, two brakes on each rear wheel, I-beam front and chrome nickel steel rear axle.

Willys-Overland Co., Toledo, Ohio—Overland and Marion 4 cylinder shaft drive gasoline cars. One 40 h.p. touring car, two 40 h.p. runabout, one 40 h.p. town car, one 30 h.p. toy tonneau and one 30



h.p. runabout. New features: Larger valves, main shaft through torsion rod, multiple disc instead of cone clutch, cylinders cast separately on Overland and in pairs on Marion.

Winton Motor Carriage Co., Cleveland, O.—Winton 6 cylinder 48 h.p. water cooled shaft drive cars. One chassis, one limousine, one torpedo, one torpedo touring car, one 5 passenger touring car and one toy tonneau. New features: 4 speed transmission, flat springs, upswept rear frame, channel section pressed steel front axle, larger multiple disc clutch.

### ELECTRIC PLEASURE CARS.

Anderson Carriage Co., Detroit, Mich.—Detroit electric pleasure cars. One victoria, one 4 passenger brougham, one 2 passenger coupe (new model), and one roadster. New features: Countershaft brake, longer wheel base and 24 cell batteries.

Babcock Electric Carriage Co., Buffalo, N. Y.—Babcock electric pleasure cars. One 7 passenger town car (new model), one 2 passenger victoria, one 4 passenger coupe, inside drive (new model). Features: Guaranteeing batteries 6,000 miles, and 100 miles on single charge. Automatic power cut-off and brake, switch lock to prevent tampering, tilting steering pillar.

Bailey & Co., S. R., Amesbury, Mass.—Bailey electric pleasure cars. Two victoria phaetons. New features: Edison batteries, pneumatic tires. Distinctive features: 34 inch wheels, cold rolled steel side frame, 3 point suspension for batteries giving better accessibility.

Baker Motor Vehicle Co., Cleveland, O.—Baker electric pleasure cars. One extension bevel gear shaft drive extension coupe, one bevel gear shaft drive Queen Victoria, one bevel gear shaft drive runabout, one bevel gear shaft drive straight front coupe, one bevel gear shaft drive runabout coupe. Features: Semi-floating rear axle, semi-elliptic front and full elliptic rear springs, continuous torque controller, wheel steer on runabout and runabout coupe, internal expanding brakes on rear wheels, and emergency band brake on motor, wheel base increased to 80 inches, larger and roomier bodies.

Columbia Motor Car Co., Hartford, Conn.—Columbia electric pleasure cars. One victoria and one 5 passenger bus.

Rauch & Lang Carriage Co., The, Cleveland, Ohio—R. & L. electric pleasure cars. Two runabouts, one victoria, one extension coupe, and one 40 cell inside drive 4 passenger landaulet (new model). New features: Longer wheel base and square front changed to rounding front.

Studebaker Automobile Co., South Bend, Ind.—Studebaker electric pleasure cars. One victoria phaeton, one coupe, one lan-

daulet. New features: Continuous torque controller, floating rear axle, smaller battery construction, internal expanding brakes.

Waverley Co., The, Indianapolis, Ind.—Waverley electric pleasure cars. One 4 passenger brougham, one 2 passenger brougham, one 2 passenger victoria, one stanhope and one roadster, built upon lines of gasoline car. New features: Enclosed drive on all cars optional with purchaser, 96 inches wheel base, full elliptic springs throughout, irreversible wheel steer, single forged I-beam front axle.

Woods Motor Vehicle Co., Chicago, Ill.—Woods electric pleasure cars. Two 5-passenger broughams, one 4 passenger brougham and one 2 passenger victoria. New features: 5 passenger broughams new models, large battery equipment, car designed to run on solid tires.

### GAS AND ELECTRIC COMMERCIALS.

Autocar Co., The, Ardmore, Pa.—Autocar 2 cylinder horizontal opposed 18 horsepower shaft drive gasoline commercial vehicles. One chassis, one ambulance, three delivery wagons, one 12-passenger station bus, one taxicab, one express wagon. New features: Increased carrying capacity, larger wheels and tires, full floating rear axle with cast steel housing, double reduction gearing, double acting brakes, Timken bearings throughout, Bosch single ignition with fixed sparking point, taking control of spark away from operator; adjustable fixed speed lever; clutch retarder to make clutch engage slowly.

Baker Motor Vehicle Co., Cleveland, Ohio—Baker electric commercial vehicles. One 1-ton chassis and one ½-ton chassis. Features: Continuous torque controller, double chain drive.

Franklin Mfg. Co., The H. H., Syracuse, N. Y.—Franklin 4 cylinder air cooled gasoline commercial cars. One 4 cylinder truck, 2,000 pounds truck, one fire chief's car (new model) and one taxicab. New features: New air cooling system.

General Vehicle Co., New York City—General electric commercial vehicles. One 5-ton brewery truck, one 2-ton chassis, one 1,000 pounds wagon. Distinctive features: Double chain drive, single motor drive, lead batteries, three-quarter rear elliptic springs.

Hewitt Motor Co., The, New York City—Hewitt gasoline trucks. One 4 cylinder 36 h.p. 5-ton truck, one 4 cylinder 36 h.p. 2-ton truck, one 2 cylinder horizontal opposed 20 h.p. 2-ton chassis. New features: Governor control, limiting speed to 10 miles per hour. Distinctive features: Accessibility of parts, pistons being removable without dismantling engine, planetary transmission with single pedal control, semi-elliptic springs throughout, thermo-syphon cooling.

Knox Automobile Co., Springfield, Mass.—Knox 4 cylinder 40 h.p. chain drive gasoline commercial vehicles. Two 2-ton trucks. New features: Pneumatic tires for high speed work, geared to 25 miles per hour, shorter wheel base. Distinctive features: Accessibility of entire power plant, pneumatic tires, single front and dual rear, 34x4½, Fisk quick demountable rims, drop forged I-beam front axle, selective type sliding gears, Bosch dual high tension magneto system, also with batteries and commutator.

Packard Motor Car Co., Detroit, Mich.—Packard 4 cylinder gasoline commercial vehicles. One 3 ton double chain drive truck. Distinctive features: Accessibility of power plant, Packard type transmission, practice of putting rear wheels well forward to provide easier steering and better traction, semi-elliptic springs throughout, automatic governor control limiting speed to 12 miles an hour.

Pope Mfg. Co., Hartford, Conn.—Pope-Hartford 4 cylinder shaft drive gasoline commercial cars. One 4 cylinder 40 h.p. combination chemical and hose wagon. New features: Longer wheel base and stronger reinforced chassis, larger wheels, more power, longer body to permit of use of longer ladders. Features: Three-speed selective type transmission, chrome nickel steel gears, new design leather-faced clutch coupling, mechanical oiler located in crank case, mechanically operated valves in cylinder head.

Sampson Mfg. Co., Alden, Pittsfield, Mass.—Sampson gasoline commercial vehicles. One 4 cylinder water cooled 5-ton 40 h.p. chain drive chassis. New features: Dual rear tires, 42x6 inches, pressed steel frame, thermo-syphon cooling, 4 speed selective sliding gear transmission.

Studebaker Automobile Co., South Bend, Ind.—Studebaker electric commercial cars. One 850 pounds light delivery wagon, one 1,500-2,000 pounds chassis, one 1,500-2,000 pounds delivery wagon, one 2-ton stake truck. New features: 42 inch wheels, more clearance, railroad type of oiler instead of grease cup on rear axle, Westinghouse continuous control, semi-elliptic springs throughout. Exclusive feature: Batteries spring suspended.

Thomas Motor Co., E. R., Buffalo, N. Y.—Thomas 4 cylinder taxicabs. One cab and one chassis. New features: Transmission removed from rear axle, increased strength, dash radiator and sloping hood, self contained oil tank, left hand drive, clutch run in oil, heavier frame, longer wheel base, fixed spark, foot throttle control, clutch and brake control by single pedal, larger tires with demountable rims, three-quarter elliptic rear and semi-elliptic front springs, thermo-syphon cooling, drop frame, wider springs, Spicer universal joint full floating type rear axle, wheels driven independently of hub cap.

## Tires and Accessories Not Seen at "the Other Show"

In addition to all of the well-known tires which were exhibited at the Palace, the Garden discloses several new ones, among them the Federal cross-country tire which, although not entirely new to the trade, never before has been publicly displayed. This tire is distinguished by a non-skid tread formed of maltese crosses and is claimed to be the tire par excellence for

winter use or rough roads. It is cured in an airbag in open heat and is not subjected to the heat from an air core. The Federal people also show their better known wrapped tread tire.

The Thermoid, Carpringco and Imperial are the three really new tires that are making their first appearances. The Thermoid is the product of the Thermoid Rubber Co.,

of Trenton, N. J., who already are well-known because of the Thermoid brake lining, which, of course, is exhibited in connection with the new tire. The latter is of the flat tread type, with an unusually heavy tread, in which is vulcanized a wear-resisting fibre so compounded with the rubber that the end of each fibre extends to the surface of the tire; the resulting durability



THE APPROACH TO THE ELEVATED PLATFORM AND ACCESSORY EXHIBITS

is claimed to be good for 10,000 miles of service.

The Carpringco tire is the product of the New Jersey Car Spring Co., of Jersey City, N. J., and is an attractive looking article of standard design. Extra quality, due to the fact that the tires are made by hand and that the output is limited, is the chief claim made for the production.

The third new tire, the Imperial, is made by the McGraw Tire & Rubber Co., of Pittsburg, Pa. It is made in three forms, one with a fabric tread which, in addition to the usual layers of fabric, has several similar layers embedded in the tread proper, resembling somewhat the Thermoid in this respect, save that in the latter the fabric is laid vertically while in the Imperial the fabric is embedded horizontally. The other two Imperial tires are of the conventional clincher type, one with a heavy, flat tread and the other with a crowned tread.

A stitched tire, the Bragg, in which the rubber and fabric are held together by 12,000 stitches, in addition to the vulcanizing, is exhibited by the Seamless Rubber Co., of New Haven, Conn.

The Stein lap-lock tire, the product of the Stein Double Cushion Tire Co., Akron, Ohio, is a comparatively recent addition to the united tire family, the feature of which is a heavy base which completely fills

the rim and which is divided diagonally instead of horizontally, as in the conventional tire. It is from the overlapping of this diagonal cut that the tire takes its name.

The Motz Clincher Tire Co., of Akron, Ohio, displays its cushion and solid tires, and the Continental Rubber Works Co., of Erie, Pa., a full line of inner tubes, repair sleeves, etc. Post & Lester Co., Hartford, Conn., also exhibit inner repair sleeves of a similar kind.

No show being complete without something of the sort, the "completeness" of the tire display at the Garden show is evidenced by the crowds surrounding the valveless inner tube which is shown by a New York Wall Street company bearing that title. The crowd gapes with open-mouthed wonder as the demonstrator repeatedly jabs a needle-like syringe into the tube and inflates it by the same means. The tube itself is unusually heavy and is reinforced by an inner wall of sealing rubber which, of course, is claimed to make punctures self-healing. Pumping up the tire, as stated, is performed by plunging the inflating needle through the casing and the inner tube, the needle being attached to an ordinary pump.

Several improved ignition devices that were not exhibited at the Palace Show in-

dicate that the possibilities of spark-plug and magneto are not yet exhausted. One of the latter, a high-tension magneto which rocks in a horizontal position upon its own axis in order to advance and retard the ignition, is the offering of the Mea Company, of Stuttgart, Germany, of which Theo. H. Marburg is the New York representative. The object of rotating the whole magneto is, of course, to break the current at the "peak of the wave"; a very hot spark results, even in the most extreme retard position. The whole magneto is mounted horizontally, the contact breaker is placed outside and consists of two platinum screws, of which one is attached to a U-shaped spring, which is raised twice in every revolution by means of roller and stud ring, and the other fixed to a disc.

Another high tension magneto that has not been exhibited before, is the K-W, manufactured by the K-W Ignition Co., of Cleveland, Ohio. It is an adaptation to the low-tension type of an addition of the secondary winding for high tension work. A switch starter designed to eliminate "cranking" as long as there is an explosive mixture in any cylinder, is shown by the Simms Magneto Co., of New York, as a new feature of its product. It comprises a metal switch for mounting on the dashboard, a special contact breaker in the magneto

and an ordinary dry battery.

Reliance and J-D spark plugs of improved design are displayed by the Jeffery-Dewitt Co., of Newark, N. J., while the Champion Ignition Co., of Flint, Mich., presents a spark plug with quick detachable terminal in place of the regular nut end, and a brass washer shaped conically to fit the porcelain, to keep oil out. R. E. Hardy Co., of New York, are showing a new plug which they call "Apropos," and which was brought out during the week. Its central electrode is flush with the porcelain and quite free from it, so that the capillary attraction of the porcelain tends to draw the oil away from the electrode and thus prevent fouling.

The trend towards electric lighting of gasoline cars is made even more pronounced by the exhibits at the Garden. Storage and dry batteries are shown illuminating from four to five Tungsten lamps at the booth of the Philadelphia Storage Battery Co., while the Willard Storage Battery Co., of Cleveland, Ohio, displays a circuit of head and tail lights operated by an "Elba" storage battery. The generator shown by this company, and which is intended to supply the necessary electric current when the car is in motion, is a miniature copy of the approved type used in train lighting.

The city ordinances prohibiting the use of searchlights are responsible for several new models of "headlights," which can be rendered dim or light instantly. C. Cowles & Co., New Haven, Conn., offer a lamp in which the electric bulb may be pushed forward out of the focus of the reflector—by the mere pressure of a finger; a half turn of the knob, by which a pin engages a slot, holds the lamp socket securely in either the bright or dim position. Another style of lamp in which two electric bulbs are stationary, one of 8-candle power in the focus of the reflector and another of 3-candle power at the lower rim of the lamp, is shown by the Apple Electric Co., of Dayton, Ohio. The same company calls attention to an improvement in their complete electric lighting system, consisting of a "load regulator," which holds the current generated by the dynamo to that fixed upon, thus making possible driving from variable speed engines. This regulator connects the dynamo circuit through a voltmeter to a storage battery as soon as a certain voltage is reached, and supplies the lights with current from the storage battery when the dynamo is at rest or running at slow speed.

An electric indicator to be affixed to the rear of the car, showing the words "Right," "Left," "Stop" in red light, as soon as a corresponding button is pushed by the operator, is exhibited by C. Cowles & Co., New Haven, Conn., who also show a novel foot rest and heater combined, shaped not unlike a gridiron, which may be heated by hot water from the radiator or hot air from the exhaust pipe.

Locking the magneto or spark-coil switch by means of a combination lock is suggested by the Whalen Lock Co. (B. M. Asch, New York distributor), as a sure means of safeguarding a car from would-be joy-riders or thieves. The lock is an adaptation of the well-known tumbler lock used on safes, and permits of 729 different combinations.

Minor improvements in windshields are numerous, some of those not previously seen being disclosed by the Cox Brass Mfg. Co., who have a friction band device for the raising, lowering and holding in position of the upper half of the shield; a pressure of thumb or finger upon a plunger releases the braking bands and permits of the moving of the shield; no screws, bolts or nuts are used. The Novelty Mfg. Co. exhibits a shield, both glasses of which can be adjusted to any desired position.

That windshields need not necessarily consist of glass throughout, but that the lower part can be made of any waterproof, opaque material, such as mohair, leather, rubber cloth, "pantasote," etc., is demonstrated by the Vanguard Mfg. Co., of Joliet, Ill. This company exhibits a "Zig-Zag" shield, constructed out of seamless tubing. The lower part is inclined at an angle of about 50 degrees, while the upper part is of the regular brass and glass construction, and adjustable to any desired position. In fair weather, when an abundance of fresh air is welcome, the curtain covering the lower part can be rolled up. The fastenings of the frame present no novelty, being fitted with a simple nut for tightening and producing sufficient friction for holding the shield in position.

The Springfield Metal Body Co., Springfield, Mass., stages a 7-passenger black limousine, aluminum body upholstered in grey, constructed along standard lines and presenting a stylish and luxurious product. The novelty of the exhibit, however, is a topedo body, also in black, which besides offering the usual features of this type of car, provides for example, baggage room on a rear platform, by close-coupling the tonneau. It is the only close-coupled "gunboat" body shown at the Garden.

Making its show debut, the Parker motor, manufactured by the Parker Motor Co., of Hartford, Conn., is disclosed in the space of the McCue Company, also of Hartford. It is four cylinder, four cycle, watercooled, and is rated at 32.4 on the A. L. A. M. rating, being  $4\frac{1}{2} \times 5$ . The cylinders are cast in pairs, offset one inch. Complete waterjacketing of the head has been effected, the valves all being on one side. Without disturbing the crank shaft or taking off the cylinders the pistons and connecting rods can readily be removed. All the various considerations of lubrication, circulation, ignition, manifolds, valve action and the like have been provided for in a wholly adequate way and a free use has been made of special metals at the points where their respective virtues make suitable their use. McCue parts, fittings and the recently improved

rear axle form the setting in which the motor appears.

An amplification of the rebound check spring is shown by the H. & F. Mesinger Mfg. Co., of New York, whose new double spring consists of two heavy springs joined by a strong leather strap in which the axle rests, and fitted with clamps which can be attached to any steel frame without drilling of holes; they show their single check spring also. The same exhibit includes several patent leather novelties, among them a rather neat magneto cover.

A noteworthy improvement in ball bearings is shown by the New Departure Mfg. Co., of Bristol, Conn. It consists of a separator of phosphor bronze with deep sockets for each ball, designed in such a way that the oil is retained at the diametrical centre of the ball at right angles to the axis of rotation. The separator is in two halves, each of which is identical with the other; each row of balls runs in a half of the separator and is independent of the other row of balls. The company exhibits also another form of separator for a single row of balls, in which the two sections are riveted together face to face instead of back to back.

A wrench of unique construction is exhibited by the Perfection Wrench Co., of Port Chester, N. Y. It combines a vise clamp, jack and tool holder, and pipe wrench.

That a tire trunk can be used for other purposes than simply storing spare tires is decisively demonstrated by the Nathan Novelty Mfg. Co., of New York City, who show a trunk constructed of hard wood covered with leatherette and bound with leather, fitted with a removable cover which carries three folding legs. When these legs are unfolded the whole contrivance forms a very handy table for tourists' use. A full line of leather, enameled duck and rubber cloth goods for the use of motorists forms the rest of this company's offerings.

Radiators of extreme lightness for automobile and aeronautical use are shown by the A-Z Company, of New York. Among the most striking examples is one for 60 horsepower engines, weighing 23.5 lbs., and one for engines of 40 horsepower, weighing 18.5 lbs.

#### SUMMARY ACCESSORY EXHIBITS.

##### Elevated Platform.

Ajax-Grieb Rubber Co., Trenton, N. J. (120)—Ajax tires.

American Ball Bearing Co., Cleveland, O. (155)—Ball bearings.

American Ever Ready Co., New York City (126)—Ever Ready batteries, lamps and tire specialties.

Atwater-Kent Mfg. Works, Philadelphia, Pa. (104)—Igniters and timers.

Atwood-Castle Co., Amesbury, Mass. (168)—Lamps.

Auburn Auto-Pump Co., Auburn, N. Y. (137)—Ten Eyck tire pump.

Auto Improvement Co., New York City (127)—Self-starting devices and motor specialties.

Badger Brass Mfg. Co., Kenosha, Wis., and New York City (157)—Solar lamps and acetylene generators.

Baldwin Chain & Mfg. Co., Worcester, Mass. (110)—Baldwin chains and recoil check.

Bowser & Co., S. F., Ft. Wayne, Ind. (170)—Tanks, measuring pumps and gasoline storage systems.

Briscoe Mfg. Co., Detroit, Mich. (165)—Radiators and fittings.

Brown-Lipe Gear Co., Syracuse, N. Y. (152)—Transmission, differential and steering gears.

Byrne-Kingston & Co., Kokomo, Ind. (148)—Kingston carburettors, mufflers and pumps.

Coes Wrench Co., Worcester, Mass. (131)—Wrenches.

Connecticut Telephone & Electric Co.,

Mass. (178)—Fisk tires, quick detachable and demountable rims.

Fox Metallic Tire Belt Co., Brooklyn, N. Y. (134 A)—Non-skid chains.

G & J Tire Co., Indianapolis, Ind. (105)—G & J tires.

Gabriel Horn Mfg. Co., Cleveland, O. (159)—Gabriel exhaust horns and shock absorbers.

Gilbert Mfg. Co., The, New Haven, Conn. (166)—Tires, jackets, lamp covers and rubber cloth specialties.

Globe Machine and Stamping Co., The, Cleveland, O. (129)—Metal stamping specialties.

Goodrich Co., B. F., The, Akron, O. (100)—Goodrich clincher tires.

Manufacturers' Foundry Co., Watertbury, Conn. (137-A)—Castings.

Mezger, C. A., New York City (115)—"Sootproof" spark plugs and automatic windshields.

Michelin Tire Co., Miltown, N. J. (172)—Michelin tires.

Morgan & Wright, Detroit, Mich. (180)—Morgan and Wright tires.

Mosler, A. R., New York City (158)—Spark plugs, timers and rear signal devices.

Motsinger Device Mfg. Co., Pendleton, Ind. (146)—Ignition systems.

Motz Clincher Tire and Rubber Co., The, New York City (138)—Tires.

N. Y. and N. J. Lubricant Co., New York City (117)—Lubricants.

National Carbon Co., Cleveland, O. (119)—Dry batteries.

Oliver Mfg. Co., Chicago, Ill. (142)—Peerless jacks.

Pennsylvania Rubber Co., Jeannette, Pa. (107)—Pennsylvania tires.

Pittsfield Spark Coil Co., Dalton, Mass. (150)—Ignition systems.

Randall-Faichney Co., The, Boston, Mass. (147)—Jericho exhaust horns, B-Line grease guns, Bing spark plugs.

Remy Electric Co., Anderson, Ind. (173)—Magnetos.

Republic Rubber Co., Youngstown, O. (118)—Tires.

Sager Co., J. H., Rochester, N. Y. (125)—Supplementary springs.

Spicer Universal Joint Mfg. Co., Plainfield, N. J. (149)—Universal joints.

Splittdorf, Inc., C. F., New York City (102)—Timers, distributors, coils and ignition specialties.

Standard Welding Co., The, Cleveland, O. (156)—Tubing, electrically welded parts and rims.

Stewart & Clark Mfg. Co., Chicago, Ill. (175)—Speed indicators.

Swinehart Clincher Tire and Rubber Co., Akron, O. (153)—Swinehart solid and pneumatic tires.

Timken-Detroit Axle Co., The, Detroit, Mich. (143)—Timken axles.

Timken Roller Bearing Co., Canton, O. (144)—Roller bearings.

Vacuum Oil Co., Rochester, N. Y. (167)—Lubricants.

Valentine & Co., New York City (163)—Varnishes.

Veeder Mfg. Co., Hartford, Conn. (179)—Tachometers and tachodometers.

Warner Gear Co., Muncie, Ind. (154)—Gears and parts.

Warner Instrument Co., Beloit, Wis. (145)—Warner speed indicators and clocks.

Weed Chain Tire Grip Co., New York City (116)—Non-skid tire chains.

Wheeler & Schebler, Indianapolis, Ind. (175)—Carburettors and magnetos.

Whitney Mfg. Co., The, Hartford, Conn. (151)—Whitney chains and keying systems.

Witherbee Igniter Co., Springfield, Mass. (128)—Batteries, plugs and magnetos.

#### Balcony.

Allen Auto Specialty Co., New York City (234)—Tire jackets and specialties.

Batavia Rubber Co., The, Batavia, N. Y. (207)—Tires.

Bretz Co., J. S., New York City (226)—F. & S. Imported ball bearings and U. & H. high tension magnetos.

Carpenter Steel Co., The, Reading, Pa. (231)—Parts.

Champion Ignition Co., Flint, Mich. (211)—Ignition systems.

Couch & Seeley Co., Boston, Mass. (232)—Combination tail lamp and number plate holders.

Driggs-Seabury Ordnance Corporation,



CHARLES E. MILLER'S DISPLAY OF ACCESSORIES

Meriden, Conn. (114)—Spark coils, switches and ignition specialties.

Consolidated Rubber Tire Co., New York City (174)—Tires.

Continental Caoutchouc Co., New York City (177)—Continental tires.

Continental Rubber Works, Erie, Pa. (136)—Tires.

Cook's Sons, Adam, New York City (164)—Lubricants.

Cook's Standard Tool Co., Kalamazoo, Mich. (132)—Standard jacks.

Cowles & Co., C., New Haven, Conn. (135)—Lamps, monograms and bouquet holders.

Cramp & Sons, William, Ship and Engine Building Co., Philadelphia, Pa. (109)—Bronze and bearing metal castings.

Diamond Chain and Mfg. Co., Indianapolis, Ind. (181)—Chains, sprockets, transmissions, axles.

Diamond Rubber Co., Akron, O. (101)—Diamond tires.

Dietz Co., R. E., New York City (108)—Lamps.

Dixon Crucible Co., Joseph, Jersey City, N. J. (160)—Graphite and lubricants.

Duff Mfg. Co., The, Pittsburg, Pa. (139)—Barrett jacks.

Edmunds & Jones Mfg. Co., The, Detroit, Mich. (134)—Lamps.

Empire Tire Co., Trenton, N. J. (122)—Empire tires.

Firestone Tire and Rubber Co., Akron, O. (141)—Firestone pneumatic and solid tires.

Fisk Rubber Co., The, Chicopee Falls,

Goodyear Tire and Rubber Co., The, Akron, O. (103)—Goodyear tires and compressed air inflators.

Gray & Davis, Amesbury, Mass. (106)—Lamps.

Ham Mfg. Co., C. T., Rochester, N. Y. (162)—Lamps.

Hardy Co., R. E., The, New York City (123)—Spark plugs.

Harris Oil Co., A. W., Providence, R. I. (140)—Lubricants.

Hartford Rubber Works Co., Hartford, Conn. (182)—Hartford tires.

Hartford Suspension Co., Jersey City, N. J. (121)—Truffault-Hartford shock absorbers.

Heinze Electric Co., Lowell, Mass. (161)—Magnetos, coils and ignition equipment.

Herz & Co., New York City (169)—Timers, plugs and ignition specialties.

Hoffecker Co., The, Boston, Mass. (133)—Speed indicators.

Janney-Steinmetz & Co., Philadelphia, Pa. (124)—Spark plugs, tanks and wrenches.

Jones & Co., Phineas, Newark, N. J. (111)—Rims, wood wheels.

Jones Speedometer Co., The, New York City (113)—Speedometers, annunciators, odometers, horns and specialties.

Kokomo Electric Co., Kokomo, Ind. (148)—Kingston coils, magneto and ignition devices.

Leather Tire Goods Co., Niagara Falls, N. Y. (130)—Adjustable tire treads and non-skid bands.

Light Mfg. and Foundry Co., Pottstown, Pa. (112)—Aluminum parts and castings.



Sharon, Pa. (208)—Crank shafts and frames.  
Electric Storage Battery Co., The, Philadelphia, Pa. (200)—Accumulators.  
Flentje, Ernest, Cambridge, Mass. (233)—Shock preventers.  
Franklin Mfg. Co., H. H., Syracuse, N. Y. (221)—Die castings.

Frasse & Co., Peter A., New York City (224)—Tubing, forgings and nickel steels.  
Geiszler Brothers' Storage Battery Co., New York City (235)—Batteries.  
Havoline Oil Co., New York City (205)—Lubricants.  
Haws, George A., New York City (227)—Panhard oil.  
Hoffnung & Co., S., New York City—Coventry chains and "Fastnut" lock washers.

Hydraulic Oil Storage Co., New York City (250)—Gasoline and oil storage systems.

Jeffrey-Dewitt Co., Newark, N. J. (215)—Reliance spark plugs.

Johnson & Co., Isaac G., Spuyten Duyvel, N. Y. (219)—Forgings and castings.

Johns-Manville Co., H. W., New York City (239)—Asbestos packing and gaskets.

K-W Ignition Co., Cleveland, O. (228)—Magnetos, spark plugs.

Keystone Lubricating Co., Philadelphia, Pa. (212)—Lubricants.

Lavalette & Co., New York City (225)—Magnetos and ignition specialties.

Link-Belt Co., Philadelphia, Pa. (202)—"Maximum" silent drains.

McGraw Tire and Rubber Co., East Palestine, O. (238)—Imperial tires.

Lutz-Lockwood Mfg. Co., Aldene, N. J. (248)—S-X magnetos and batteries.

Marburg, Theo. H., New York City (244)—Mea magneto and S. R. O. ball bearings.

Miller, Charles E., New York City (209)—Brampton chains, supplies and accessories.

Miller's Sons, William P., Long Island City, N. Y. (237)—Lubricants.

Morrison-Ricker Mfg. Co., Grinnell, Ind. (229)—Gloves and gauntlets.

Muncie Gear Works, Muncie, Ind. (203)—Gears and engines.

Mutty Co., L. J., Boston, Mass. (220)—Rubber cloth and imitation leathers.

New York Sporting Goods Co., New York City (230)—Accessories.

Noera Mfg. Co., The, Waterbury, Conn. (304)—Oilers.

Perfection Wrench Co., Port Chester, N. Y. (213)—Wrenches and tools.

Prosser & Sons, Thomas, New York City (216)—Krupp steel, gears and parts.

R. I. V. Co., New York City (214)—Annular ball bearings.

Shaler, C. A., Waupun, Wis. (201)—Electric vulcanizers.

Sireno Co., The, New York City (210)—Electric horns.

Standard Leather Washer Mfg. Co., Newark, N. J. (236)—Leather washers and lugs.

Simms Magneto Co., New York City (218)—Magnetos.

Warner Mfg. Co., Toledo, O. (206)—Transmission gearing and parts.

Westinghouse Companies, Pittsburg, Pa. (277)—Charging outfits.

Whitlock Coil Pipe Co., Hartford, Conn. (222)—Whitlock radiators.

#### Balcony Extension, Madison Avenue.

American Vanadium Co., Pittsburg, Pa. (254)—Ferro-vanadium.

Burn-Boston Battery and Mfg. Co., Boston, Mass. (251)—Sealed liquid batteries.

Grossman Co., Emil, New York City (240)—Red Head spark plugs, Red Rib ignition cable, and hydraulic wind shields and buffers.

Hopewell Brothers, Cambridge, Mass. (246)—Tire cases, covers, robes.

McCue Co., The, Hartford, Conn. (241)—Parts and fittings.

Motor Car Equipment Co., The, New York City (247)—Blanchard horns, Pirelli tires and supplies.

New Jersey Car Spring and Rubber Co., Jersey City, N. J. (253)—Carpringco tires.

Nilmelior Electrical Co., New York City (252)—Nilmelior magnetos.

Novelty Mfg. Co., The, New York City (248)—Metal goods and wind shields.

Riley-Klotz Mfg. Co., Newark, N. J. (245)—Horns.

Stein Double Cushion Tire Co., Akron, O. (242)—Stein tires.

Tray Plate Battery Co., Binghamton, N. Y. (243)—High efficiency storage batteries.

#### Balcony Extension, Fourth Avenue.

Bosch Magneto Co., New York City (225)—Ignition systems.

Cox Brass Mfg. Co., Albany, N. Y. (263)—Clear Vision wind shields.

Detroit Motor Car Supply Co., Detroit, Mich. (270)—Bodies and tops.

Howard Demountable Rim Co., Trenton, N. J. (261)—Howard demountable rims.

Lavigne Mfg. Co., Detroit, Mich. (264)—Lubricators.

Livingston Radiator and Mfg. Co., Inc., New York City (267)—Radiators.

Metal Stamping Co., New York City (258)—Radiators, rails, wind shields and ball bearings.

Perfection Spring Co., Cleveland, O. (269)—Springs.

Reilly and Son, P., Philadelphia, Pa. (268)—Lap robes.

Stackpole Battery Co., St. Mary's, Pa. (257)—Dry batteries.

Stevens & Co., New York City (266)—Keno tire pump connections.

Touring Club of America, New York City (262)—Tours.

Traver Mfg. Co., Philip C., Far Rockaway, N. Y. (263 A)—Traver non-skid device.

Valveless Inner Tube Co., The, New York City (265)—Valveless inner tubes.

Vanadium Metals Co., Pittsburg, Pa. (259)—Vanadium metals.

Wayne Oil Tank and Pump Co., Ft. Wayne, Ind. (271)—Gasoline storage tanks.

Zeglen Bullet-Proof Cloth Co., Chicago, Ill. (260)—Non-puncturable tires and fabrics.

#### Concert Hall.

American Automobile Association, New York City.

Briggs & Stratton, Milwaukee, Wis. (321)—B. & S. igniters.

Chase Co., L. C., Boston, Mass. (301)—Top cover leathers and plush robes.

Columbia Lubricants Co. of New York, New York City (303)—Lubricants.

Dayton Rubber Mfg. Co., The, Dayton, O. (314)—Airless tires.

Excelsior Motor and Mfg. Co., Chicago, Ill. (324)—Motors.

Federal Rubber Co., Milwaukee, Wis. (310)—Federal tires.

Gemmer Mfg. Co., Detroit, Mich. (325)—Steering gears and parts.

Hayes Mfg. Co., Detroit, Mich. (311)—Radiators, hoods and fenders.

Hancock Mfg. Co., Charlotte, Mich. (315)—Oilers.

Hall Lamp Co., Detroit, Mich. (317)—Lamps.

Hess-Bright Mfg. Co., The, Philadelphia, Pa. (326)—Bearings.

Lebanon Steel Casting Co., Lebanon, Pa. (320)—Steel castings.

Lovell-McConnell Mfg. Co., Newark, N. J. (322)—Klaxon horns.

McCord Mfg. Co., Detroit, Mich. (319)—Radiators and oilers.

National Coil Co., Lansing, Mich. (313)—Spark coils.

Pantasote Co., The, New York City (309)—Top and upholstery imitation leather.

Rands Mfg. Co., Detroit, Mich. (323)—Tops and wind shields.

Royal Equipment Co., Bridgeport, Conn. (318)—Brakes and lining.

Seamless Rubber Co., The, New Haven, Conn. (316)—Rubber goods, inner tubes and tubes.

Smith Co., A. O., Milwaukee, Wis. (304)—Gears and parts.

Sprague Umbrella Co., The, Norwalk, O. (300)—Tops and wind shields.

Standard Roller Bearing Co., Philadelphia, Pa. (306)—Ball bearings and parts.

Stromberg Motor Devices Co., Chicago, Ill. (307)—Carbureters.

Thermoid Rubber Device Co., Trenton, N. J. (305)—Tires, tubes and brake lining.

United States Light and Heating Co., New York City (309)—Accumulators.

Vesta Accumulator Co., Chicago, Ill. (312)—Accumulators, electric lamps and spark plugs.

Victor Auto Supply Mfg. Co., New York City (302)—Vasco wind shields.

#### Second Tier.

Allers & Co., Harry A., New York City (413)—Metal polish.

Cleveland Speed Indicator Co., Cleveland, O. (406)—Cleveland speed indicators.

Columbia Nut and Bolt Co., Bridgeport, Conn. (414)—Lock nuts.

Doehler Die Casting Co., Brooklyn, N. Y. (400)—Die castings.

Dover Stamping and Mfg. Co., Cambridge, Mass. (405)—Drip pans, funnels and measures.

Grimm-Plaut Construction Co.—Motors.

Hilton Mfg. Co., Boston, Mass. (404)—Safety starting cranks.

International Metal Polish Co., Indianapolis, Ind. (408)—Polish.

Motor Parts Co., Plainfield, N. J. (412)—Auto-cle wrenches and metal steps.

Newhall Chain Forge & Iron Co., New York City (403)—Tool combinations.

Pittsburg, Pa. (406)—Gasoline motor and cooling system.

Recometre Co. of America, New York City (413)—Recording indicators.

Union Battery Co., Belleville, N. J. (410)—Batteries.

Waterhouse Co., The, New York City (411)—Carbureters.

Willey Co., C. A., Brooklyn, N. Y. (402)—Paints.

Woven Steel Hose and Rubber Co., Trenton, N. J. (409)—Autobestine brake lining.

Wright Wrench Mfg. Co., The, Canton, O. (401)—Wrenches.

#### Room 7.

Asch, B. M., New York City (417)—Supplies.

Benford, E. M., Mt. Vernon, N. Y. (426)—Spark plugs.

Chandler Co., The, Springfield, Mass. (423)—Name plates and monograms.

English & Mersick Co., The, New Haven, Conn. (425)—Automobile metal work.

Favary Tire and Cushion Co.

Gasoline Motor Efficiency Co., Jersey City, N. J. (421)—Carburetter attachment.

Rothstein Mfg. Co., New York City (416)—Hercules valve lifting tools and iron and brass specialties of all kinds.

New York Coil Co., New York City (419)—Spark coils.

Rushmore Dynamo Works, Plainfield, N. J. (424)—Acetylene lamps and generators.

Voorhees Rubber Mfg. Co., Jersey City, N. J. (420)—Rubber hose and packing.  
Winn, William R., New York City (418)—Lubricants.

#### Basement.

Apple Electric Co., Dayton, O. (518)—"Apico" dynamos.  
Ajax Trunk and Sample Case Co., New York City (527)—Leather trunks and tire cases.  
A-Z Co., The, New York City (510)—Hoods, radiators and tanks.  
Burroughs Remountable Rim Co., New York City (517)—Remountable rims.  
Como Electric Co.  
El Arco Radiator Co., New York City (522)—El Arco radiators.  
Erie Foundry Co., Erie, Pa. (521)—Castings.  
Garage Equipment Co., Milwaukee, Wis. (503)—Wind shields, vulcanizers and bumpers.  
Gibney & Bro., James L., Philadelphia, Pa. (501)—Gibney wireless tires, electric vulcanizers.  
International Engineering Co., New York City (513)—Annular ball bearings.  
Kilgore Mfg. Co., Boston, Mass. (528)—Shock absorbers.  
King Optical Co., Julius, New York City (511)—Goggles and clocks.  
Merchant & Evans, Philadelphia, Pa. (500)—Multiple disc clutches and automobile fittings.  
Mesinger Mfg. Co., H. and F., New York City (504)—Rebound checks and magneto covers.  
Nathan Novelty Mfg. Co., New York City (509)—Tire covers and cases.  
National Auto Top Co., New York City (534)—Tops and wind shields.  
New Departure Mfg. Co., The, Bristol, Conn. (524)—Annular ball bearings.  
New York Auto Lamp Co., New York City (530-A)—Lamps, horns and tire holders.  
Nightingale Whistle Mfg. Co., New York City (530)—Nightingale whistles and circulatory pumps.  
Nonpareil Horn Mfg. Co., Brooklyn, N. Y. (520)—Horns.  
Noonan Tool and Machine Works, A. S., Rome, N. Y. (531)—Tools.  
Philadelphia Storage Battery Co., Philadelphia, Pa. (533)—Storage batteries.  
Post & Lester Co., The, Hartford, Conn. (529)—Supplies and specialties.  
Pruden Hardware Co., W. E., New York City (502)—Supplies.  
Standard Sales Co., New York City (530-B)—Fry spark plugs.  
Tracy, Joseph, New York City (516)—Testing instruments.  
Troy Carriage Sunshade Co., Troy, O. (535)—Tops.  
Valvoline Oil Co., New York City (508)—Lubricants.  
Vanguard Mfg. Co., Joliet, Ill. (526)—Wind shields and spark plugs.  
White & Bagley Co., The, Worcester, Mass. (525)—Soap and lubricants.  
Willard Storage Battery Co., The, Cleveland, O. (532)—Storage batteries.

#### MOTORCYCLES.

##### Basement.

American Motor Co., Brockton, Mass. (605)—M.-M.  
Aurora Automatic Machinery Co., Aurora, Ill. (610)—Thor.  
Baker & Co., F. A., New York City (616)—Motorcycles and supplies.  
Bicycling World, The, New York City (601)—Bicycling World and Motorcycle Review.  
Consolidated Mfg. Co., The, Toledo, O. (602)—Yale.

Emblem Mfg. Co., Angola, N. Y. (619)—Emblem.  
Excelsior Supply Co., Chicago, Ill. (613)—Excelsior.  
Greyhound Motor Works, Buffalo, N. Y. (611)—Greyhound.  
Harley-Davidson Motor Co., Milwaukee, Wis. (608)—Harley-Davidson.  
Hendee Mfg. Co., Springfield, Mass. (606)—Indian.  
Herring-Curtiss Co., Hammondsport, N. Y. (607)—Curtiss.  
Marvel Motorcycle Co., Hammondsport, N. Y. (620)—Marvel.  
Merkel-Light Motor Co., Pottstown, Pa. (600)—Merkel and Light.  
Miami Cycle and Mfg. Co., The, Middletown, O. (618)—Racycle.  
New Era Gas Engine Co., The, Dayton, O. (614)—New Era.  
N. S. U. Motor Co., New York City (603)—N. S. U.  
Pierce Cycle Co., The, Buffalo, N. Y. (612)—Pierce.  
Reading-Standard Co., Reading, Pa. (609)—R-S.  
Reliance Motorcycle Co., Owego, N. Y. (621)—Reliance.  
Royal Motor Works, Inc., Worcester, Mass. (617)—Royal Pioneer.  
S.D. Mfg. Co., Brooklyn, N. Y. (622)—S.-D.

#### Russia as an Attractive Market.

Moujiks, caravan tea, furs, snow and nihilists, these constitute Russia in the mind of the average American. The latter forgets that the Russian of the wealthy, prosperous class is lavish, hospitable and generous, and, lastly, luxury loving. As a result the automobile—particularly the finest most luxurious and expensive car—is finding, or is likely to find, a readier market in Russia than anywhere else in the world. This is no mere random talk, but the gist of a report sent by American Consul-General John H. Snodgrass, of Moscow.

"There have been no automobile manufacturing, in the American meaning of the word, in Russia," he writes. "A number of bicycle and carriage manufacturers have, for some time, been importing parts of automobiles, such as the engines, tires, and the finer construction, while the body and rougher parts have been made in Russia. There are no available figures as to the number of machines that are put together in this way, but the business has not been particularly thriving, as the Russians demand the best the markets afford, and the majority refuse to purchase anything of the cheap or shoddy grades.

"The demand for automobiles and commercial vehicles is constantly growing, as the following figures taken from the customs returns show: in 1906 only 245 machines were imported; this had risen to 555 in 1907, and to 866 in 1908. For the first seven months of 1909, 628 passed through the custom house, and agents are anticipating better results in 1910.

"The larger machines are in demand and sell better than those with less than four seats. There is also a growing trade in motor freight cars and trucks for use by the municipalities and the contracting companies.

"The following statement shows the growth of the automobile trade in Russia (imports) and the classes of machines in use:

Description.	1907		1908	
	No.	Value.	No.	Value.
Four and more seats . . . . .	319	\$719,500	572	\$1,364,000
Less than four seats . . . . .	89	97,000	124	165,000
Freight and truck autos. 147		140,500	170	146,000
Total . . . . .	555	\$957,000	866	\$1,675,000

"For the first seven months of 1909, the machines of four or more seats imported numbered 461, valued at \$934,500, those with less than four seats numbered 70, worth \$71,500, and motor freight cars and trucks numbered 97, valued at \$74,000, a total of 628 cars valued at \$1,080,000."

Street pavements, even in the more pretentious cities, are of cobblestones, and extremely trying on motor cars, while the country roads are as bad or worse than similar roads in the Southern States.

Consul Snodgrass concludes his report by calling attention to the love of sport among the Russians:

"Russia presents the most lucrative territory in the world for the introduction of automobiles that are strongly built and that have modern improvements. The Russians are taking to automobiling, and many of the wealthiest families have discarded their horses, which is saying much for the motor.

"There is a vast amount of wealth in this Empire among the upper stratum of society, which is readily spent in any form of pleasure. The Russians part with their money more readily even than the Americans, especially when there is any form of sport in sight, so that it will not be a difficult problem to interest those with means when a suitable automobile is presented. At the present time the French and Italian cars are the favorites, though the Germans have been getting a large part of the trade.

"If American concerns will make arrangement with houses in Russia, or send a personal representative from home, they will do better than to trade through middlemen in Hamburg and London, who must have a handsome commission for introducing the goods. Thus by the time the automobile reaches the purchaser, the price is much greater than the European car of like value. The duty on automobiles, four and more seats, is 220 rubles (\$113.30); on machines of less than four seats, 140 rubles (\$72.10); on motor trucks and chassis for automobiles, 70 rubles (\$36.05)."

#### Precaution that Will Save Cylinders.

If, after draining the water from the cooling system during a cold spell, the motor is permitted to run for four to five minutes, the danger of cylinders cracking will be very considerably reduced. The heat generated by the continued operation will consume such moisture as may remain and remove the possibility of its freezing.

## TROPHY TURNED OVER TO THOMAS

New York-Paris Prize Formally Presented to Buffalo Manufacturer—Award Made at a Notable Banquet.

An echo of the New York to Paris race which started from this city on February 12th last, and finished in the French capital July 30th, was heard at the Automobile Club of America, New York, Saturday night last, 8th inst., when a banquet was tendered E. R. Thomas, president of the E. R. Thomas Motor Co., of Buffalo, N. Y., who entered the Thomas car that won the contest, and when the official presentation was made of the magnificent trophy that was presented jointly by the New York Times and the Paris Matin, the two newspapers that promoted the New York to Paris project.

The occasion was not less notable than the setting. The arrangement of the tables was unique, comprising a large horseshoe and a smaller guest table, which was placed opposite the opening of the horseshoe. Just inside the oval was the trophy, covered by an immense American flag. Running all the way around the horseshoe was a mission rail on which were displayed photographs of the race from start to finish, while at frequent intervals were mission uprights, on which electrically lighted transparencies also furnished views of the contest.

Thomas Moore was the toastmaster and on either side of him sat George Schuster and George Miller, who were in the Thomas car for the greater part of the journey. Mr. Thomas made a speech of acceptance and Schuster and Miller also were prevailed upon to say a few words. The menu took the form of 20-page booklets, descriptive of the contest.

The trophy is one of the largest of its kind ever made, and one of the unique features of it is that it is composed of materials native to the four nations represented in the race. It stands 6 feet 6 inches in height and weighs about 1,600 pounds. The pedestal is on green Italian marble, imbedded in which are bronze plates depicting scenes and episodes of the contest. The sub-base is of French pink marble, forming boulders, medallions of German bronze bearing the coats of arms of the four competing nations being on the four sides. A great German bronze globe of the world forms the top of the trophy. The continents are shown in bas relief, and the route is traced with American silver. Perched on the top is an American eagle, its talons gripped in that portion of the globe representing the American continent.

Six cars started in the circummundane contest from New York City, February 12, 1908—a De Dion, a Motobloc and a Sizaire-Naudin being French entrants; Italy was represented by a Zust, Germany by a Pro-

tos, and America by a Thomas. It originally was planned to run to San Francisco and ship the cars by boat to Valdez, Alaska, thence over the Fairbanks trail to Nome, again taking the boat to East Cape, Siberia, and from there overland to Paris. This route finally was abandoned after the



NEW YORK TO PARIS TROPHY

Thomas car, driven by Schuster, proved the impracticability of a trip through Alaska. The cars then were shipped from San Francisco to Japan, then driven across that country and transported by boat to Vladivostok. From the later place the route went through Harbin, Tschita, Irkutsk, Tomsk, Nijni Novgorod to Moscow, St. Petersburg, Berlin and Paris. The total distance traveled was 21,000, of which 13,000 were by land.

Because of the Alaskan detour made by the Thomas car and its compulsory return to San Francisco, the Protos, De Dion and Zust cars gained on the Thomas, a lead which eventually enabled the Protos to reach Paris first. It did not prove the winner, however, as the Thomas car was allowed the time for the distance traveled in

Alaska, thereby making it the winner in Paris by 26 days.

### Social Functions of Show Week.

Of the other less formal, but not less pleasant, social functions of the week was the Maxwell-Briscoe Motor Co.'s annual dinner to its agents, which occurred at the Manhattan Hotel on Thursday, and another tendered by President T. C. O'Connor, of the York Motor Car Co., to the Pullman agents who were in attendance at the show. The Maxwell-Briscoe function was unique in that speech making was tabooed, a vaudeville show taking the place of after-dinner oratory. On Saturday evening at the Engineers' Club, A. L. Garford, president of the Federal Mfg. Co., played the host to 16 former employees of the company whom the show had attracted to New York. The previous Saturday several officials and department heads of the Lozier Motor Co. were the guests of John O. Stokes, president of the Thermoid Rubber Co., at his splendid apartments in Hotel Royaltan, several other officers of the Thermoid company also being present. At this dinner the Lozier company was presented with a tablet, 3 by 5 feet, depicting the two victorious Lozier cars on the Brighton Beach track during the record breaking 24 hour race, last fall and embodying a suitable inscription. After the race in question, the Lozier people announced that Thermoid brake lining had helped their cars to victory and the tablet commemorates the fact.

### Speare Completes Contest Board.

Following the appointment of S. M. Butler, of New York, as chairman, President Lewis R. Speare, of the American Automobile Association, has completed the make-up of the contest board and partly completed the technical committee for 1910, by the selection of the following members:

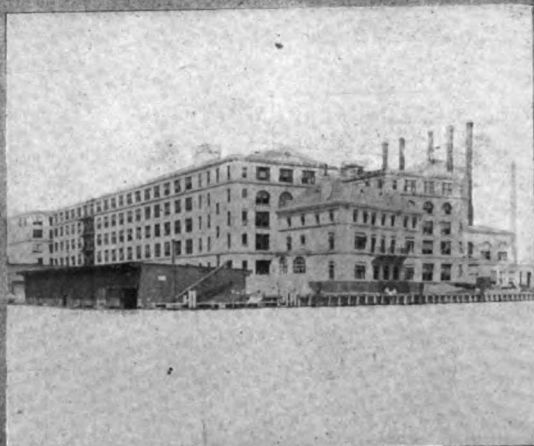
Active members of the contest board—David Beecroft, Chicago; S. B. Stevens, Rome, N. Y.; T. A. Wright, Wilkes-Barre, Pa.; Joseph H. Woods, Newark, N. J.

Associate members of the contest board—Frank G. Webb, Brooklyn, N. Y.; Frank W. Joyce, Minneapolis, Minn.; F. C. Donald, Chicago, Ill.; L. P. Lowe, San Francisco, Cal.; C. H. Gillette, Hartford, Conn.; Harry W. Knights, Boston, Mass.; James T. Drought, Milwaukee, Wis.; R. P. Hillman, Los Angeles, Cal.; P. D. Folwell, Philadelphia, Pa.; Ralph W. Smith, Denver, Col.; William G. Humphreys, Atlanta, Ga.; Harvey Granger, Savannah, Ga.; E. H. R. Green, Dallas, Tex.; Charles B. Shanks, Portland, Ore.; G. P. Bullard, Phoenix, Ariz.; Mason B. McLoughlin, Cleveland, O.; T. C. Campbell, New Orleans; Henry J. Spuhler, Pittsburgh, Pa.; Charles W. Sedwick, Indianapolis; George Lane, Detroit.

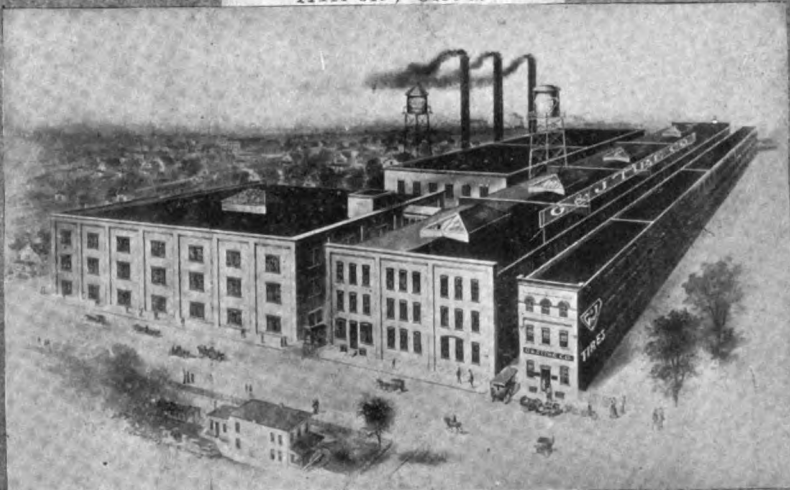
Technical committee of the contest board—Alden L. McMurtry, chairman, New York; David Beecroft, Chicago, Ill.; F. E. Edwards, Chicago, Ill.; Henry Souther, Hartford; Alex. Churchward, Schenectady.



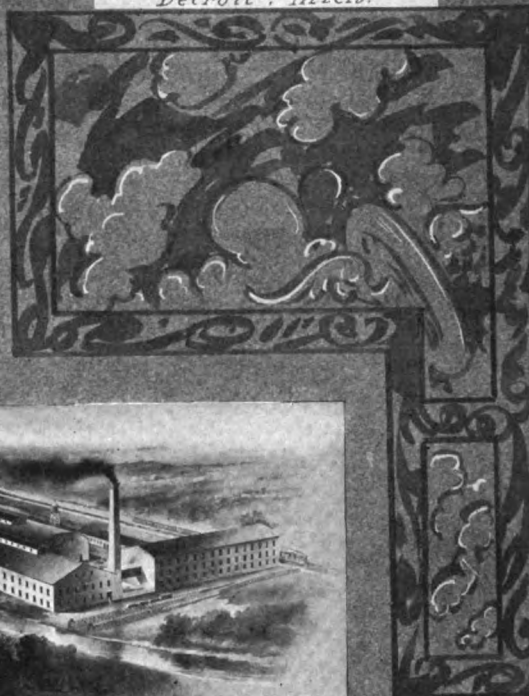
Firestone Tire Rubber Co.  
*Akron, Ohio.*



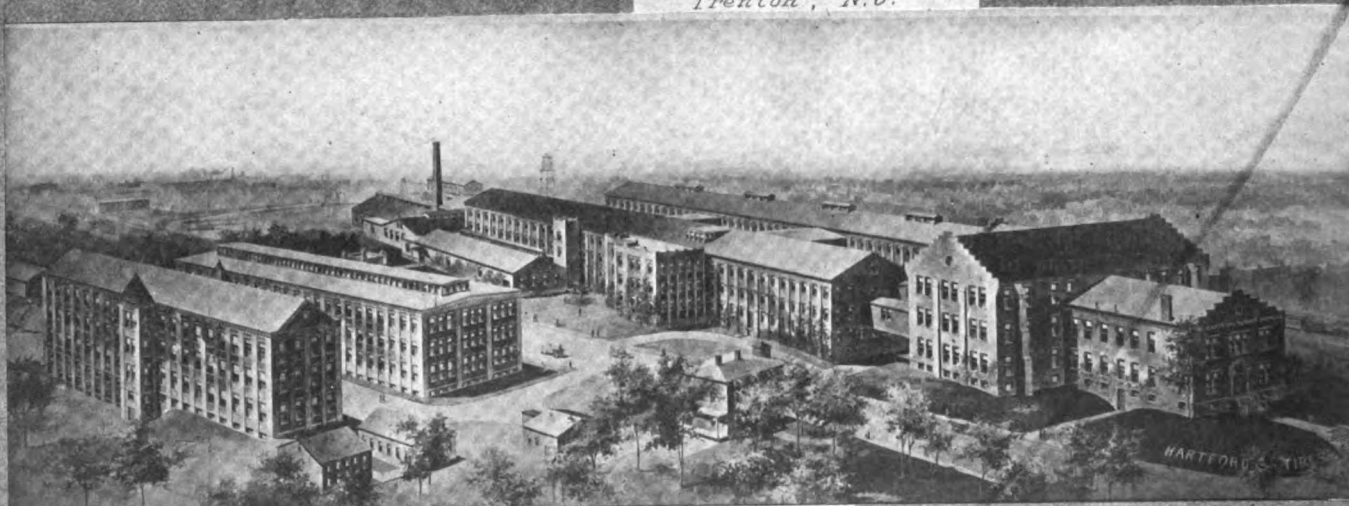
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# REPRESENTATIVE AMERICAN TIRE FACTORIES



## POWER ABSORBED BY GEAR GREASE

## Experiments Which Prove It to be a Source of Surprising Losses—Lubricants for the Transmission.

That the quantity and quality of lubricant in the housing cause considerable difference in the amount of power absorbed by a transmission is a fact to which attention frequently is called by the manufacturers of one or another brand of grease or oil. But that the power absorption in the gear box alone may range from  $\frac{3}{4}$  to  $1\frac{1}{2}$  horsepower, representing an increase in lost power of 100 per cent. probably will be surprising to many who consider themselves pretty well informed. Such, at least, is the conclusion of an English investigator, Alexander Duckham, whose experiments recently have led him to make a close study of gear box lubrication.

In considering all questions of lubrication of the transmission gears, particularly the change gears, three things are to be borne in mind, namely, lubrication of the bearings and gear teeth, noise in the gears, and leakage. Lubrication alone seems comparatively easy to accomplish, but the accomplishment of the other two objects is attended with more or less difficulty. The matter of power loss necessitated by the churning of the lubricant is one drawback to the use of such pastey sound "mufflers" as sometimes are recommended. It is with this difficulty that the Duckham tests deal. "Noise and leakage appear to me matters of somewhat secondary importance," the experimenter remarks, "the question of power coming first, in my estimation." On this basis he proceeds to put his theory on trial, so to speak, and with results that do not lack interest.

An up-to-date gear box from a 15 horsepower car of well known make was used for the experiments. It had a total capacity of  $3\frac{1}{4}$  gallons, while two gallons of oil just sufficed to cover the shafts. This gear box was coupled up by a flexible coupling to an electric motor provided with the necessary measuring instruments. In all the experiments the second gear was in mesh. The speed of the main shaft was held constant at 1,100 r.p.m. Readings were taken every 10 minutes. Each test was run until the temperature became constant.

Continuing the story of his investigations, Mr. Duckham says:

"In the first place the gear box was well lubricated, and then run empty to ascertain the amount of power required to drive the motor and the gear box, and from this was obtained a basis for comparison, as knowing this constant, all additional absorption of power must be due to the churning action of the gears in the lubricant, or rather to the resistance of the lubricant, in a confined space, to the passage of the gears and

other moving parts. My experiments worked out as follows:

	Horse-power.	Fahr. Temp.
(A) Box empty, but well lubricated.	0.7 0.7	48.0 53.5
(B) Box contained 1 quart of light bodied oil. Teeth just dipping.	0.63 0.51	50.0 55.5
(C) Box contained 2 gallons of light bodied oil.	1.15 1.08 1.02 1.02 0.92	48.0 58.0 62.0 64.0 75.5
(D) Box contained 2 gallons of medium bodied oil.	1.4 1.27 1.15 1.12 1.09	50.0 75.5 38.0 94.0 99.0
(E) Box filled right up and test (D) continued.	1.2 1.17 1.15	94.0 99.5 104.0
(F) Box contained 2 gallons ordinary yellow motor grease.	1.75 1.26 1.20 1.29	52.0 84.0 102.0 108.0
(G) Contained 2 gallons of a grease stated to "increase power," and also to cling.	2.9 1.78 1.5 1.44 1.4 1.38	78.0 94.5 104.0 110.0 114.0 122.5
(H) Box filled right up and test (G) continued.	1.52 1.5 1.5	117.0 127.0 131.0

"The tables show the figures obtained, and the study of these may be of interest. I will only draw attention to one or two points. The difference between running the gear box dry and running it with only one quart of oil (so that the teeth just dipped into the oil) was practically nil, but as the box was filled up to the shaft almost another horsepower was absorbed. With the box absolutely filled with this oil there was further loss of power. It will be noticed that when greases were employed the absorption of power at once jumped up, as did also the temperature. In the case of one well known grease, which is stated to increase the power and cling to the gears, the worst results were obtained. The makers evidently consider that such adhesiveness is a point in its favor. With the ordinary and less sticky type of yellow motor grease the results were somewhat better.

"Taking the extreme cases, it will be noticed that the absorption of power by the lubricant in the box varies from 0.51 to 2.9 horsepower. Therefore it seems advisable that motorists, and especially those that have cars of comparatively small power, should be very careful that the minimum amount of power be absorbed uselessly thus. Taking the case of the man with a car of 10 to 15 horsepower, it is quite easy for him to expend 10 per cent. of the power in churning up a heavy grease.

"I think the tests show that the use of any form of solid lubricant is wasteful of power, and that the same remark also applies to the use of an excessive quantity.

"The difficulty of keeping a thin lubricant in the gear box is no doubt serious, and manufacturers do not seem to pay sufficient

attention to the question. The system frequently adopted of using felt or fibrous packing is bad, because, firstly, if no means be used for compressing it on the shaft it soon becomes inoperative, and secondly, if an adjustable gland be provided, and is tightened sufficiently to keep in the oil, a remarkable amount of friction is introduced, and consequently power absorbed. The method which might be adopted more generally is that used on all electrical plant and high-speed steam engines, and on some petrol motors, viz., the provision on the shaft for a V thrower ring, and a catch-box draining back into the gear box.

"The other objection to a thin lubricant is that it will not deaden the noise, and of course if the gears are badly cut and out of line this is sure to be excessive. But these are exceptions today, and nearly all one's driving, even on small powered cars, is done on top gear with direct drive, and with no wheels in mesh. If more noise results from the small quantity of comparatively thin lubricant I strap a piece of thick saddler's felt around the gear box to deaden it."

## M. C. A. Re-elects All of Its Officers.

President Benjamin Briscoe and all other officers were unanimously chosen to succeed themselves at the annual meeting of the Manufacturers' Contest Association, Inc., which occurred on Saturday last, 8th inst., at the Manhattan Hotel, New York. These officers are: President, Benjamin Briscoe (Maxwell-Briscoe); vice-president, H. O. Smith (Premier); secretary-treasurer, William E. Metzger (Metzger); chairman rules committee, H. E. Coffin (Hudson); assistant secretary-treasurer, Russell A. Field. Directors: Benjamin Briscoe, H. O. Smith, William E. Metzger, H. E. Coffin and Windsor T. White (White).

Other than the election and the rendering of reports by the officers, the chief business of the meeting was the consideration and ratification of the proposed new classification, which, as soon as adopted by the contest board of the American Automobile Association, will be issued in printed form.

Among those in attendance at Saturday's meeting were: Members, George H. Strout, Apperson Bros.; Alanson P. Brush, Buick Motor Co.; E. R. Hollander, Fiat Automobile Co.; H. E. Coffin and C. H. Taylor, Hudson Automobile Co.; H. G. Farr, Knox Automobile Co.; Benjamin Briscoe and C. W. Kelsey, Maxwell-Briscoe Motor Co.; William E. Metzger, Metzger Motor Car Co.; George M. Dickson, National Motor Vehicle Co.; Howard Marmon, Nordyke & Marmon Co.; J. B. Eccleston, Oakland Motor Car Co.; J. Elmer Pratt, Pierce-Arrow Motor Car Co.; George A. Weidely, Premier Motor Manufacturing Co.

Present by invitation: S. M. Butler, chairman contest board of the American Automobile Association; E. A. Moross, Indianapolis Motor Speedway; Frank Nutt, Haynes Automobile Co.

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## RECENT PATENTS.

935,228. Attachment for Headlights. Fred-eric J. Pfister, San Francisco, Cal. Filed April 20, 1909. Serial No. 491,090.

1. A device of the class described comprising a pair of toggle levers and a sign-board rigidly assembled with one of said levers and arranged to extend terminally upon the other lever.

935,276. Mud Guard for Vehicles. Harold J. Sharpnel, Brixton, England. Filed Dec. 4, 1908. Serial No. 465,955.

1. In a vehicle, the combination with an upper mud guard arranged to partially encircle a wheel of the vehicle, of a lateral mud guard mounted loosely on the wheel hub and a connection between the said guards, said connection embodying a vertically arranged spiral spring, and being attached to the lateral mud guard and also to the upper mud guard at points approximately vertical above the axle of the vehicle.

935,293. Steering Gear for Motor Vehicles. Robert H. Bowman, Canon City, Col. Filed Oct. 30, 1907. Serial No. 399,908.

1. In a steering mechanism for motor vehicles, a steering shaft provided with a rack wheel, and a sliding foot latch mounted to slide longitudinally on the vehicle platform, adapted to be thrown by the operator's foot into locking engagement with said rack.

935,582. Motor Vehicle. Robert H. Bowman, Canon City, Col. Original application filed Oct. 30, 1907, Serial No. 399,908. Divided and this application filed May 29, 1908. Serial No. 435,617.

In a motor vehicle, the combination with the front truck including two standards connected at their upper ends by a centrally apertured cross piece and bearings on the lower ends of the standards, of a rotary axle mounted in said bearings, ground wheels on the ends of the axle, a king bolt extending at its upper end through said cross piece to form the pivot of the truck and provided at its lower end with a clamp embracing the axle, a reach bar connected at its forward end with the lower end of the king bolt at opposite sides of said clamp, a bevel gear turning on the king bolt adjacent to the upper side of the reach bar and provided with a driving member, and a bevel gear on the axle and meshing with the first named bevel gear, substantially as set forth.

935,583. Speedometer. James H. Bullard and Edwin W. Bullard, Springfield, Mass., assignors to Bullard Specialty Co., Springfield, Mass., a Corporation of Massachusetts. Filed Dec. 21, 1906. Serial No. 348,904.

1. A speedometer comprising a rotatable shaft, centrifugally actuated arms, the free ends of which swing away from the shaft during the rotation of the latter, said arms each having a projection extending at an angle therefrom and provided with a curved edge; springs fixed at one end and carried by the shaft, and bearing against the curved edges of said projections, the effective length of the springs being changed by the swinging movement of the projections on which they have a bearing, and an indicating pointer actuated by the swinging movement of the arms, an elbow lever having one arm operatively engaging the pointer its other arm being actuated by a second elbow lever, the latter being pivoted so as to move in a plane at right angles to the plane of the first mentioned elbow lever, as described.

935,643. Transmission Unit for Motor

Vehicles. Howard E. Coffin, Detroit, Mich., assignor to Chalmers-Detroit Motor Company, Detroit, Mich., a Corporation of Michigan. Filed Nov. 6, 1908. Ser. No. 461,416.

1. In a motor vehicle, the combination with the motor and transmission shaft, of a brake, a transmission variable speed gearing and a main clutch intermediate said motor and transmission shaft, said brake gearing and clutch being organized to be attachable and detachable as a unit from said motor and transmission shaft.

935,644. Clutch. Howard E. Coffin, Detroit, Mich., assignor to Chalmers-Detroit Motor Company, Detroit, Mich., a Corporation of Michigan. Filed Nov. 6, 1908. Serial No. 461,417.

1. In a clutch, the combination with male

and female members, of a flexible facing on one of said members, a removable reinforcing leaf spring for said facing, a stud secured to said spring and extending through a bearing on the clutch member, and an adjustable nut on said stud for limiting the movement of said spring.

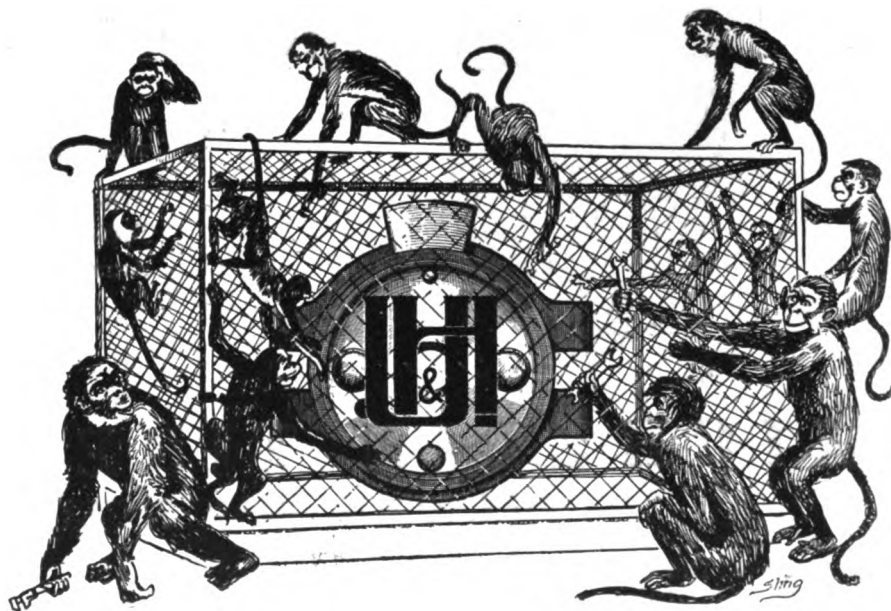
935,647. Tire Case. Powell Evans, Philadelphia, Pa. Filed Jan. 2, 1909. Serial No. 470,314.

1. A tire case made of relatively thin sheet material and having within it a reinforcing structure, with a supporting base connected to said reinforcing structure so as to directly receive any load applied to the same.

935,931. High Tension Spark Plug. John Sharp and William Sharp, Cleveland, Ohio. Filed Dec. 9, 1908. Serial No. 466,648.

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1. In combination in a spark plug, a hollow metal body portion, screw threaded for insertion into an engine cylinder, a tapered inner extremity therefor, provided with a chamber, and a semi-globular terminal therefor projecting beyond said tapered extremity, the said terminal provided with a central countersunk orifice and with fine longitudinal slits, communicating with said chamber, and an inner terminal in said central orifice, a central stem connected with said inner terminal, and an insulation therefor, said stem and insulation secured within said hollow body.

936,064. Carburetter. Walter C. Westaway, Rockford, Ill., assignor, by direct and mesne assignments, to J. W. Duntley, Chicago, Ill. Filed Sept. 28, 1905. Serial No. 280,546.

1. In a device of the kind described, a shell or casing inclosing a chamber having a spheriform bottom, a fluid inlet and an air inlet formed in said bottom, and an outlet near the opposite end of said casing, in combination with a spherical segmental spreader positioned within said chamber and arranged to co-operate with the walls thereof to form an annular channel from said inlets to said chamber to bring the inflowing air into contact with the inflowing liquid.

934,144. Steering Gear for Vehicles. Eugene N. Daniels, La Fargeville, N. Y. Filed June 12, 1908. Serial No. 438,228.

1. In a steering gear for vehicles, a supporting member having the ends directed upwardly and provided with transverse apertures, each aperture having an internal stud, a divided axle with the parts extending respectively through said apertures and swinging upon said studs, the inner ends of the axle members having gear segments, a gear wheel supported for rotation upon said supporting member and engaging said segments, and means for oscillating said gear wheel.

934,472. Tire. John S. Stevenson, Detroit, Mich. Filed Dec. 23, 1907. Serial No. 401,740.

1. In a vehicle wheel, the combination with a felly, of spaced inner and outer rims thereon, each of said rims being provided with inwardly and outwardly projecting marginal flanges; the inwardly projecting flanges of the one and the outwardly projecting flanges of the other being hook shaped, and one of each of said outwardly and inwardly projecting hook shaped flanges being detachable, co-operating guide flanges detachably secured respectively to the hooked flanges of the outer rim and to the inwardly projecting flanges of the inner rim, a tire interposed between the rims, a sectional covering for the tube flanged to engage the hook shaped flanges, and a tire encircling the outer rim and seated between the outwardly projecting marginal flanges.

934,639. Tire. Victor E. Van Cantfort, Akron, Ohio. Filed April 18, 1908. Serial No. 427,910.

A tire comprising a body portion and a separate tread united thereto by vulcanization, said tread provided, previous to its vulcanization, with a plurality of bolts having threaded shanks positioned in suitable apertures therein, extending from the inner face thereof outwardly and projecting therefrom, the heads of said bolts adapted to rest on the outer surface of the original tire body when said tread is united thereto, a strip of wear resisting material positioned on the outer surface of said tread after vulcanization constituting a protective covering therefor, nuts adapted to be secured on

the threaded ends of said bolts to engage said protective covering, thereby maintaining the same in snug engagement with said tread and constituting protuberances for receiving the wear and preventing skidding of said tire and means extending longitudinally of said bolts for locking said nuts thereon, whereby said nuts are locked against rotation irrespective of the wear thereon.

934,731. Transmission Gearing. William E. Jenkins, Milton, Pa. Filed Nov. 25, 1908. Serial No. 464,415.

1. In a transmission gearing the combination with a frame, of driving and driven wheels, spherical discs in engagement with the driving and driven wheels, a shaft mounted on the frame, friction wheels mounted on the shaft and means for moving the shaft for causing the friction wheels to be brought into contact with the driving and driven wheels for reversing the motion of the driven wheel.

925,033. Vehicle Tire. Clinton H. Knecht, Akron, Ohio. Filed Aug. 26, 1908. Serial No. 450,359.

1. In a vehicle tire, the combination with a clencher rim, of a tire, and opposed retaining devices independent of each other embedded in the base of the tire and having bevel faced overlapping extremities acting upon each other to hold the tire in positive locking engagement with the rim.

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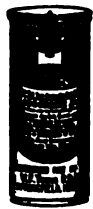
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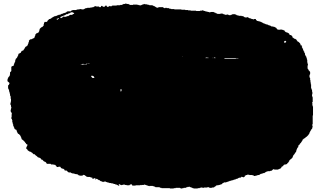


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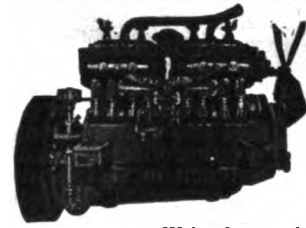
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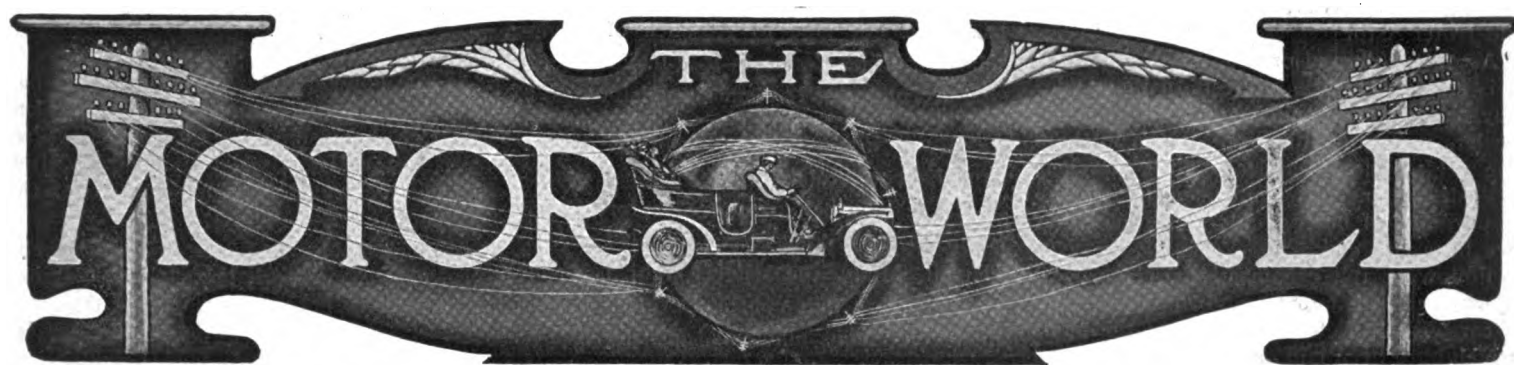
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## BROWN-LIPE SEPARATES INTERESTS

**Transfers Its Differential Gears to a New Company—Control, However, Remains with Former Principals.**

Hereafter the Brown-Lipe differential gears and the Brown-Lipe transmission and steering gears will be made and marketed by separate but related companies, the Brown-Lipe-Chapin Co. having been formed to take over the differential gear department of the Brown-Lipe Gear Co.

The Brown-Lipe-Chapin Co. is being incorporated under the laws of New York State with a capital stock of \$1,500,000, all of which has been subscribed for by the present stockholders of the Brown-Lipe Gear Co. and C. S. Mott. The officers of the new company will be Alex T. Brown, president; W. C. Lipe, vice-president; H. W. Chapin, secretary and treasurer, who with C. S. Mott and H. J. Mallory, of Flint, Mich., will compose the board of directors. The business will be managed by H. W. Chapin, who for the past 15 years has been manager of the Brown-Lipe Gear Co., which office he will retain, also. The new company will assume all contracts of the old one and will continue its policies. The Brown-Lipe Gear Co. will turn over all its men, machinery and equipment used in the production of differentials and about July next they will be installed in a separate factory, which is to be erected in Syracuse, N. Y., near the present Brown-Lipe plant. The site already has been secured and the plans call for a six story fireproof building having floor space of 150,000 square feet.

Manager Chapin states that the new arrangement was made absolutely necessary by the demand for the Brown-Lipe productions. It was either a case of "standing pat" and refusing new business or expanding and taking care of all that offered and the principals of the company voted for expansion.

Reports that had been circulating that the Brown-Lipe business would be absorbed by the General Motors Co. are positively denied by Manager Chapin. He states that the would-be trust is not directly or indirectly, or in any way interested in the business. The reports undoubtedly grew out of the connection of C. S. Mott, of the Weston-Mott Co., with the new Brown-Lipe-Chapin Co. The Weston-Mott company makes wheels and axles and supplies them to the General Motors concern; for six or eight years it has used the Brown-Lipe differentials, and Mott and Chapin long have been warm personal friends, and Mott's connection with the new Syracuse project is due to this state of affairs. As a matter of fact, although the General Motors' "wizard" has the Weston-Mott company listed as a General Motors' property, it is no secret that it does not even hold the controlling interest in it.

### St. Louis Company Gets Indiana Site.

The Standard Automobile Co., of St. Louis, Mo., has "signed up" to establish its plant in Wabash, Ind., taking a now idle bridge and iron works as its factory. The company is to be reorganized with \$500,000 capital and has been guaranteed \$42,500 subsidy by the citizens of Wabash, through the Wabash Exchange. C. J. Wardwell is to be the resident manager.

### Matlack Now with General Motors.

J. C. Matlack, who resigned the general management of the Michelin Tire Co. to become identified with the General Motors Co., and later decided to go into business on his own account, has been induced to change his mind. He last week "signed up" with the General Motors people.

### Barnes to Work in Two Cities.

Claire L. Barnes, general sales manager of the Billings & Spencer Co., of Hartford, Conn., is establishing offices in Detroit, Mich., to enable him to give the Detroit business his personal attention. He will divide his time between Detroit and the factory office at Hartford.

## ORGANIZING LICENSED DEALERS

**First Official Move Made in New York in an All-Embracing Campaign—Los Angeles Already had Acted.**

As a further step in the organization of the licensed forces, following the granting of Selden licenses by the Association of Licensed Automobile Manufacturers to a large list of established manufacturers who heretofore have been operating as "independents," the agents and branches handling licensed cars in the various cities are organizing local associations of licensed dealers. The local associations, among other things, are to endeavor to create a clear "sheep and goats" distinction with the public between their members and the dealers handling unlicensed cars, and are to undertake the direct work of informing prospective buyers as to the patent situation relating to cars.

The movement really started in Los Angeles, Cal., where, entirely on their own initiative, the dealers who handle licensed cars, as was reported by the Motor World at the time, several weeks since organized The Licensed Dealers' Association of Los Angeles, and took generous space in the newspapers to proclaim the dangers to the retail buyer in purchasing an unlicensed car, and to publish the names of the licensed dealers and the cars they handle. The organization also has gone further in its attempts to "freeze out" the dealers in unlicensed cars by promoting its own hill climb and other competitive events.

A call for an organization along similar lines has now been issued in New York City, not directly because the metropolitan dealers have been impressed with the Los Angeles example, but in accordance with a program which it is indicated is to be carried out all over the United States. The call is signed by eight prominent agents and branches and has been sent to all of the 54 New York dealers handling licensed

cars. The first organization meeting is scheduled for this afternoon (Thursday), at the Hotel Astor.

As one of the reasons for issuing the call, it is stated that "the interests of those who buy motor cars should be protected against dealers who are selling cars which infringe the Selden patent" and also that "purchasers should be fully informed as to the importance of buying only those cars that are licensed."

Following the organization of the New York licensed agents and branches and a carrying into effect of some of the plans which have been laid out for it, the licensed dealers in the other cities will be brought to see the desirability of like associations. When the chain is completed the aggregate of forces working directly in contact with the public is expected to be of powerful effect in carrying the "Licensed" gospel and spreading popular information concerning the Selden patent and its relation to cars.

#### Smith to Leave Kansas for Michigan.

Negotiations practically have been concluded which will result in the main plant of the Smith Automobile Co., of Topeka, Kan., being moved to Grand Rapids, Mich. The present capitalization of the concern is \$200,000, of which \$180,000 has been paid in, but a committee representing the Grand Rapids underwriters is to recommend an increase to \$500,000. The transplantation is largely through the efforts of the industrial committee of the Grand Rapids Board of Trade. Under the new arrangement the officers of the company will be O. H. L. Wernicke, president; E. D. Conger, treasurer, and these, with Arthur C. Denison, directors on the board. The men named constitute the local committee acting for the underwriters. Local citizens are to be asked to take stock on the same basis as the underwriters. The company, which styles its product as the Great Smith car, has been making automobiles for several years, chiefly for Western distribution.

#### Lotz Would Build Cars, and Tires, Too.

Not only to build cars, but to manufacture tires as well, another new company has been launched in Detroit, Mich., to be known as the Lotz Auto Co., and capitalized under Michigan laws at \$300,000. John A. Lotz, a Detroit real estate man and one of the principal stockholders, announces that a factory site has been secured on Harper avenue, where a factory will be completed in the spring. Associated with him in the enterprise are John McQueen, Arthur A. Fletcher, George Cooley and Joseph Christian, who is described as a wealthy Chicagoan. The cars which are projected are a combination runabout and a four and a six cylinder touring car, at prices ranging from \$600 to \$1,500, while the tire which is to be manufactured is the invention of George Cooley, of Grand Rapids, and is described as being designed "to avoid the necessity for pneumatic tires."

## DELAY IN INJUNCTION HEARING

### Postponement Due to Absence of Studebakers' Chief Counsel—E-M-F. Exhibits a Volume of Dealers' Complaints.

All the injunction proceedings of the Studebaker Automobile Co. against the E-M-F. Co. now being centered before Judge Swan, in the United States Circuit Court at Detroit, Mich., the whole fight is being waged before that court. Both sides have filed voluminous affidavits, and the E-M-F. Co., in addition, has prepared a printed volume of letters from dealers who express dissatisfaction with the system under which the Studebakers have been distributing the E-M-F. cars. The book contains 128 pages and has 142 exhibits from automobile dealers in all parts of the country who state their grievances.

The hearing of the case was to have been taken up on Tuesday, but the principal counsel for the Studebaker company, John S. Miller, who is referred to by the Studebakers as the man who averted the payment of the \$29,000,000 fine against the Standard Oil Co., was detained in Chicago as counsel for John R. Walsh, the convicted banker. The explanation was made to the court by General H. M. Duffield, of counsel for the Studebakers, and was corroborated by Elliott G. Stevenson, of counsel for the E-M-F. Co. It was finally agreed that the injunction hearing shall take place on next Tuesday, 25th inst.

Great emphasis is placed by the E-M-F. co. on the objections by dealers to the Studebaker method of placing the cars. Letters from other manufacturers of cars are submitted to show that the 12 per cent. dealers' discount which in many cases was all that was allowed, is not as great as is considered desirable or reasonable by car manufacturers in general. The hardship of compelling dealers to take the larger and more expensive cars in addition to the E-M-F. in order to obtain a better discount than 12 per cent. also is dwelt upon, and among the exhibits is a contract between the Boston branch of the Studebaker company and a dealer in Manchester, N. H., which provides that a 12 per cent. discount would be allowed on E-M-F. cars and an additional 3 per cent. provided the dealer also bought a Studebaker-Garford car. Other dealers state that they were offered but 10 per cent. on the E-M-F. cars and only 5 per cent. on the new Flanders, while complaints also appear in the exhibits to the effect that the prices charged for parts was greater than the dealers had been lead to expect by the published prices in the E-M-F. parts catalog. The papers filed by the Studebakers relate more directly to the matter of the circumstances of the various contracts and agreements with the E-M-F. Co., with a view to establishing the com-

plainant's rights as exclusive distributor of the product.

#### Changes by Well Known Tradesmen.

M. B. Fetcher, who for eight years has been in the retail automobile trade in Denver, Col., has joined the forces of the Premier Motor Mfg. Co., of Indianapolis, Ind. He will be traveling representative of the company.

Wilbur Hobbs, manager of the Michelin Tire Co.'s New York branch, has resigned that office to become manager of the Morgan & Wright branch in the same city. He succeeds E. F. Hilton, who recently tendered his resignation.

Edward T. Birdsall, M. E., one of the New York's pioneer dealers, but latterly more prominent in the role of designing engineer, has joined Bradenburg & Co., of New York and Chicago. The company has the wholesale selling agency for motors, parts and a number of accessories.

Frank B. Wood has become manager of the Chicago branch of the Knox Automobile Co., succeeding J. W. McCausland, who has resigned to go into the manufacturing end of the industry. Wood formerly conducted an automobile business in Elgin, Ill., but has been a salesman in the Knox branch for some months.

H. R. Doty, who has been sales manager for the southern half of the Western sales department of the White Co., of Cleveland, O., has been transferred from Chicago to San Francisco, where he will act as assistant manager of the Pacific Coast department. He has been succeeded in Chicago by J. O. Sackman.

#### Detroit Roller Bearing is Settled.

The Detroit Roller Bearing Co., of Detroit, Mich., making Zahn bearings for motor cars, has completed its new factory and has effected a complete transplantation of the business from Los Angeles, Cal. The plant is at 192 Piquette avenue. The concern had its reorganization about two months ago, J. M. Hibbard being made president and general manager.

#### Los Angeles Votes for a Show.

Dates have been selected for an automobile show at Los Angeles, Cal., which is to be held in the Grand avenue rink. At a meeting of the Automobile Dealers' Association of Southern California, attended by 35 dealers, it was decided to hold the show February 8 to 14, and committees were appointed for its management.

#### Bedstead Makers Abandon Car Project.

Failing to get the capital which it had relied upon to support it in the manufacture of automobiles, the Richmond Mfg. Co., of Richmond, Ind., has abandoned motor car making for the present and will devote its entire attention to the manufacture of automobile and carriage lamps. The company formerly made bedsteads.



**MITCHELL INTERESTS ARE COMBINED**

**Wagon and Automobile Concerns Linked  
in New \$10,000,000 Company—Big  
Plans that Will Mature.**

Capitalized at \$10,000,000 and taking in the Mitchell Motor Car Co., together with the Mitchell & Lewis Co., a new, combined company has been organized in Racine, Wis., to be known as the Mitchell-Lewis Motor Co. and which hereafter will be the producing company for Mitchell cars. The Mitchell Motor Car Co. has long been conspicuous in the trade, while the Mitchell & Lewis Co. has been manufacturing farm and spring wagons since 1834. The combination concern will not only produce Mitchell cars in greater number than ever before, but also will manufacture farm and spring wagons, motor trucks, light motor delivery wagons and a light combination motor business wagon for farmers' use. The facilities of the two constituent companies will permit the new company to manufacture all its own bodies, springs, castings and details of its products.

The amalgamation is headed by Captain William Mitchell Lewis, son of William T. Lewis, who heretofore has been the head of both concerns. In addition to President Lewis the officers are Henry C. Mitchell, vice-president; George B. Wilson, second vice-president; Frank L. Mitchell, treasurer; G. Vernor Rogers, designer; John W. Bates, superintendent; James W. Gilson, sales manager; William T. Lewis, chairman of the board of directors.

All of the \$10,000,000 capital stock is held in the Mitchell and Lewis family lines and there will be no bonds or large floating indebtedness. William T. Lewis will retire from active work, but as chairman of the board of directors will remain in an advisory capacity. The combined plants cover about 60 acres. New executive buildings are rapidly nearly completion, as the amalgamation has been in process of consummation for some time.

**Credit Association Eats and Elects.**

The Automobile Trade Credit Association, with headquarters in New York City, held its annual meeting at the Hotel Astor last night (Wednesday), the business session being followed by a banquet at which President Carl Kaufman presided and which was the occasion for a number of short speeches. Two directors were elected for three year terms, these directors being Carl Kaufman, of the Motor Car Equipment Co., New York City, and J. J. Kohn, of the Non-Pareil Horn Mfg. Co., Brooklyn. W. B. Lasher, of the Weed Chain Tire Grip Co., New York, resigned as a director, with an unexpired term of two years. He retired owing to the fact that his company is a constituent of the United Manufacturers

which already has one representative on the board in E. C. Wilcox, of the Connecticut Telephone & Electric Co., of Meriden, Conn. The unexpired term will be filled by M. J. Martin, of the George H. Haws Co., New York, who was elected Lasher's successor. The association, which is four years old and has 93 members, has decided to increase its membership, and to this end has made itself a committee of the whole to seek desirable members.

**Palmer & Singer Increase to \$1,000,000.**

Having practically completed its new factory in Long Island City and being about to commence the manufacture of P-S cars on a larger scale than in the past, the Palmer & Singer Mfg. Co., of New York City, is to increase its capitalization from \$400,000 to \$1,000,000. The notice of the proposed increase was filed with the Secretary of the State of New York last Monday.

**Corbin to Produce Six Cylinders.**

Heretofore confining itself to four cylinder cars, the Corbin Motor Vehicle Corporation, of New Britain, Conn., is developing a six cylinder model. The car is to be of 48 horsepower, with a wheel base of 124 inches, and the chassis is designed to accommodate several types of body, from a two passenger runabout to a seven passenger touring type.

**Twyman to Manage E-M-F. Sales.**

B. W. Twyman has become the sales manager of the E-M-F. Co., of Detroit, Mich. His extensive experience in both manufacturing and retail fields is regarded as especially qualifying him in handling agency matters and the large problems of the selling field.

**Grant-Lees Erecting Concrete Factory.**

The Grant-Lees Machine Co., of Cleveland, O., making gears and other parts for the automobile manufacturing trade, is erecting a three story concrete factory. The new building will permit a doubling of the present output.

**Fire Damages Ohio Tire Plant.**

The Mansfield Rubber Co., of Mansfield, O., which recently commenced the manufacture of tires, was visited by fire on the 12th inst. The damage in the machine shop and rubber room was approximately \$20,000.

**Factory Society with 1,400 Membres.**

The Franklin Mutual Benefit Society, which is composed of employees at the automobile factory of the H. H. Franklin Mfg. Co., in Syracuse, N. Y., has 1,385 members. The membership is fast increasing.

**Moody Leaves Branch for Factory.**

C. W. Moody has been appointed general sales manager of the Swinehart Clincher Tire & Rubber Co., of Akron, O. He formerly was manager of the Chicago branch of the Pennsylvania Rubber Co.

**WHO WANTS TO BUY \$200,000 SUIT?**

**One of Daimler's Bankrupt Creditors Invites Bids for Large Claim—Patents and Other Things for Sale.**

A bankruptcy sale is scheduled for February 9th of certain large claims against, and majority stock and full control of, the Daimler Mfg. Co., of New York City, which at one time made the American Mercedes at Long Island City and which is referred to by the trustee in bankruptcy of Kessler & Co., formerly bankers of 54 Wall street, as "a New York corporation which apparently has the right to control the manufacture, importation and sale of the Mercedes motor car in the United States." The disclosure by the trustee as to what the remaining assets of the concern consist of is in the nature of a revelation as to some of the tangles of the automobile industry where the reproduction of a foreign car in America is concerned, and incidentally it gives evidence of the amazing expectations at one time entertained by M. Charley, of Paris, and others concerning the probable sale of imported cars on this side of the Atlantic.

Of the various things which the trustee ventures to suggest as assets, there are named "very valuable contracts, United States letters patent, claims for damages for breaches of contract, and for infringement of said letters patent, and other property." Also there will be turned over to the purchaser of the claims and stock certain books of record and accounts, papers, patterns and the like.

An imposing list of United States patents is presented, to the extent of 37 or more, together with numerous assigned applications, not to mention a trademark and a dozen Canadian patents. Of the contracts the two most important are the agreement with the Daimler Motorenengesellschaft, of Cannstatt, Germany, dated August 10, 1900, and that with C. L. Charley, of Paris, dated June 29, 1906.

The first, as summarized by the trustee, "in substance and effect assigns and agrees to assign all inventions and improvements made and thereafter to be made, owned or controlled by the German company, and all United States and Canadian letters patent then issued or thereafter to be issued therefor."

For the second a "minimum face value of \$62,500" is given. The agreement affords an exclusive license to Charley to import and sell the Mercedes car in the United States, for which Charley agrees to pay a minimum royalty of \$100 a car, and a minimum aggregate of not less than \$12,500 per year. The agreement runs five years, from January 1, 1908, to December 31, 1912. "No payments have thus far been made under the contract," the trustee ex-

plains, "for reasons which can be explained." Thus is the "minimum face value" of \$62,500 obtained.

A damage suit for \$200,000 against the Daimler Motorenengesellschaft is also to be considered, though the trustee places no especial emphasis on its having a \$200,000 "face value." The exact nature of whatever other treasures the purchaser might get is not dwelt upon.

"Owing to controversies which have arisen between the Daimler Mfg. Co. and Daimler Motorenengesellschaft and due also to the destruction of its principal plant by fire, the withholding of payments due to it, and the consequent foreclosure and sale of its shop and land in Long Island City (Astoria)," says the trustee, "the Daimler Mfg. Co. has been obliged (temporarily only, it is hoped) to suspend active business, and some small judgments, etc., have been entered against it, but it is believed that the value of the assets, properly husbanded, is enormously in excess of its legitimate liabilities."

The sale is to be of the claims of Kessler & Co. against the concern and 2,401 3-5 shares of its common stock and 10 shares of its old stock, which latter are worth 5 shares of the newer common stock. All of these shares are a majority of the stock issued and outstanding and carry control of the company. A general statement of the Kessler claims against the company makes the modest total of \$296,190, consisting of an open account balance as of August 1, 1904, about \$138,900; open account C. M. Bouggy, president, balance after deducting sundry payments, about \$16,500; note dated February 17, 1904 (collateral 1,341 shares preferred stock of company replighted), interest apparently paid to August 1, 1904, \$134,000; and a note dated December 14, 1901 (collateral 669-10 shares preferred stock of company attached), \$6,690. The 1,341 shares of preferred stock referred to is to be sold as a separate lot, immediately following the sale of the open accounts and common stock, which are to be disposed of at public auction through Adrian H. Muller & Son, auctioneers, at Exchange Salesrooms, 14 and 16 Vesey street, New York City, at 12.30 p. m. on the 9th prox. While making no representations or warranties, the Kessler trustee, Lawrence E. Sexton, 68 William street, New York, aims "to facilitate inquiries and investigations of persons interested, or likely to be interested in the proposed sale," but warns everybody that "purchasers must make their own investigations."

#### Changes Name; Will Build Trucks.

The William F. Kramer Co., of Dayton, O., has changed its name to The Buckeye Wagon & Motor Car Co. and has raised its capitalization from \$10,000 to \$50,000, preliminary to launching into the manufacture of motor cars. The company plans to make commercial vehicles.

#### THE WEEK'S INCORPORATIONS.

Nashville, Tenn.—Blomberg Automobile Co., The, under Tennessee laws, with \$10,000 capital.

Newcastle, Ind.—Newby Automobile Co., The, changes name to The Maxwell-Briscoe-Newby Co.

New Haven, Conn.—Werle-Maley Co., under Connecticut laws, with \$5,000 capital; to deal in automobiles.

Philadelphia, Pa.—Motor Car Supply Co., under Pennsylvania laws with \$50,000 capital. Corporators—F. M. Bell and others.

New Orleans, La.—Aschaffenberg Motor Co., under Louisiana laws, with \$100,000 capital. Corporators—A. Aschaffenberg and others.

South Bend, Ind.—Diamond Automobile Co., The, under Indiana laws, with \$100,000 capital. Corporators—C. G. Moore and E. Ricketts.

Detroit, Mich.—Lotz Auto Co., The, under Michigan laws, with \$300,000 capital; to manufacture automobiles. Corporators—John A. Lotz and others.

Perth Amboy, N. J.—Packer House Garage Co., The, under New Jersey laws, with \$50,000 capital; to take over the business of the Packer House Garage.

Louisville, Ky.—Southern Auto Co., The, under Kentucky laws, with \$18,000 capital. Corporators—W. H. Montgomery, W. H. Leusing and William A. Baker.

Buffalo, N. Y.—Chittenden Motor Car Co., The, under New York laws, with \$10,000 capital. Corporators—Ralph W. Pierce, Lorens P. Chittenden and Samuel F. Pratt.

Dover, Del.—American Engine & Motor Co., The, under Delaware laws, with \$1,000,000 capital; to manufacture and deal in automobiles, motor vehicles and power boats.

Philadelphia, Pa.—Times Square Automobile Co. of Pennsylvania, under Pennsylvania laws, with \$5,000 capital. Corporators—Louis Mansbach, New York, N. Y., and others.

Denver, Col.—Fawcett Motor Co., The W. C., under Colorado laws, with \$50,000 capital; general sales and garage business. Corporators—W. C. Fawcett and George Packer.

Troy, N. Y.—Troy Garage Co., The, under New York laws, with \$20,000 capital. Corporators—Roy V. Rhodes, Pierce H. Russell, Alvan E. Mambert and W. A. Thomas.

Dayton, O.—Kramer Co., William F., changes name to The Buckeye Wagon & Motor Car Co., and increases capital from \$10,000 to \$50,000; to manufacture commercial vehicles.

Sheboygan, Wis.—Maurer Garage Co., under Wisconsin laws with \$15,000 capital; general automobile business. Corporators—Albert G. Maurer, William Caspar and Fred C. Voight.

New Albany, Ind.—Indiana Specialty Co., The, under Indiana laws, with \$10,000 capital; to manufacture automobile parts. Corporators—August Kahler, Anton Kahler and Margaret Kahler.

Celina, O.—Western Ohio Automobile Co., under Ohio laws, with \$10,000 capital. Corporators—Samuel J. Vining, Ed. H. Merzman, Walter J. Merzman, M. J. Hemmert and Ed. L. Bryson.

Buffalo, N. Y.—Superior Motor Vehicle Co., under New York laws, with \$200,000 capital; to manufacture and deal in motor vehicles, etc. Corporators—H. A. Kamman, J. W. Lansing and I. T. Gleason.

Detroit, Mich.—Owen Motor Car Co., under Michigan laws, with \$500,000 capital; to manufacture automobiles. Corporators—E. A. Turnbull, Fred W. Hodges, Angus Smith, R. R. Owen and Henry Russell.

Auburn, Cal.—Placer Machine and Auto Co., under California laws, with \$25,000 capital. Corporators—Carroll D. Lecher, Albert J. Lecher, Jasper Hodkin, Walter T. Crosby and Walter F. Jacobs, all of Auburn.

Detroit, Mich.—U. S. Auto Top Co., The, under Michigan laws, with \$20,000 capital; to manufacture automobile accessories. Corporators—William A. Paul, Fred A. Hood and Leroy S. Anderson, all of Jackson.

Troy, N. Y.—Troy Garage Co., The, under Ohio laws, with \$20,000 capital; general automobile business. Corporators—R. H. Kissinger, F. S. Armstrong, Kerr R. Hosey, Theodore A. Watterson and R. L. Patterson.

Minneapolis, Minn.—Hughes Motor Car Co., The, under Minnesota laws, with \$50,000 capital; to operate electric vehicle garages. Corporators—M. L. Hughes, George H. Strickland, Raymond L. Lunt, and others.

Columbus, O.—Iroquois Garage Co., The, under Ohio laws, with \$20,000 capital; to take over the business of the Columbus Garage & Machine Co. Corporators—Fred Luchtenberg, H. L. Thuma and C. R. Hambleton.

Chicago, Ill.—Lange & Brothers Co., Charles, under Illinois laws, with \$5,000 capital; to manufacture and repair buggies, wagons and automobiles. Corporators—Alvah T. Martin, Adolph C. Gresen and Anton Pinger.

Granville, N. Y.—Walker Chain Mat Co., under New York laws, with \$25,000 capital; to manufacture chain mats and other contrivances used on automobile tires. Corporators—M. A. Carter, E. Williams and W. F. Owen.

St. Louis, Mo.—Tower Grove Motor Car Co., The, under Missouri laws, with \$5,600 capital; automobile repair business. Corporators—Thomas W. Wiley, Richard P. McClure, Jr., Horace B. Wiley and Fred L. Schleicher.

## IN THE RETAIL WORLD.

The Goodyear Tire & Rubber Co. has opened a branch in Minneapolis, Minn.; it is located at 915 First avenue, South.

The Utility Car Co., New York City, has leased the two story stable building at 106 West Thirtieth street, and when alterations are completed will occupy it as a garage.

The Ohio Auto Co. has been formed in Columbus, that state, and soon will "hang out its shingle" on a new garage. The company will represent the Rider-Lewis cars.

Shoemaker & Smith, Indianapolis, Ind., have opened salesrooms in the Penway building at Pennsylvania and New York streets. They will act as state distributors for Parry cars.

The Curtis Automobile Co., Milwaukee, Wis., has leased the property at Eighth street and Grand avenue and will erect a garage thereon. It will be a three story structure 45x105 feet.

George Hoskins has purchased the Saunders estate on Housatonic street, Lee, Mass., where he will erect a garage. It will be a corrugated iron building and will include a repair shop.

The Prothero-McGinnis Auto Co., Baraboo, Wis., is preparing to erect an addition to their present establishment. The new structure will be 44x90 feet, and will be used for a machine shop.

The Rome (Ga.) Garage Co.'s establishment and four cars were destroyed by fire last week, in a blaze which swept several buildings at Third avenue and Broad street. The total loss was \$18,000.

William E. Taft, Athol, Mass., has taken over the garage formerly conducted by Richardson brothers, who have dissolved partnership and retired from the management of the establishment.

Fire destroyed the automobile repairshop of Justus Moore, in the rear of 628 East Capitol avenue, Springfield, Ill., last week, six cars going up in smoke. The total loss was \$7,000, partially insured.

The Parker Garage, Minneapolis, Minn., a new establishment which claims to be one of the largest and best appointed in the Northwest, has opened its doors. It is situated at Tenth street and Mary place.

Clarkson Lindley, Minneapolis, Minn., has let the contract for the erection of a two story garage building, 40x126 feet, at Hennepin avenue and Fifteenth street. The structure will represent an outlay of \$18,000.

A discharge in bankruptcy has been granted Edward B. Underhill, treasurer of the Vanderbilt Cup Garage, of New York City. His liabilities were \$9,693, including those obligations which he became responsible for in connection with the garage.

The Chicago E-M-F. Co. has been organized to handle that car in the Windy City and has taken the quarters at East Twenty-first street and Michigan avenue, formerly occupied by the Oldsmobile company.

Stuart McDonald is manager of the new concern.

Leon Rundell, Utica, N. Y., who at present conducts a repair shop in that place, is to have a new garage, work on which will be begun in the spring. Its dimensions will be 25x50 feet and it will be located on Clawson street, near South Main street.

The Atlas Motor Car Co., Cincinnati, O., has begun business at 3527 Reading road and will represent the Inter-State cars. Mrs. F. B. Williams, formerly connected with several other garages in the Queen City, will be chief factotum of the new concern.

The Holdman Motor Car Co., Hutchinson, Kan., formerly located on North Main street, has removed to the remodeled Palace livery stable at 101 East Sherman street. In its new quarters the concern has 9,700 square feet of floor space and will specialize on repairing.

The Aschaffenburg Motor Car Co., New Orleans, La., which recently entered the local automobile field, has purchased the Herwig property on St. Charles street and will erect a large and handsome garage on the site. The property changed hands at a figure said to be \$52,000.

The Packer House Garage Co., Perth Amboy, N. J., has taken over the Packer House Garage and will conduct a garage and supply business. The new concern has leased part of the building at 70 Smith street and when alterations are completed, it will have considerably more "elbow room."

Work has begun on a new home for the Indianapolis, Ind., branch of the Maxwell-Briscoe Motor Co. It will be a three story brick structure, costing \$60,000, and is situated at Illinois and Vermont streets. The first floor and basement are expected to be ready for occupancy by February 1.

Automobile dealers of Brooklyn, N. Y., have formed the Brooklyn Automobile Trade Association with the following officers; W. H. Kouwenhoven, president; Lew H. Allen, first vice-president; Joseph D. Rourk, second vice-president; C. M. Bishop, secretary, and F. C. Kirkham, treasurer.

The Iroquois Garage Co., Columbus, O., has been formed to take over the business of the Columbus Garage & Machine Co., in West Mound street, but there will be no change in the personnel of the present management. The concern handles the Empire pleasure and Grabowsky commercial cars.

Cocklin & Rickey, Griswold, Iowa, have embarked in the automobile business in that town, and have taken a long term lease of a new garage which is to be erected for them. The building will be 25x120, of brick construction, will include a well equipped repair shop and is to be ready for occupancy by May 1.

Indianapolis, Ind., has received another addition to its retail automobile colony through the formation of the Reliable Auto Exchange, which has leased a three story building at 840 East Washington street.

The company has the state distribution of the Continental "35" pleasure cars, and the Atterbury line of commercial vehicles.

The Franklin Motor Car Co., Philadelphia, Pa., has taken possession of its new building at 3430 Chestnut street, which is one of the model establishments of its kind in the Quaker City. The structure is 40x120 feet, two stories, and is built of brick with marble and terra cotta trimmings, in colonial style of architecture. Franklin cars are handled exclusively.

The C. P. Kimball Co., Chicago, Ill., one of the old line carriage manufacturers who have extended their operations to the making of automobile bodies, have purchased a plot on Michigan avenue, near Twentyninth street, 100x161, making their total holdings at this location 400 front feet. Plans have been drawn for the erection of a new building on the site, which will cost \$500,000 and will be entirely devoted to the company's automobile department.

The Hughes Motor Car Co., Minneapolis, Minn., is the latest accession to the trade in that city, and will devote itself exclusively to the sale of electrics, having the state agency for the R. & L. product. Ground has been purchased on Harmon Place, on which a garage 66x165 feet will be erected at an expenditure of \$20,000. M. L. Hughes, George H. Strickland and Raymond L. Lunt are the organizers of the new concern, which will establish branches in St. Paul and Duluth.

Garage building in Denver, Col., is quite brisk at present, no less than four large establishments being under way. The W. C. Fawcett Motor Co., one of the recent recruits to the local trade, is putting up a \$25,000 structure at 1249-55 Broadway, to be occupied as a salesroom and garage; it will be 50x150 feet, two stories, with a plate glass front. The Denver Omnibus & Cab Co., the Studebaker Co., and the Carstarphen Co. are the others who are increasing their garage facilities by new additions.

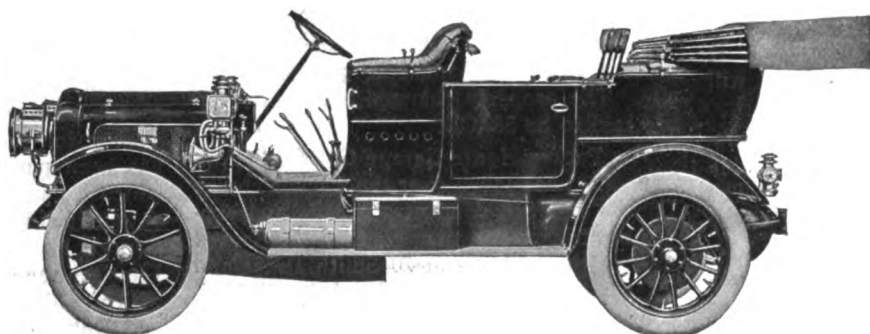
## Priest Blesses a New Jersey Garage.

Owners of new garages who would invoke spiritual blessings and protection for their establishments should follow the custom instituted recently by William J. Moran, of Jersey City, N. J., who had his garage dedicated by a Catholic priest. The ceremony, the only witnesses of which were Mr. and Mrs. Moran, consisted of prayers and the sprinkling of holy water on the walls of the building, these rites being prescribed for the dedication of public buildings under the laws of that church. Moran lays claim to the distinction of owning the only garage in the country which has been blessed by a priest, which assertion is not likely to be disputed, and although as a rule the usual garage is not pervaded by a Sunday school atmosphere, it is possible that the Jersey City emporium will prove a model of its kind in this respect.

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and  
Gasoline** **CARS**



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Toronto, 170 King St., West





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### Continuance of Brake System Defects.

Refinement in automobile design, despite the nimbleness with which it is juggled about as a showtime slogan, is not impressively rapid in making some of its advances. Certain purely mechanical weaknesses in many otherwise unblemished cars have been continued for a surprising length of time. But happily, it would seem that a point has now been reached when they are fast being overcome. For example, it required at least three years after the common run of cars had reached a point of normal standardization to achieve the really trustworthy and reliable brake. Following that advantage, it required all of another year to bring about a general apparent disposition to arrange the linkage by which the brake is applied in a way that would meet the approval of a designing engineer working in any other line than that of automobile construction.

On a large number of cars seen at the two New York shows it was to be observed that

changes had been brought about in the braking mechanism such that the actuating rods were brought inside the frame, out of harm's way, and also in such fashion that the tension to which they are subjected would come directly in the plane of movement of the rocker arms through which the entire braking force must be applied. This, together with the growing use of lever balancing devices, is most commendable practice.

On some cars otherwise acceptable braking systems still are used in which the rods are carried outside the frame, and therefore subject to external injury, and in which the more serious defect is found that the stresses of normal service instead of being applied directly to the working points, may be deflected in pulling the arms out of line, tending to cause the bands to bear unevenly on the drums. Or, worse yet, in some cases, part of the braking force goes to straighten out kinks in the rods, which have been given them in order to provide clearance for some obtruding frame member or mechanical part. Exactly what justification can be found for such layouts is difficult to see, unless it be, as the observer might be led to suspect in some instances, that the brakes are more or less an afterthought in the assembly.

This is a day of careful design in which every part of the average car shows evidences of close study and where haphazard methods of building are not encouraged. At the same time, it is possible still to find several instances in addition to the one in question, wherein it would seem that not a few designers are sticking too close to the draughting board and are studying their cars more with an eye to convenience in building and less with a view to long-continued serviceability than they should do.

### Making a Commercial Vehicle Market.

It is simply amazing how slowly even well-posted members of the industry are coming to recognize the fact that the commercial vehicle already is an assured success. It is true that a not inconsiderable number of alert and enterprising manufacturers are now devoting their attention exclusively to this section of the field with generally satisfactory results to themselves and to their customers. It also is a fact that the business vehicle project is being taken hold of by the to-be-expected number of triflers and ill-equipped prospectors who are lured on by the great apparent

wealth of possibility which the bare facts of the present local transportation problem set forth. A third class is the pleasure car builders who are engaged in commercial vehicle production in more or less earnest fashion. All told there are 80 or more manufacturers in this country engaged in commercial vehicle production in large and small ways. Of this number, a conservative estimate places the sum total of those who are really active producers at about 50.

In considering the whole question of the commercial vehicle movement, however, perhaps it is not too much to say that the production side of the equation is the less important of the two chief factors. The preponderating element in the field is the market without which production is obviously futile and which, unlike the market for pleasure cars, is not self-inductive. Selling commercial vehicles is, and for many years must continue to be, the hardest kind of labor. The actual need upon which the great and unquestionable future market is to be built exists in overwhelming and recognized strength. But the connecting link of proof that the actual vehicle of the day is economically fitted for the requirements which have given it birth remains to be forged.

What noble pioneer work already has been done and how successful it has been is not generally appreciated. As a matter of fact, a census of commercial motor vehicle service in New York City recently published places the total number of vehicles in use at not far from 800. This is exclusive of the cars employed in public cab, ambulance and fire service. In other large cities the growth has been equally constant and equally unobtrusive. So that today, were it possible to secure a total for the number of commercial cars actually in use in the United States, it would amount to really huge proportions, though of course, incomparable numerically with the total of pleasure cars in use. Yet such a total would represent but a very small fraction of the potential quantity which may be reckoned as the real market.

The point not generally appreciated in connection with the commercial motor field is that the bulk of the effort which must be put forth in its upbuilding, from now on must lie on the sales side. The pleasure end of the industry has furnished ample working material for a good foundation in design. Practical and economical vehicles now are being made for business

purposes. The real burden from now on must rest with the salesman who must work faithfully and patiently in placing the product to the best possible advantage, and in following its career with a view to perpetuating its service to the best advantage and the object of upbuilding the industry as rapidly and as thoroughly as circumstances will permit.

#### Motor Buggies a Vanishing Type.

It would seem that the death-knell of the motor buggy in its original and truly characteristic form has been sounded. The recent failure of the pioneer manufacturer in this class, though ascribed in part to high experimental costs incidental to the development of a new type of motor, lends point to a conviction which long has been growing stronger that the engine-driven buggy as such had passed the day of its great usefulness. Evidences that some of the wiser advocates of this type of vehicle had foreseen the end began to appear as far back as the Chicago show of a year ago, when several of them announced their readiness to equip their products with low wheels and pneumatic tires "optionally." Further evidence has been forthcoming during the intervening months as, one after another, its former staunch supporters have been making more or less graceful transfers of their allegiance to the field of the more standard class of machine.

At best, the high wheeled motor buggy was but a compromise; as such it was bound to be more or less unsatisfactory. Its characteristic as a carriage intended primarily to be drawn, were not wholly compatible with its characteristics as a machine intended to be propelled by its own power. From the manufacturing standpoint it presented a greater number of obstacles to successful production than any amount of theory or afterthought could begin to account for. And though several of the more persistent and wise manufacturers who sought fortune through its production developed most creditable results, all things considered, there was the incontrovertible consequence that, even under the most favorable treatment, it lacked the stability which a properly constituted motor vehicle should possess.

Its most potent asset, and the reason for its very existence, in many instances, was its educational value. Among the rural classes it served as a ready and advantageous method of introducing the motor vehicle and a

### COMING EVENTS

January 15-29, Philadelphia, Pa.—Automobile Trade Association's ninth annual show in Second Regiment armory.

January 17-22, Kansas City, Mo.—Motor Car Trade Association's show in Convention Hall.

January 24-29, Portland, Ore.—Portland Automobile Club and Dealers Association's show in Armory.

January 24-29, Detroit, Mich.—Detroit Automobile Dealers' Association's third annual show in Wayne Pavilion.

January 24-30, Washington, D. C.—Washington Automobile Dealers Association's fourth annual show in Convention Hall.

January 28-February 5, Edinburgh, Scotland—Scottish Motor Trade Association's annual show in Waverly Market.

January 29-February 5, Grand Forks, N. D.—Northwestern Implement Dealers' first annual automobile show.

February 5-6, New Orleans, La.—New Orleans Automobile Club's annual Mardi Gras speed carnival.

February 5-12, Chicago, Ill.—National Association of Automobile Manufacturers' ninth annual show in Coliseum.

February 8-14, Los Angeles, Cal.—Automobile Dealers' Association of Southern California's show in Grand avenue rink.

February 14-19, Buffalo, N. Y.—Automobile Club of Buffalo's eighth annual show in Convention Hall.

February 14-19, Hartford, Conn.—Hartford Automobile Dealers Association's third annual show in Foot Guard Armory.

February 14-19, St. Louis, Mo.—St. Louis Automobile Dealers Association's annual show in First Regiment Armory.

February 19-26, Minneapolis, Minn.—Minneapolis Automobile Show Association's exhibition in National Guard Armory.

February 19-26, Newark, N. J.—Associated Automobile Clubs of New Jersey's show in Essex Armory.

February 19-26, Salt Lake City, Utah—Automobile show in Auditorium.

February 21-26, Binghamton, N. Y.—Automobile show in State Armory.

February 21-26, Cincinnati, O.—Automobile Club of Cincinnati's annual show in Music Hall.

February 21-27, Cleveland, O.—Cleveland Automobile Dealers Association's annual show in Central Armory.

February 22-27, Milwaukee, Wis.—Milwaukee Automobile Club's second annual show in Auditorium.

February 24-March 3, Toronto, Can.—Ontario Motor League's show in St. Lawrence Arena.

February 28-March 4, Omaha, Neb.—Omaha and Council Bluffs Automobile Dealers' show.

February 28-March 5, Kansas City, Mo.—Kansas City Automobile Dealers Association's fourth annual show in Convention Hall.

March 5-12, Boston, Mass.—Boston Automobile Dealers Association's eighth annual show in Mechanics Building.

March 12-19, Syracuse, N. Y.—Syracuse Automobile Dealers Association's annual show in State Armory.

facile utensil for purposes of convincing demonstration. Hundreds of present day motorists probably would still be holding the reins over Dobbin's back were it not for the easy method of capitulation offered by the motor buggy as an intermediate step between the cart and the car. Its greatest educational feature from the industrial point of view remains to be mentioned. To numerous carriage and wagon builders throughout the country it afforded an alluring and convenient short-cut into the magnificent enterprise of automobile production. In this respect also it has served a useful purpose, as witness more than one pretentious car which has sprung from the high wheeled embryo of a year or two ago. Without in the least deprecating the gospel of the high wheel, nor questioning the desirability of the solid tire, it may not be too much to say that the motor buggy pure and simple has served its legitimate purpose and,

like an old school book, has been discarded for more advanced things demanded by the progress of events.

With no desire to put a fly in the ointment of the well meaning gentlemen who would wipe all speed limits from laws affecting automobiles and who would put their trust in the "safe and proper" provision, may we inquire whether any of them ever has walked in front of an automobile which was passing a horsedrawn vehicle going in the same direction? We have done so, and had the automobile been travelling at the rate of 25 miles per hour, instead of 15, it is exceedingly improbable that it now would be possible to pen these words of protest. The experience was sufficient to convert us on the spot to the necessity for a specified limit—and if it did not similarly convert the chauffeur, it was not because his hair failed to stand on end.

**BOREALIS' BEAMS ON QUAKER SHOW**

Opening of the First Half of Philadelphia's  
Two Weeks of Exhibition—A New  
Car is Staged.

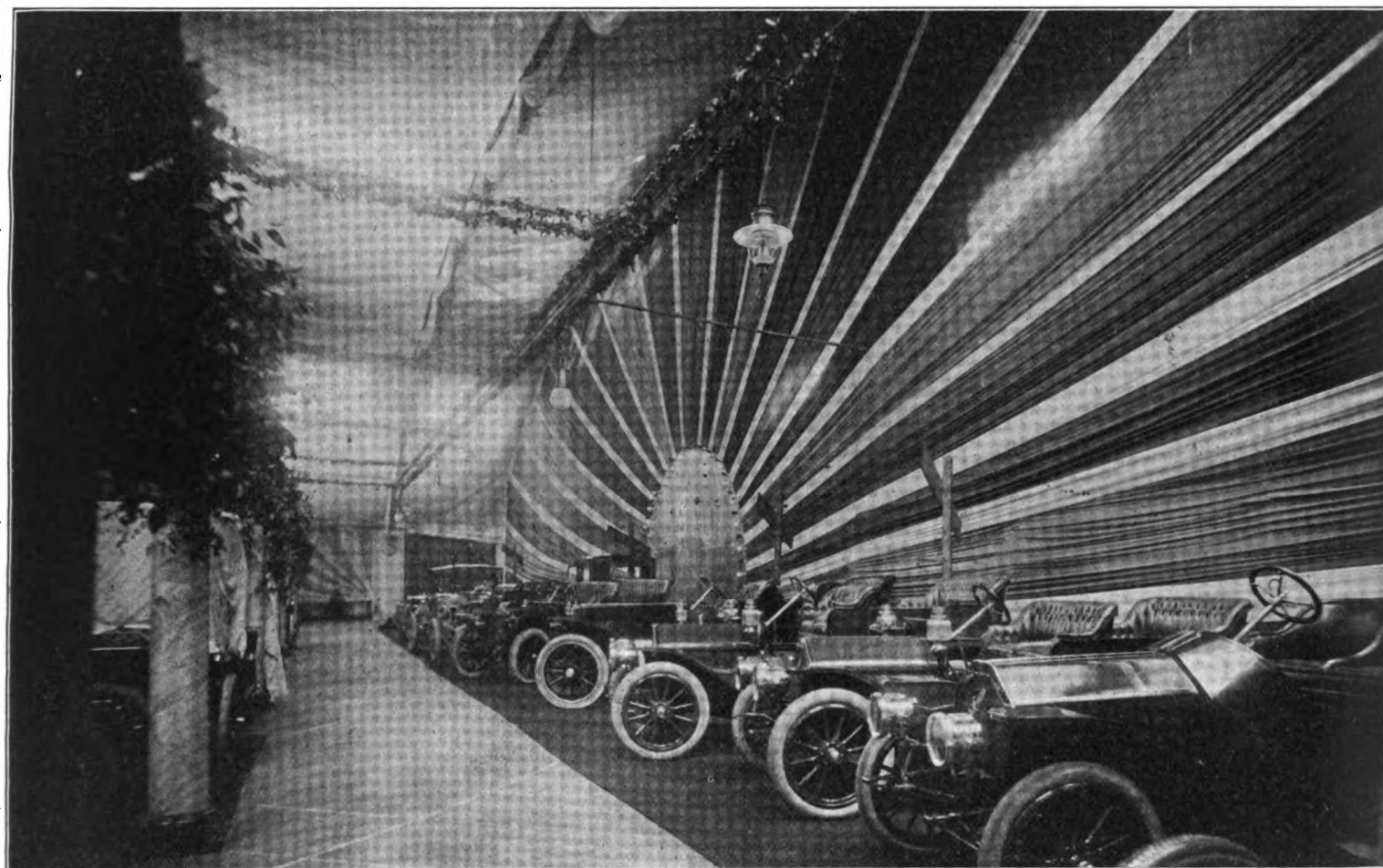
Eclipsing in the gorgeousness of its decorations all previous efforts in the annals of local motor exhibitions, the ninth annual show of the Philadelphia (Pa.) Automobile Trade Association opened its doors at the

tations of the building, which made it impossible to assemble all the exhibits under one roof at the same time.

Taking for the basis of their decorative scheme an outdoor scene, the decorators have accomplished what is regarded as the high water mark in motor car settings in the history of Philadelphia shows. As one enters the hall the eye is greeted by an immense sunburst, or Aurora Borealis, which covers the entire wall at the further end of the building, and the rays of which alternate

which are illuminated with tiny electric lamps. Spanning the aisles at each pair of columns is a latticework, shrouded in smilax.

Attendance on the opening night was rather slim, mainly due to the snow, which was piled high in the streets after the storm of the day before. Early this week rain further contrived to shrink the gate receipts, and succeeded quite well, in connection with the doubling of the prices of admission on Tuesday, Society day. Today (Thursday)



THE SUNBURST OR AURORA BOREALIS "EFFECT" OF THE PHILADELPHIA SHOW

Third Regiment Armory in the face of unfavorable weather conditions, on Saturday night last, 15th inst., and will continue for two weeks, the final curtain falling on Saturday, 29th. It is a notable exhibition in several respects, among which is the extending of the duration of the show to double the usual period, the first time such an innovation has been introduced in this country; also it has the distinction of having two sets of exhibitors, all different, this week being given over entirely to the display of the prominent and well known makes of both the licensed and independent manufacturers. Next week these will give way to a new group of pleasure cars, as well as the commercial vehicle division, the motorcycle contingent and the accessory makers. The extension of the show period was, of course, brought about by the capacity limi-

in streamers of blue and white, the prevailing color scheme. In the centre of the sun are the figures "1910," while the rim is bordered with vari-colored lights. From the roof girders is suspended a framework covered with bunting, which also is used in the dressing of the walls. Through an ingenious combination of gas and electric light arrangement a very brilliant and effective illumination is secured, hundreds of lights being strung from the ceiling. The decorative scheme is further carried out in the promiscuous employment of wild laurel and smilax draping, and the covering of the floor in the booths with green burlap. The booths are furnished with sets of rustic furniture, also painted a rich green, in keeping with the setting. The aisles are marked off with Corinthian columns topped with ornamental representations of Swiss chalets,

the rate again will be raised to \$1. With one exception all of the cars on exhibition were uncovered at the two New York shows, the debutant being the Bergdoll.

The latter, which makes its first appearance, and is an all-Philadelphia product, of 30 horsepower rating, and generally standard proportions. It is constructed in touring, runabout and town car forms, on a single chassis, and possesses such well-known characteristics as three-quarter elliptic rear spring, shaft drive, change gear carried on the frame, and multiple disc clutch running in oil. It is made to sell at a medium price figure and is accompanied by an alluring guarantee of perpetual duration.

There were a few exhibits which were not complete when the show opened, but these were whipped into shape Sunday, and Monday saw everything in ship-shape order.

Several branches and agents who are not exhibiting are holding private displays at their salesrooms. Large crowds continually surround the revolving Thomas chassis, which is one of the features of the show. Suspended from the roof girders dangles an aeroplane, alone in its glory and towering over all, but the huge bird receives scant attention from the visitors.

The list of exhibitors for the first week follows:

#### Exhibitors.

Adamson, Prescott, Columbia and Reo.

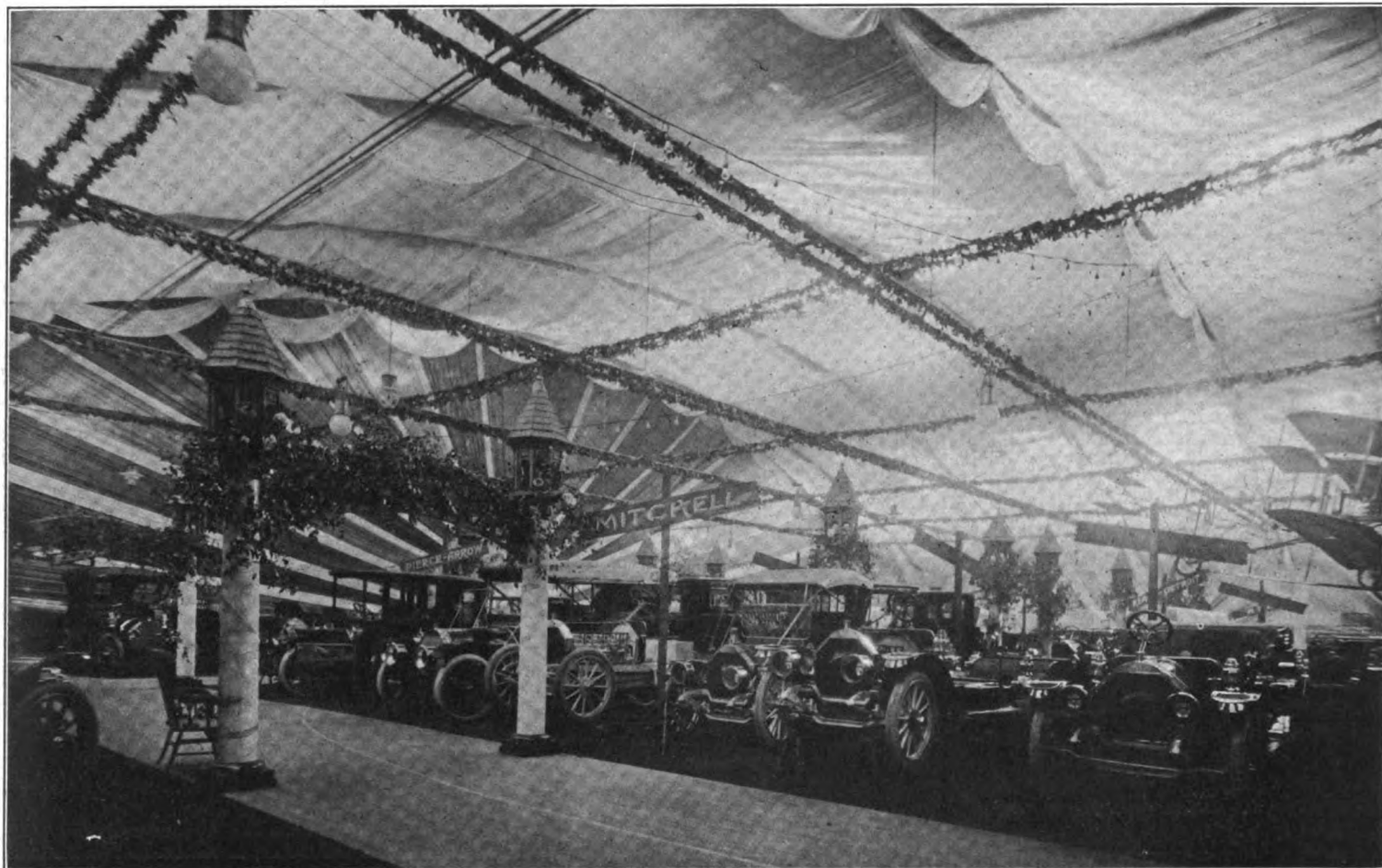
Motor Company, Premier.  
Olds-Oakland Co., Oldsmobile and Oakland.

Packard Motor Car Co., Packard.  
Penn Motor Car Co., Mitchell.  
A. G. Spalding & Bro., Stevens-Duryea.  
W. J. Sprankle, Overland and Marion.  
Standard Motor Car Co., Middlebury and Velie.

Stoyle-Vogel Automobile Co., American.  
Stoddard-Dayton Automobile Co., Stoddard-Dayton and Courier.

Studebaker Brothers Co., Studebaker.

ing year was formally installed. Papers read at the first session were: "A Graphical Determination of Change Speed Gear Bearing Loads," by L. C. Freeman, and "The Effect of Frequent and Heavy Charging Upon Pasted Lead Peroxide Plates," by Hugh Rodman. At the second session "Some Causes of Failure of Automobile Gears" were discussed by Dr. Sargent; and the retiring president, Henry Hess, presented for consideration a broad method of classifying and preserving scientific and engineering data under the heading, "The Wider Dis-



GENERAL VIEW OF THE PHILADELPHIA SHOW

Automobile Sales Corporation, Peerless and Cadillac.

Bergdoll Motor Car Co., Bergdoll.

Chadwick Engineering Works, Chadwick.  
Ford Motor Co., Ford.

Foss-Hughes Motor Car Co., Pierce-Arrow.

G. H. Gantert, Stearns.

Gawthrop & Wister, Elmore.

General Motor Car Co., Lozier.

D. Walter Harper, Stanley.

Hills Motor Car Co., Royal Tourist.

Locomobile Company of America, Locomobile.

Longstreth Motor Car Co., Pullman and Alco.

Matheson Automobile Co., Matheson.

Maxwell-Briscoe Philadelphia Co., Maxwell.

Thomas M. Twining, Regal-Detroit.

Tioga Automobile Co., National and Hupmobile.

West-Stillman Motor Car Co., Pope-Hartford.

White Co., White.

Winton Motor Carriage Co., Winton.

#### Engineers in Annual Session.

Subdivided into two sessions, as was the case last year, the fourth annual meeting of the Society of Automobile Engineers was held on Tuesday and Thursday, 4th and 13th inst., respectively, the object of the dual program being to extend the benefits of the meeting to visiting engineers at both shows. Business and social sessions with banquet were held at the Automobile Club, and the new board of officers for the ensu-

semination of Professional Knowledge and Experience."

At the first meeting, an interesting and unscheduled subject for discussion proved to be the problem of the future disposition of the A. C. A. dynamometer, for which it is sought to develop a broader field of usefulness than yet has been obtained for it. Incidentally it was brought out that, owing to certain unforeseen characteristics, it may become necessary to alter the construction of the apparatus in such a way that the drive will be taken from cars under test directly from the hubs of the rear wheels, instead of through the wheels and tires, as in actual road service. This method, as eliminating uncertainties due to differences in tire surfaces, it is thought, will prove advantageous.



# THE AUTOMOBILE ENGINE OF THE FUTURE

Eminent Engineers Discuss the Subject and Indicate Directions in Which Possible Development Lie—  
Shortcomings of the Present Type are Realized but its Efficiency is Such  
That Progress Must be Slow and Cautious.

To the man in the street the subject of possible future developments of the automobile engine may appeal in either of two ways. He may be an owner casually interested in speculating as to whether he would have been better off had he waited before buying a new car, or he may have more or less curiosity as to whether this big little "infant industry," which is battling with the world of chance in such lusty fashion, has not pretty nearly attained its majority all unsuspected by the public at large.

The manufacturers' point of view, which is shared to some extent by the dealer as well, is entirely different. Each and every change in the design of his product is accompanied by a not inconsiderable proportion of added producing cost. If the change be a simple and natural one, the additional expense is confined to the cost of the design, the patterns, tools and special fixtures which are purely incidental to the innovation. If the new feature be of a radical character, there is added to the manufacturing "overhead," a threatening and uncertain increment of the selling cost, which is due to the delays and trials incident to educating the buyer to the advantages of the new contrivance.

A much broader and more significant aspect is lent to the question of probable changes in automobile engine construction when the present and probable future position of the industry is considered. With the limitless expansion of all transportation requirements, it is not unreasonable to suppose that the automobile is destined to figure most conspicuously in years to come. Its present utility is fairly dwarfed by visions of what the future logically may hold for it. But as its present position is largely defined by the attributes of the current type of gasoline motor, so its expansion into wider fields of usefulness must be determined to a large extent by the ability of designing engineers to produce improvements fast enough to keep pace with the demands of service.

For many uses, industrial, commercial and otherwise, the automobile ought to be superior to any other form of locomotion to give it its full ethical due. That it is not put to greater practical uses today largely is due to the fact that its mechanical attainments are not such as to warrant a more extended application. Hence, it is not too much to say that the future development of the industry at large depends to a very

great extent upon the proficiency of the automobile power plant. From which arises the question—Is the engine of today susceptible of sufficient improvement to enable the motor vehicle to tomorrow to occupy the position to which it rightfully is entitled; or will the future demand become so much more rigorous than the present as to necessitate the production of totally different types of prime mover?

It may be heartless to pursue the point further just when the industry has begun to find itself, as it were, and to move with the trained assurance which the acceptance of standardized methods alone can give. Nevertheless, there is just one chance that the not over cautious producer may allow the fulsome sound of that same substantive to act as a soporific on his business instinct; that standardization may become a species of delusion to work the undoing of the less ambitious automobile manufacturer. Indeed, it might not be amiss for some of the less wakeful ones to pay close heed to the methods of a few of their active brethren. Like the subtle Hindoo who causes the mango to take root and spring up and bear fruit all within the tick of a few seconds, they are doubly active. While their voices are upraised in exhortation upon the merits of standardization, their nimble fingers are very busy beneath the loin cloth. Sooner or later the cloth will be snapped away to disclose not the standard product at all, but a ripened one, a whole stage ahead of the expectation of the assemblage. Of other radical spirits who work in open daylight there is less to be said. But more than one of them counts a great and growing following.

So, after all, it is not unwise to inquire directly into the probable future of the automobile engine. No one possessed of a normal fund of information for a moment desires to question the fitness of the present day engine for the present day car, nor would he beg the question by intimating the conviction that automobile development would be stunted had the gasoline engine reached the climax of evolution. No one save the novice experiencing his first breakdown on a lonely highway, cares to say positively that the present automobile engine is not capable of application to a prodigiously wide field of usefulness. But with the knowledge that many earnest inquirers constantly are seeking new methods of converting the potential energy of the fuel into the kinetic energy of the turn-

ing shaft, and with the further knowledge that their activities have drawn many of them into well defined trends of thought and investigation, it becomes pertinent to inquire as to the prevailing opinion among designers as to the relative stability of the Otto type of engine as now known.

With due appreciation of the delicacy of the point raised, the Motor World approached the engineering departments of a number of the better known manufacturers with a request for information. Going to a busy class of men at a busy time, unexpected readiness to talk was experienced in more than one instance. As was anticipated, some engineers preferred to maintain the anonymity of themselves and their companies; others evinced a natural hesitation about committing themselves even to private correspondence. The general result, however, was extremely gratifying.

From such opinions as can be condensed into an article of the present scope, it will be learned that a majority of practising automobile designers have a wholesome and generous faith in the present type of engine, always postulating certain lines of improvement which in the aggregate are pretty well defined. By the present type of engine is meant that which, following the broad concept of Beau de Rochas, afterward crystalized by Dr. Otto, employs the four operations of induction, compression, ignition and expansion and exhaust in cyclic rotation. Adherence mainly appears to be to the four-stroke period for the cycle, though it is not invariably clear that the two-stroke period is not held in strong respect, while at least one worthy opinion vouches strongly for that type.

It is important to note that the opinions without exception are broadly those of engineers rather than designers or inventors simply, since the ideal objective of high efficiency in no case is subordinated to the important point that it is a question of a marketable product which is being considered. Such, indeed, were the opinions sought.

That such improvements as are destined to come about will be slow in making their appearance is the conviction expressed more than once, while at least one correspondent emphasizes the fact that urgent demands upon the industry at present forbid exhaustive study outside the direct routine of building for the market. It is a fact by no means to be deplored that the industry at large is too occupied productively to have

opportunity for extensive work of a constructive nature.

#### Prof. Kennerson's Opinion.

Something over a year ago Professor William H. Kennerson, head of the engineering department of Brown University, in the course of a lecture before the Rhode Island Motor League, propounded the idea that the present type of engine was not calculated to endure. In order to secure a more even turning moment and a more sustained impulse back of the piston, he suggested that a practical abandonment of the present style of construction would be necessary. Coming from so experienced and scientific an authority, the opinion was radical enough to cause some little comment at the time. It was used as a basis for obtaining the engineers' opinions quoted below. Within a short time the Motor World will present an article by Professor Kennerson himself, in which some of his views on the subject will be given a more extended hearing.

Those to respond to the Motor World's invitation to discuss the subject, and their views are as follows:

#### Rowlands on Gas Turbines.

D. D. Rowlands, assistant chief engineer Chalmers-Detroit Motor Co.:—"I note particularly the declaration of Professor Kennerson which you report and the fact that in the present day type of internal combustion engine there is not being realized the total amount of heat energy available.

"Of course this is a very obvious assertion and is applicable not only to the gas engine, but also to the highest type of reciprocating steam engine and also the steam turbine. For one in the days of Watt or Stevenson to have made the assertion that the present day locomotives were a possibility would have been thought little short of heresy. Also as the present day locomotive reached its high type of efficiency in operation, the greatly increased efficiency of the turbine was not thought possible. Therefore it is plainly evident that any assertion such as Professor Kennerson makes, that a new type of internal combustion engine must be developed in order to obtain the greatest amount of actual B. T. U. service, is only following up the actual course which mechanics of this character have taken from the beginning.

"No one would receive with more interest the successful working out of the gas turbine idea than the writer, and in such an age as today when science is leaping forward in such gigantic strides, it is entirely possible that the gas turbine may be successfully developed.

"So far as the Otto cycle is concerned, I will say that gas engines as they are built today, both by a great many progressive automobile manufacturers and by such concerns as the Westinghouse and Allis-Chalmers, have more than likely reached the

highest efficiency obtainable in the Otto cycle as it is known to us. Therefore, the various changes and variations in cycle practice which are being worked out and pushed by one man and another may greatly revolutionize the gas engine industry and approach more nearly the maximum point of efficiency which, no doubt, Professor Kennerson had in mind.

"There are a great many theories being presented and a great many schemes being worked upon today which are so complicated and involve so many more working parts, than the usual gas engine practice permits and are so economical that they can scarcely be considered as likely to create a very great stir in the gas engine world.

"If the automobile industry were able to catch up with itself and sit back comfortably so as to review the many little refinements and changes taking place, a great many things might be hit upon to increase the actual delivered efficiency of the motor. But when we find it necessary to work day and night in order to keep pace with things as they are now, it hardly gives us time to take very seriously Professor Kennerson's theory, interesting and true as it is."

#### Slide vs. Poppet Valves.

B. D. Gray, chief engineer American Locomotive Co.:—"A great deal of interest has been evinced in this subject recently and particularly since the Silent Knight was successfully launched by the English Daimler company, but I believe that this sudden lively interest is more or less a fad which, judging from the number of designs described and illustrated in the English trade papers, has assumed the proportions of a mania with out British friends.

"I frankly admit that the poppet valve is not ideal by any means, nor am I convinced that the slide valve is without its disadvantages.

"It might be well to analyze briefly the shortcomings of the poppet valve type of engine. Let us consider its low thermal efficiency, inadequate port area, wire drawing, noise from tappets, valves, etc., multiplicity of parts and high manufacturing cost. Theoretically and practically the slide valve engine has a higher thermal efficiency than the T head, or L-shaped poppet valve cylinder, but it is not better than a motor with the valves in the head. At most its advantage in this respect does not exceed 21-2 to 3 per cent, which is hardly worth considering in a power plant of such capacity as is commonly used in automobiles and becomes an almost infinitesimal consideration in the total cost of operation of a car.

"The slide valve lends itself admirably to large port areas, quick opening and closing and hence reduction of wire drawing, and the advantages to be derived from sustained high torque at high speed. The torque curve of the conventional motor of today is practically horizontal from 600

r. p. m. to 1400 r. p. m. and does not fall off appreciably until the safe limit of piston speed has been reached; therefore from a practical standpoint the slide valve motor possesses no distinct advantage in this respect. Theoretically the slide valve should be silent at all speeds and it is very nearly so so long as all working parts are in perfect condition. In its present commercial form, however, it is somewhat susceptible to derangement and is therefore likely not only to become noisy in a comparatively short space of time, but to be actually dangerous in the hands of an inexperienced or careless operator.

"There are thousands of poppet valve motors in operation today which run almost inaudibly and their valve mechanism is rugged, durable and automatically takes care of itself.

"As regards multiplicity of parts and manufacturing cost, the slide valve engine as it exists today seems to possess no advantage over the poppet valve type and on the whole it is difficult to comprehend that its advocates should hope to see it supercede our old time friend.

"As I have heretofore intimated, the internal combustion motor is susceptible to improvement, particularly in the line of simplicity of design and thermal efficiency, and this is being accomplished experimentally. One motor I have in mind, 4 1/2 by 5 inches, has extremely few working parts and has already shown a thermal efficiency of 34 per cent. It is safe to say, therefore, that there is room for development along these lines, but such development must necessarily be slow and the improvements will come gradually. The purchaser of a modern car today need entertain no fears that his motor will become obsolete and must therefore be consigned to the scrap heap before the end of its natural life."

#### Two Cycle and Air Cooling.

Charles E. Duryea, Reading, Pa.:—"I think my attitude is best shown by my actions. I showed a rotary valve, four cycle engine at the Automobile Show in New York three years ago. This offers better valve action, in that it opens and closes more quickly than the usual poppet valve and is not noisy and the action is continuous instead of reciprocating. It therefore is less susceptible to wear. It seems to me to be a reduction of the four cycle engine to its simplest terms.

"Since then I have been working on air cooled engines of the two cycle type and am marketing a very light efficient engine of this kind. I do not see any future type that promises to come into use. The advance would seem to necessarily come from betterments and refinements of the present type. This the Knight has shown to be possible and my rotary showed a different and simpler way. But both of these are water cooled. I believe that the future small automobile engine, i. e., the one that will interest the masses, will be air cooled.

Air cooling not only gets rid of the complication and cost of water cooling equipment, but it wipes out at one swoop the care which a water system demands. Few users of a satisfactory air cooling system will ever go to a water cooled one, but the tendency the other way seems to me very strong.

"The four cycle is not well adapted to air cooling. Its valves must be at the head end and so are exposed to all the heat there is. They must have pockets and these tend to make the cylinder warp out of cylinder truth. This is true to some extent even when the valves are in the heads. The two cycle does not have these troubles and so is better adapted to air cooling than the four. I know this is contrary to common opinion, but I believe it is capable of demonstration. The reason seems to be that while the two cycle fires twice as often, its charges are not quite so large and it holds the hot gases at about 120 degrees, whereas the four cycle engine fires charges of practically piston displacement volume and holds the hot gases at 360 degrees. The cylinder head and walls are cylindrical and can be machined inside and out to an even thickness conducive to symmetrical expansion and consequent perfect fit of rings, no matter whether hot or cold. It is my belief that what will finally come is not so much a new type of engine as a fitting of the old type to the new needs. This will really be a new engine, but not a new type.

"In the early days we had stationery engines fitted to the chassis and sold for automobile work. The early Winton, Packard and Benz cars were of this type. They ran and gave service, but they were not right for automobile use. Benz was even ahead of Daimler, but gets little credit because Daimler was the man who saw the problem correctly and built light engines suited to it. I believe that not only the large heavy single cylinder is unsuited, but that the poppet valve will also go, because unsuited to the exposure to heat which it gets in the present engine. I believe that the two cycle will be modified to a considerable extent and, while retaining the present simplicity, will be made to do automobile work in a manner suitable to the requirements and better than the four cycle does it at present. The performance of two cycle engines now in use shows plainly that this can be done.

"The public is proverbially slow at taking new things, simply because the makers do not offer them. The complex almost always precedes the simple. As the public gets ideas of its own on the subject it will demand the simpler. The work you seem to be doing will help the progress of the business."

#### Coler on Concentric Pistons.

Ernest Coler, Maxwell-Briscoe Motor Co.:

"Though Professor Kennerson's criticism is rather sweeping it contains much that is true and we have no doubt that the profes-

sor's hope will be realized, at least in part.

"In our opinion the concentric-piston idea constitutes a step in the desired direction, especially when the idea is utilized in double-acting motors, in which, under proper conditions, there will be a purer mixture on account of more perfect scavenging; an expansion speed greater than that of the piston alone; an expansion to lower limits, with consequent lower exhaust pressure; a maximum volume with minimum wall surface.

"A motor that fulfills these conditions would be nearly ideal, while the present-day constructions, efficient though they be, when measured by the standard of our achievements, are merely compromises. Naturally the process of development will be slow and the ideal gas engine will not be produced at one stroke of some genius, but by consistent improvement."

#### Possible Power Increases.

David Ferguson, chief engineer, Pierce-Arrow Motor Car Co.:

"The present type of four-cycle engine is a pretty good piece of mechanism, and whether it will be changed radically in the next few years is open to question. Of course, we are improving it a little every year and there is large scope for further improvement along the line of greater power for the same piston displacement, and greater economy. This may be attained by liquid fuel injection, admitting of much higher compression, or it may be attained by forcing in the charge on what is at present the suction stroke, or it may be attained by more complete scavenging at the end of the exhaust stroke. We have reached a stage in the gasoline engine development when radical improvements will come slowly.

"As far as fitness for its duty goes it could be made better by having the maximum pressure in the cylinder sustained for a long period of the stroke. If this could be accomplished as in the steam engine, we could almost dispense with the change speed gear, and the control of the car would be very simple."

#### Eight Cylinders Probable.

Edwin R. Hewitt, president Hewitt Motor Co.:

"My opinion is that the gas engine of the Otto type is the correct one for small engine purposes. This opinion is based on the fact that it is possible with proper construction to make engines which develop in the cylinder all the heat which the walls, valve ports and pistons can look after; in other words, the capacity of the engines is limited by their heat radiating power.

"The trend of improvement in the motors is entirely in the line of more efficient valve motion and the admission and exhaust of proper quantities of fuel at the speeds desired and looking after the heat.

"It has been found with the engines in use that we cannot use the highest compres-

sion possible owing to our not being able to look after the heat properly. In other words, the engine is already up to its limit at certain speeds, and under certain conditions, and it is the improvements of these conditions that the engineer must study.

"The size of cylinders is usually smaller than it was a few years ago. This is largely on account of the heat generated in the large cylinders, as well as the mechanical strains involved. The future will see four-cylinder engines used up to about 50 horsepower, or  $4\frac{1}{2}$  bore. Above that the engines will have more cylinders, either six or eight, as required. The eight-cylinder engine being a cheaper engine to manufacture than the six for the same power, will rapidly come into use for large powers. Up to 50 horse-power there is no advantage in engines with more than four cylinders."

#### Look at the Locomotive.

One of the engineers representing an old and widely known company, who did not desire his name used, writes:

"The subject of a new type of internal combustion engine, while interesting from a theoretical standpoint, would have to be demonstrated in a practical way to be superior to the present type of four-cycle, or Otto engine, before it would be of commercial value. I believe that the future will bring forth developments along different lines, yet the practical side of such a motor must be as simple and reliable as the present type before it can be considered as a commercial proposition. I doubt very much whether any other cycle can be developed that will give a much higher efficiency than the Otto cycle does at the present time without the introduction of complications, which will mitigate against the reliability of such a gain in efficiency.

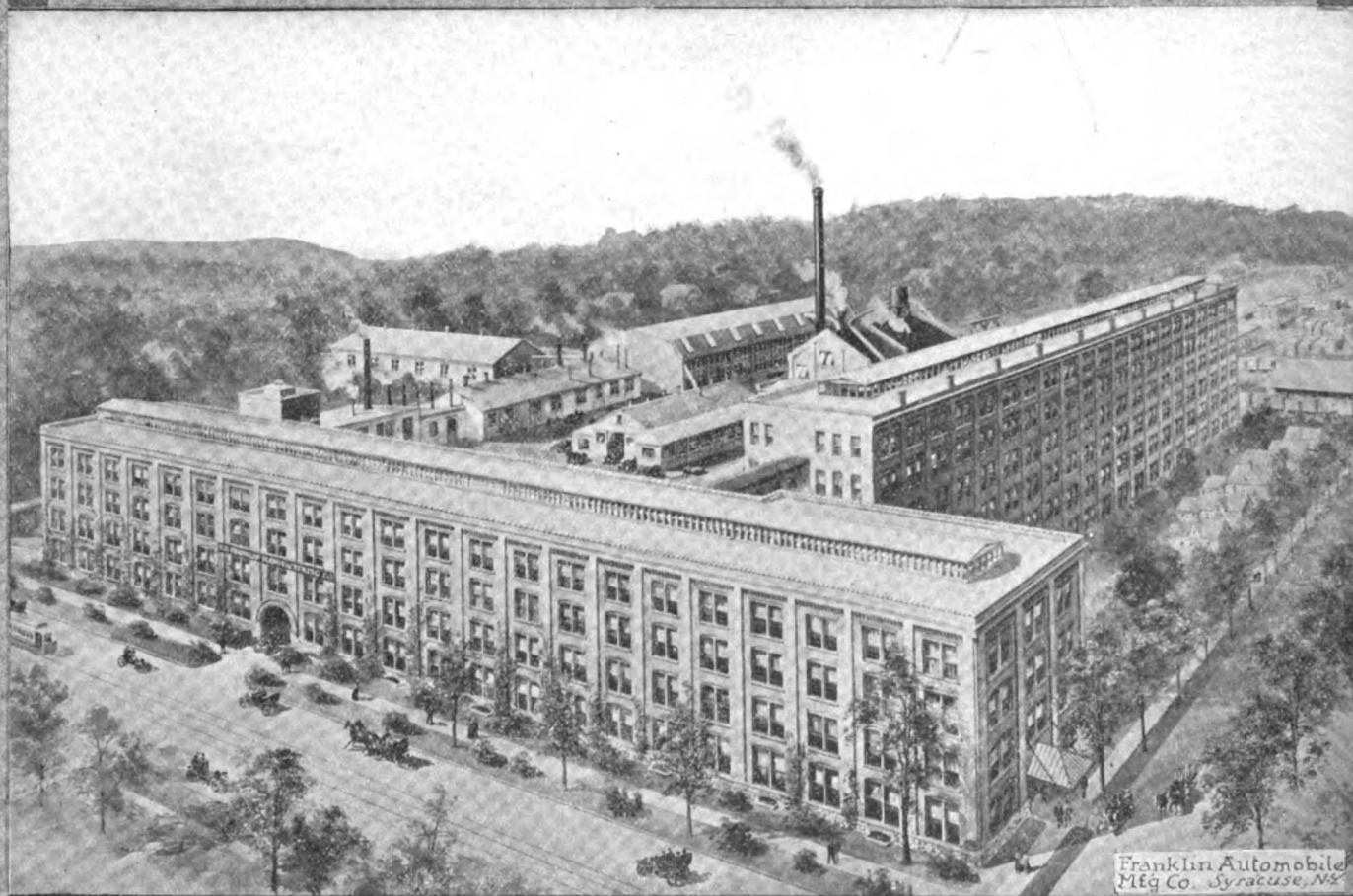
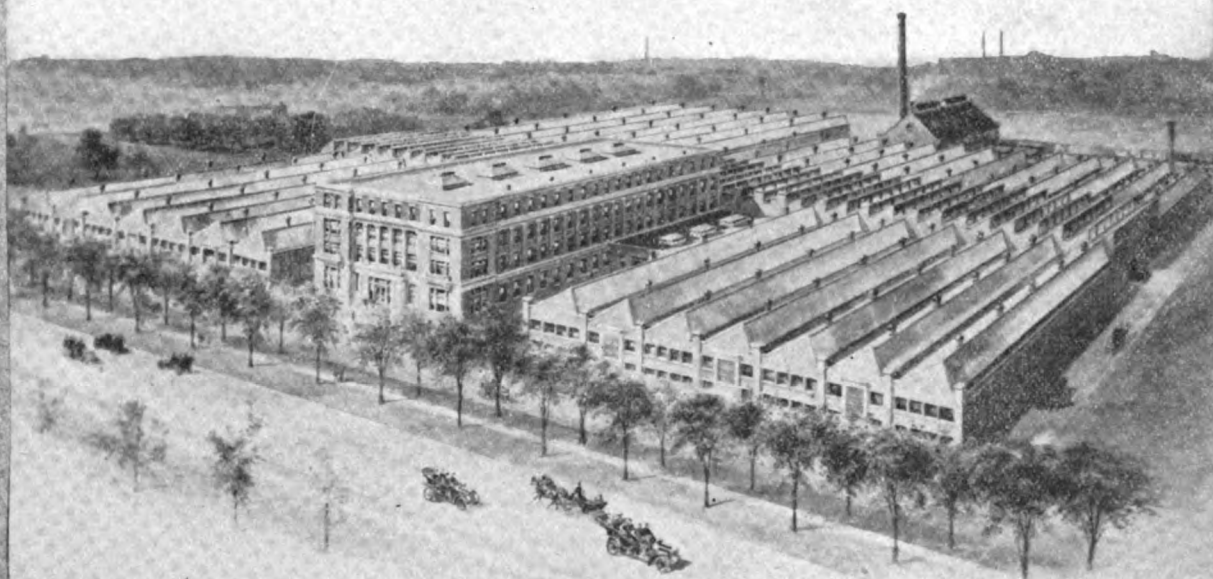
"For instance, a steam locomotive is not built in the most efficient manner for the service it is called on to perform, yet in the past fifty years there have been very slight changes made in its general design. I, therefore, feel that the present form of internal combustion motor will follow along the same lines as the steam locomotive, and that for reliability, general efficiency and simplicity it will be very hard to improve upon."

#### Why Change Will be Slow.

Another engineer, similarly situated, expressed this opinion:

"Any new type of motor, no matter how seemingly successful it may be just now, will require years of development to put it in the same state as the present four-cycle motor, taking everything into consideration, reliability, life, wear, flexibility, etc. Without question, the present motor has limitations. We believe it is developed to quite a thorough extent to-day, and further development will be pretty slow with the standard type of motor, and yet we think it will continue to be principally used for quite a long time."

*The White Co.  
Cleveland, Ohio*



*Franklin Automobile  
Mfg Co. Syracuse, N.Y.*

REPRESENTATIVE AMERICAN AUTOMOBILE FACTORIES



## SHOCKS SUSTAINED BY WHEELS

**Much More Distinctive Than are Commonly Supposed—Facts Brought Out by Spring Wheel Experiments.**

Although the spring wheel has not made great headway in this country it is highly regarded by many British motorists and in England enjoys considerable use. One advantage incidental to its development which alone ought to sanction its construction in the eyes even of those who are not wholly in sympathy with its principle, is that its design offers peculiarly advantageous opportunities for studying the problem of automobile suspension in all its phases. Illustrative of this fact, the lecture of Hon. R. Clare Parsons, M. A., recently read before the Royal Society of Arts, develops some new and interesting information in regard to the degree of shock which must be borne by the wheels of a vehicle when encountering obstacles on the road. It also shows the degree of success which has been obtained with the Panflex as compared with the ordinary solid wheel.

"It is clear that, in order to replace the air spring of the pneumatic tire most efficiently, not only should the rim be as light as possible, but also the resilient medium should be situated as near the rim as practicable, and not in the hub as has been suggested by numerous inventors," says Mr. Parsons.

"It was, therefore, considered necessary to make the center of the wheel absolutely independent of the rim. In addition it was deemed desirable that it should roll freely inside the rim, without any means of attachment between the two, thus differing from many forms of spring wheel that have been proposed.

"In order to carry this principle into effect, it was found necessary to attach the resilient material rigidly, in the form of independent members, either to the outer rim, or to the wheel center, and to allow their other extremities to bear respectively against the wheel center or on the rim; they being kept in position sideways by circular flanges attached either to the wheel center or the outer rim.

"Whichever method is adopted, the wheel center will rotate slightly more rapidly than the rim, and this difference of the number of revolutions, termed the 'creep,' is allowed to take place without hindrance of any kind."

In order to settle generally many points as to the best design of wheel, it was decided to carry out some careful investigations with model wheels about 12 inches diameter. The apparatus employed for the laboratory tests consisted of an ordinary bicycle wheel mounted in its frame with crank and chain complete, the tread of the wheel being fitted with a plain wood rim

which was covered with a strip of canvas. The experimental wheel was mounted above this wheel in such a way that pressure could be applied to its axle, springs being interposed to represent the ordinary suspension of a road vehicle. The rim of the bicycle wheel thus represented the highway surface, while the experimental wheel took the place of the wheel of a moving vehicle. A large paper disc was attached to the side of the bicycle wheel, while a pencil carried

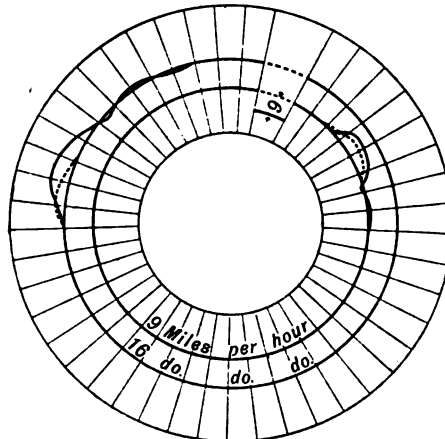


Fig. 1

on the framework supporting the experimental wheel, by making a tracing on the disc served to indicate the vertical travel of the second wheel over the first, thus affording a graphic record of the performance of the device under test.

When the bicycle wheel was rotated at any required speed and an obstacle interposed between the two wheels a jolt took

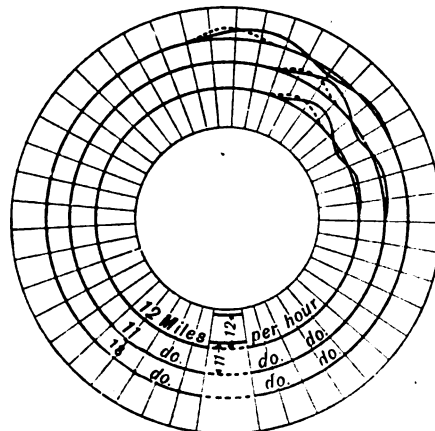


Fig. 2

place the magnitude and intensity of which could afterward be calculated by means of the diagram and certain known data. With this apparatus three sets of tests were carried out; one with an ordinary wheel having a solid tire; another with a solid tired wheel in which blocks of rubber were interposed between the outer rim and a special inner one; and the third in which steel springs were substituted for the rubber blocks employed in the second test. The lecturer continues:

"An attempt was also made to fit a pneu-

matic tire to the model wheel, but the results obtained were not reliable owing to its small diameter. Numerous diagrams of the dynamic jolt were taken with this apparatus, some of which are shown in Figs. 1 and 2.

"These give records taken from two model wheels, one fitted with a solid rubber tire on a rigid wheel, and the other with a solid rubber tire with springs between it and the wheel center.

"The circular line shows the path marked by a pencil when the experimental wheel was revolving upon the smooth rim of the bicycle wheel, and the sudden jump which is given by this line indicates the extent to which the axle was lifted in passing over the obstacle when moving at the speed indicated, whilst the dotted line shows the movement of the axle when the wheel was rolled slowly over the obstacle. In each case the obstacle was  $\frac{3}{8}$  inch in height.

"In the case of the rigid wheel (Fig. 1) it is seen that the momentum of the mass of the wheel lifts the axle to a height approximately double that of the obstacle over which it is passing.

"Another point to be observed is the extreme suddenness of the jump; the whole of the upward movement taking place in the length represented by two of the radial spaces.

"Referring to the similar records for the spring wheel (Fig. 2), the effect of the springs is very clearly shown, since the movement of the axle does not now exceed the height of the obstacle, and in addition the distance occupied by the jolt is increased by at least 50 per cent. The wheel, therefore, in passing over the obstacle does only one-half the work, and does it in one and a half times the time, consequently the intensity of the movement is reduced to one third.

"This is more clearly shown in the diagram in Fig. 3, where the horizontal scale represents time instead of distance. Here it is seen that with the rigid wheel the maximum height is reached a little after .01 second, whilst with the spring wheel this period is lengthened to about .02 second. On the same diagram is plotted the accelerating force necessary to produce the given movement in the given time, and it is seen that with the rigid wheel this force, which is a measure of the intensity of the jolt, amounts to at least twice as much as that of the spring wheel.

"It is clear from these diagrams that the effect of interposing a resilient medium between the rim, having a solid rubber tire, and the wheel center, produced a very marked effect in reducing the suddenness of the jolts imparted to the axle, and also to the body of the vehicle, by lengthening the time in which the jolt takes place.

"Noteworthy among the points revealed by these experiments is the extreme suddenness of the movement of the wheel and the consequent intensity of the forces to

which it is subjected, and it is seen that in no case does the total duration of the movement exceed .04 second, and that the total lift of the wheel is effected in only a fraction of that time.

"Considering first the diagram for the rigid wheel, a lift of about  $\frac{3}{4}$  inch is effected in little over .01 second, this distance being 30 or 40 times as great as that through which a body falling freely from rest would pass in the same time.

"A detailed examination of the curve described by the axis of the wheel shows, however, an intensity of force acting for a short period far exceeding this, and although the apparatus employed cannot be relied upon for extreme accuracy in the investigation of periods of time measured by thousandths of a second, yet it is clear that the instantaneous force to which the wheel is subjected at the moment of striking the obstacle must be somewhere near 1,000 times as great as the force of gravitation.

"Analizing the curve for the spring wheel in a similar manner, it is found that by the action of the spring the lift is reduced to .4 inch in .025 second, or about 10 times the natural fall in the same time, whilst the intensity of the instantaneous force is reduced to less than 500 times that of gravitation.

"A further point worthy of note is that the violence of the jolt is less at a high speed than at a low one, a fact which is not only shown by the diagram, and borne out by the personal opinion of those who have had experience of the running of full-sized wheels, but has also been confirmed by records taken on a seismograph attached to a vehicle fitted alternately with pneumatic tires and spring wheels and driven over the same road."

Later it was deemed advisable to continue the experiments by means of full sized wheels and various experimental wheels were constructed for use upon a 12 horsepower car of local make. The lecturer continues in regard to the further trials:

"The rims of these wheels were 24 inches in diameter, of a channel section with deep internal side flanges, and as ease of manufacture was important they were constructed temporarily in aluminum, the outer circumference being provided with two dove-tailed grooves to receive the solid rubber bands similar to those such as are used for carriage wheels.

"The inner surfaces of these channels for the leading wheels were cast smooth, and those for the driving wheels with transverse corrugations in the bottom of the channels; the inner surfaces of the flanges of both the leading and driven rims being turned smooth.

"Various forms of rubber blocks were tried as resilient members between the rim and wheel center, and although in the leading wheels the results were fairly satisfactory, it was found that in the driving wheels the rubber could not be made to resist the

tractive force, but after much time had been devoted to the investigation the prospects of success were so small that spiral steel springs with rubber pads attached to their free ends, and capable of movement in every direction, were substituted for the rubber blocks.

"This form of spring member was, in the first instance, tested in the model wheel here shown, and was found to give results superior to those obtained from the rubber blocks.

"At this stage of the investigation, the question of wear and tear in the moving parts of the resilient members within the wheel, which has caused so much difficulty to inventors, required the most careful consideration.

"The impossibility in practice of keeping mud and dust from entering amongst

would possess the advantage over the outside walk, in that less mud would reach the rubber pads on the free ends of the springs, which it was thought might possibly lead to excessive wear and tear.

"To settle this question, sample wheels on both principles were constructed for the 12 horsepower motor car and thoroughly tested by running them on roads with surfaces in the worst condition and in all weathers. Contrary to expectation, it was discovered that even in wet weather comparatively little mud entered the channel rim in the case of the outside walk, and further, that practically no wear and tear of the rubber pads of the channel rim was visible in either form. Both types of wheel worked well, but as it was found that, from a structural point of view, the outside walk was preferable to the inside walk in many ways, this principle was adopted, and the inside walk abandoned."

#### Motor Cars for Tombstone Salesmen.

Motor cars especially constructed for the uses of undertakers and funeral directors, for several years have been the subject of jests at the hands of such as love to point out the seeming incongruities of daily life. But it remained for the Monumental News in serious vein to indicate the great benefits which the pleasure car has wrought for the manufacturers of and dealers in monuments. According to that authority, no less than 125 tombstone salesmen in various parts of the country are now employing the motor car for their regular work, and find it an economical accessory in business.

The uses to which the cars are put by their owners range from canvassing the surrounding territory, taking customers to the cemetery or "joy riding" prospects, to carrying tools or markers or even dies to the cemetery. In only one known instance has the use of a car been given up after fair trial. In that case an objection was raised by the rural constituents who thought they were paying for gasoline and tires along with the memorials to their dear departed. In other sections, however, it is recognized that the automobile is a positive factor of economy in this, as in any other business, and in consequence, it is looked upon with no small favor by the owners and their customers alike.

#### Acetylene Burner Design Troublesome.

Considerable difficulty has been experienced in the design of acetylene burners intended for automobile lighting purposes. Under certain conditions a burner which will work satisfactorily with a full head of gas will carbonize if the gas is turned low. The problem of admitting sufficient air to the gas to secure perfect combustion has been likened in its difficult nature to the carburettor problem by one expert. Actual evidence that such a difficulty exists is found in the number of different types of burner now on the market.

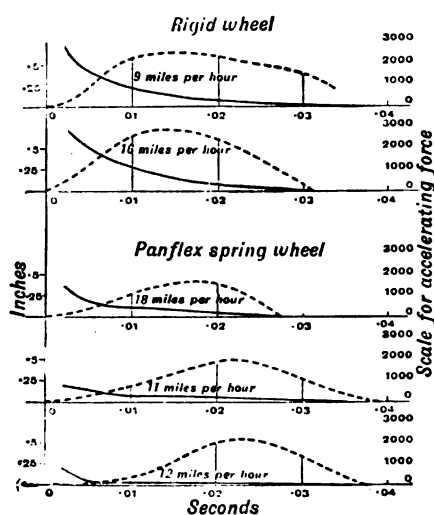


Fig. 3

the working parts was very evident, and therefore arose the absolute necessity of making those parts capable of resisting the consequent grinding action.

"Having had much experience with machinery of various kinds where damage caused by mud and sand had to be provided against, it was fully realized that in a resilient wheel the fundamental principle to be observed was that no metal rubbing surfaces were admissible, and further that rubbing surfaces of any kind should be reduced to a minimum.

"Thus the important question which I have already referred to had to be again considered, namely, as to whether it was preferable that the spiral springs should be rigidly attached to the outer rim, and the rubber pads on their free ends bear upon the wheel center, which would be fitted with the required side plates, a mode of construction which may be termed the inside walk principle; or whether the springs should be rigidly attached to the wheel center, and the pads on the free ends bear against the bottom of the channel of the outer rim; this may be termed the outside walk principle.

"It was thought that the inside walk

## NEW MARKET FOR AUTOMOBILES

**Horse Diseases Helping Them in East Africa—Consul Criticizes Export Methods of American Manufacturers.**

Portuguese East Africa certainly has not appeared heretofore in the guise of a promising market for automobiles. The deep sand of the whole colony seemed to mock at all the different kinds of transportation by wheels and formed a veritable curse to the country. Horses died shortly after importation of a mysterious disease, from which only 2 per cent. of the stricken recover. Cattle diseases were just as bad, and as a result, Portuguese East Africa was practically transportationless. But modern invention has even conquered this unpromising field, for where the horse and ox will balk, sicken and die, the motor car simply gives an extra heavy "cough" and forces its way through sand and over the veldt. As Consul George A. Chamberlain, of Lourenco Marquez, explains in his last report to the State Department:

"The situation resolved itself into a choice between donkeys and automobiles, and the latter are winning."

To the American manufacturer, who is accustomed to deal with "five hundred cars of Model X," or some similar big order, the report of the American consul in the Portuguese colony may seem to be dealing with mere bagatelles; but to the people of Lourenco Marquez the fact that automobiles have actually appeared upon its streets is of the highest importance.

Consul Chamberlain states that:

"Of the motor cars already here, one is of American make and would cost at home about \$750, but so strangely do our manufacturers arrange their export business that the middleman's commissions and duties brought up the cost of the car to the local purchaser to about \$1,400.

"During the present month (November, 1909) four motor cars have made their appearance on the streets of Lourenco Marquez, and a lorry of very special construction is on the way to start the battle against the 18-inch sand of the suburbs.

"The lorry was ordered by the local government from a European firm. The contract is most interesting. The purchase price is fixed at about \$15,000, to be paid in three instalments, as the car succeeds in performing the various feats of the guaranty. This guaranty assures, among other things, a carrying capacity of 4 tons through 18-inch sand at 8 miles an hour, a hauling capacity of 8 tons, and the performing of a trip under test conditions to the suburb of Marraquene, 19 miles out of Lourenco Marquez.

"There is a limited market here for a cheap grade of car suitable for running around town. Four have come in this

month, and it is safe to predict that next year will see this number increased by 20. The market for traction, freight, and agricultural cars, if properly worked, is unlimited. Horse sickness and tick fevers will prove unfailing allies to the manufacturer."

Not only the possibilities of trade in the Portuguese colony, but also the sales methods of American manufacturers undergo a critical examination and discussion in the consul's report, which concludes:

"Some American automobile manufacturers have seen fit to sell their entire export business to New York commission houses. The manufacturer reasons thus: It costs him \$800 to turn out his car. A big commission house agrees to give him \$1,000 per car if it be made sole export agent. He thus makes a solid profit and is free from the trouble of studying export and founding an export department. He signs a contract and thinks he has made a successful deal, but that contract is to a large degree the destruction of his export business. The commission house takes over the car at \$1,000, and contracts agencies with established firms all over the world, fixing the retail price at \$1,500. The agency gets a net sum of \$75 per car sold. Charges, insurance, freight, and duties, say, \$225. The commission house pockets the difference, \$200, just what the manufacturer made on his car.

"Anyone can see the dire effects such a line of procedure will have upon American competition abroad. Our medium-priced cars are wonderfully suited for the capture of new markets if they can be sold as medium-priced cars. The only way to assure this is by the establishment of direct limited agencies and undertaking the local advertising. The latter stipulation is unusual, but most important. In the first place, the American conception of advertising is just sifting into the outer world. In the second place, a foreign agent is interested in American goods solely through his pocket. He is swamped with agencies for things that would sell with a little pushing.

"Unlimited agencies are a purely American invention which has entrapped many a careless firm. From a business point of view they are often disastrous. The other day one of our most solid and famous manufacturing firms (not of automobiles) conceded to one man the agency 'for territory south of the equator' for a new line of manufacture they were just taking up on a large scale."

### Motor Buses Bring Lower Rates.

Staunch supporters of a "horseless age" to come should take courage from an incident in connection with the huge daily ebb and flow of London's enormous stream of traffic. Due to the competition of the London General Omnibus Co., the Great Eastern Railway has been forced to cut its passenger rates on the riverside lines from Fenchurch street to the suburbs Blackwell and Woolwich.

## OPPORTUNITIES IN SOUTH AFRICA

**Demand Keen in Mining District and American Cars Finding Favor—But Makers' Methods Curtail Trade.**

Encouraging news comes from Johannesburg, South Africa, where Consul Edwin N. Gunsaulus represents American interests, and who says that automobile manufacturers hitherto have found South Africa a rather barren field for their products, mainly on account of the prejudice created in that country against American motor cars, by a shipment of cheap and highly unsatisfactory cars, which were dumped upon the South African market a few years ago. Ever since energetic and reputable manufacturers have endeavored to reclaim the lost territory, and at present are able to say they have succeeded.

An obstacle still confronting them, and one which is the cause of many lost opportunities, is discussed by Consul Gunsaulus and thus referred to in his report to the State Department:

"Owing to the advanced price over and above the usual commission and freight charges charged for the machines above referred to by the American house through which they are bought, and which virtually controls this market for these cars, the cost of the landed article is so high that in order to compete with cheap European makes, which are freely sold here, the dealer realizes a very small profit, and is thus not encouraged to push the American trade as much as he would under more favorable conditions. This, it seems to me, is a point which the manufacturer should not overlook, inasmuch as the interests of the local dealers, who are expected to effect the sales, should be protected as much as possible."

By far the greater portion of the 1,000 motor vehicles in Johannesburg and the Reef district are in the hands of the numerous mining companies and firms engaged in selling mining machinery and supplies, the principals and employees of these concerns finding the cars practically indispensable in their trips through the mining district, which extends for a distance of 20 to 30 miles on either side of the city.

As is but natural in such commercial surroundings "the cars probably most in demand in this market are those ranging in price from \$1,250 to \$2,500, delivered here, the average price of those now in use and for which there is the greatest sale being about \$1,500. The American made cars which have found considerable favor in Johannesburg recently, and in which a good trade has been done, range in price from \$1,375 to \$1,600, delivered here, the prices being dependent, of course, upon the accessories purchased, such as lamps, hoods, horns, etc.

"The motor cars in use in Johannesburg

and vicinity, which constitutes a larger market than all of the rest of South Africa combined, are of various grades of French, German, English and American make, with a few of Italian production. The highest-priced cars in use here are of English and Continental manufacture, and the prices vary from \$5,500 to \$10,000, delivered in Johannesburg. While there are many high-priced cars owned in Johannesburg, and there is a fair market for machines of this class, these are mostly ordered especially by or for the parties desiring them, and are not, as a rule, kept in stock by local dealers.

The duty on automobiles is 15 per cent. of the value, with a 3 per cent. preference in favor of those manufactured in the United Kingdom and reciprocating British colonies."

In regard to the types most frequently seen in Johannesburg, Mr. Gunsaulus gives some very interesting information. He calls particular attention to the fact that in South Africa the "types of motor cars in most popular demand are those ranging from 16 to 20 or 20 to 28 horsepower, with seating capacity for from three to five persons. There is also a good demand for cars of the runabout class. As the climate is, for the most part, very dry, wood, if used in any part of the car, must be well seasoned. There has been considerable difficulty with wooden wheels made of material not well seasoned. Aluminum is advisable for bodies where possible. Bad roads are the rule outside the centers of the cities and towns, and as a great many small streams are encountered a high clearance is recommended. Many of the cars sent here have a clearance of only six to eight inches, which is not sufficient in crossing streams abounding in small stones or in running over roads where the wheels of wagons or other vehicles have made deep ruts.

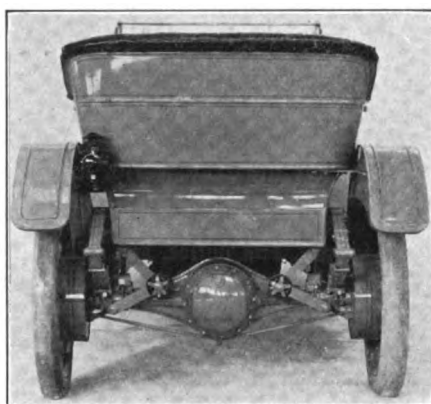
"It is also to be recommended to a majority of makers that their springs be made heavier. Cars coming to this country should have at least one more leaf than is ordinarily found comprising the springs of machines sent here. This would be a distinct point in favor of a car, as in most cases the owner makes this addition after purchase. Another suggestion might be made as to axles, many of which show a tendency to bend in going over rough roads after being in use a short time. Some manufacturers will find it advantageous to reinforce the front axle with some sort of truss.

"Another point to be borne in mind is that a good quality of paint should be used. In this climate, where it is very hot and dry during certain parts of the year, paint that is of poor quality rapidly deteriorates, and the car thus painted presents a very shabby appearance within two or three months. Paint on other cars will last and look well for a year without even revarnishing. It is obvious, therefore, that the exercise of care in this particular is a point well worth considering."

## NEW MOUNT FOR SHOCK ABSORBERS

Placing Them Transversely Instead of at the Sides Claimed to Present Advantages—Arresting Side Strain.

It is commonly supposed that the complete and entire purpose of the shock absorber is to ameliorate the plunging and rebounding effects which would be suffered by the ordinary spring suspension unassisted by some such device. That the shock absorber principle is capable of extension to a broader and even more general application is illustrated in the case of the Marmon "Thirty-Two" cars, whose makers, Nordyke & Marmon Co., Indianapolis, Ind.,



MOUNTING OF MARMON'S ABSORBERS

have adopted a novel method of attachment with this idea in view.

Instead of being mounted parallel with the principal spring members—that is to say, fore and aft of the car, as customarily is done—the shock absorbers are carried on special fittings transversely of the chassis. It is claimed that this method of attaching the rear shock absorbers tends, among other things, to minimize the effects of side strain upon the springs. It also renders the devices more accessible, relieves them from any possible interference from springs or fenders and gives them full freedom of action.

The method of attachment also is particularly advantageous to the action of the shock absorbers themselves. The upper portion is secured by means of strong steel brackets bolted to the main frame, while the lower portion is attached to an arm extending from and integral with the lower half of the spring saddle bearing. The nature of the arrangement is made plain by the illustration, which also reveals the outlines of the original form of live rear axle employed on this Marmon model, and which also carries the change gear mechanism.

### Rubber Aids to Ignition Efficiency.

Since rubber plays a big part as an insulator in high tension ignition systems for motor cars, the manufacture of second-

ary wire and of hard rubber conduits for wires carrying high tension current not unnaturally falls in the domain of the rubber manufacturers, of whom the Diamond Rubber Co., of Akron, O., was among the early ones in taking up this special field in addition to their more generally known products. A complete line of Diamond igniter cables is made. The copper strands are insulated with a substantial and resistant rubber compound over which suitable glazed braiding is provided for the purposes of protecting the rubber insulation from abrasion and other outside attack. Handsome appearance is given the cable by the braiding also, by the mingling of colored threads in design patterns. It is claimed that in the manufacture of secondary cable of this character a thorough knowledge of correct rubber chemistry is required, an equipment on which the Diamond experts obviously are not lacking. A more recent Diamond contribution to the ignition specialty line is the "igniter bar," which has made its appearance on several new models recently. It is made to convey high tension wires from the coil to the plugs, each wire being perfectly insulated in the bar and no further insulation being necessary. The wires, being gathered in one conduit in this way, are not in loose array over the engine. The bars are made to specifications, according to the engine on which they are to be used, so that the total length and the outlets for the different wires accord with the motor dimensions and construction.

### One Cause of Magneto Trouble.

An illusive and mysterious cause of irregular magneto action which sometimes may come to light in instruments which have been in use for a long time arises from excessive end play in the armature bearings. Where such is the case, the end motion of the armature may be sufficient to upset the action of the contact breaker and render the time of firing uncertain and irregular. Inserting a fiber washer to take up the slack is a sufficient remedy for the evil in most instances.

### Putting It up to the Garage Keeper.

The city council of Augusta, Ga., is wrestling with an ordinance requiring garage owners to furnish bonds in the sum of \$5,000 for the safety of automobiles stored with them and imposing a fine for renting stored cars or otherwise permitting cars to be removed without the consent of the owners. Action on this ordinance is pending but one requiring owners to pay a registration fee of \$5 already has been passed.

### Lubricant that Resists Zero Weather.

According to a machinery expert, a lubricant which will not stiffen in cold weather may be made by mixing graphite with cylinder oil until they become of a pasty consistency and then adding kerosene until it flows freely. The resulting oil, he declares, will not stiffen at 14 degrees below zero.



## FACILITATING MAGNETO TIMING

**Tell-Tale Lamp Devised to Serve the Purpose—How It is Applied and How It Operates.**

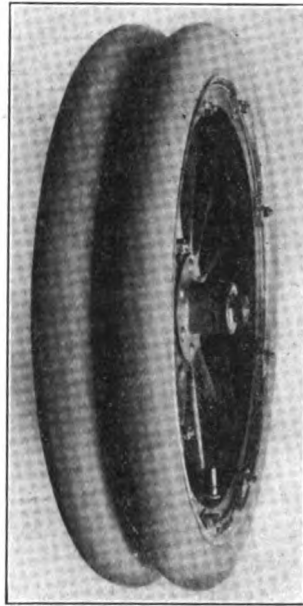
For purposes of accuracy and celerity in magneto setting, a British manufacturer of ignition specialties has produced a small tell-tale lamp especially adapted to be used when timing the magneto and so contrived as to render that operation much more rapid and certain than is possible by the ordinary methods of procedure. The lamp itself is of four-volt capacity and is mounted in a small wooden case in which it is thoroughly protected and through the open top of which its light may be seen. A double insulated conductor cable is used to connect the device with an ordinary ignition accumulator, while a third wire is led to the contact breaker of the magneto which it is desired to time. A metallic foot on the device enables it to be "grounded" on some part of the motor while the operation is in progress.

When it is to be used, a sheet of paper is slipped beneath the carbon contact of the contact breaker to prevent the primary current from being grounded through the armature. The armature is then rotated slowly. Whenever the points of the contact breaker come together, the light will glow; but as soon as they are separated the light will be extinguished. This circumstance furnishes a simple and accurate method of determining the exact instant of separation of the points and is claimed to be much more accurate than that whereby the point of interruption is determined by mere inspection of the contact breaker alone.

### Demountable Rim for Twin Pneumatics.

Because of the growing use of pneumatic tires for commercial vehicle service, a dual demountable rim for twin pneumatics has been brought out by the Continental Caoutchouc Co., of New York City. The demountable feature permits quick tire changes when trouble occurs, as new tires already inflated on spare rims may be substituted for those that are deflated or injured. As shown in the accompanying illustration, the tires are placed side by side so that they share the burden which the rear wheels of commercial vehicles have to stand. The regular equipment for the rim is the Continental type course tire or the steel studded, non-skid type, but any style of clincher tire may be fitted. Twin type pneumatics have become a standard feature of not a few makes of commercial vehicle for even heavy service, for the reason that in addition to easing the jar or vibration which might in some cases injure fragile goods that are being carried, the lessening of the vibration on the vehicle itself results

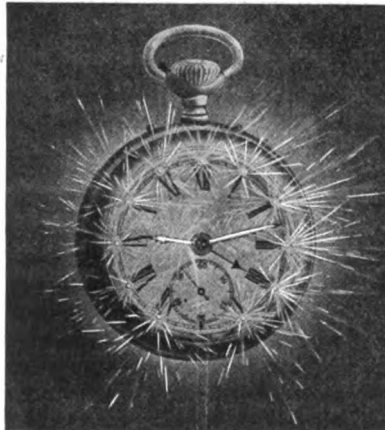
in a decided reduction in repair and maintenance expense occasioned by the jar on the mechanism. The new Continental dual type demountable rim provides a method



of using twin pneumatics with a minimum of difficulty.

### Alarm Watch for Night Use.

Telling time by the stars may be an easy accomplishment for astronomers and mariners, but the average motorist while on the road has little time for star gazing, even of the purposeful sort. Hence, Miller—Charles E. Miller—of New York City, and eight other localities, has imported a very recent European innovation in



the new radium illuminated dial alarm watch. With the constancy of the heavenly bodies, but entirely unaffected by cloudy weather conditions, the bits of real refulgent radium which are inlaid in the dial hour marks and in narrow stripes running down the hands, emit scintillations which enable the time to be read off with ease at any hour of the darkest night. For the benefit of those who are near-sighted, presumably, there is added an alarm attachment which may be set for any time. The special brass dashboard mounting case which is furnished when the watch is desired for automobile use has a plug lock to prevent theft.

## SINGLE JET CARBURETTOR DOOMED

**So Says English Engineer in Discussing the Subject—Grounds upon Which He Bases His Opinion.**

Carburettor design just at present is widely segregated, owing to the existence of two entirely different theories of action—one demanding the use of two or more jets with their accompanying mixing chambers and suitable throttling means, and the other the more familiar automatic extra air valve. In the minds of many engineers the conviction is firmly established that in order to supply a mixture of constant quality to the engine it is necessary only to add to the simple jet and mixing chamber a means of supplying additional air in response to the demands of increased suction. Others, on the other hand, are equally firm in the belief that even approximately constant mixtures can be obtained only by the use of two or more jets acting singly or in multiple. Of the latter class is a British engineer whose views on the subject are presented by the Autocar.

"In the opinion of many well qualified to give an opinion, the automatic valve will soon be obsolete, and the reason of its extinction is well worth some consideration," he remarks. "It is one of the many requirements of the present day motorist that his car shall pull strongly and evenly when running on the top gear at five or six miles per hour—say with a gear of  $3\frac{1}{4}$  to 1 on the direct drive with an engine of about 18 to 20 h.p. Now, to obtain efficiency of this kind, a two-jet carburettor is, in the writer's opinion, practically essential. In this type of carburettor the main jet is entirely out of use when the engine is running slowly, the feed being from a small jet which is surrounded by a very small choke tube, there being perhaps an annular space round the jet of about  $\frac{1}{4}$  inch. Considering the engine as an air pump, it will be seen that it is taking the whole of its supply from this very small opening, consequently the velocity of the air past the jet, even when the engine is only just turning round, is very great, and the petrol is violently sprayed, giving a rich, well-mixed gas, and enabling the engine to give off considerable power when turning round slowly.

"In the ordinary single jet carburettor, the throttle is usually placed some little distance above the jet, and it will be readily understood that when the throttle is only slightly open, the rush of air past the jet surrounded by its large choke tube is comparatively feeble, and probably the petrol comes out of the jet very slowly, being drawn up into the induction pipe through evaporation. Unless the throttle is opened wider to allow a stronger suction to pass the jet, not much power can be obtained, for the mixture is weak, and staggering takes place.

"Now with a single-jet carburetter to obtain better results, the main choke tube must be restricted. This, of course, gives improved running at slow speeds, but at high speeds the power soon begins to fall off, owing to the lack of volume, and it is at that point an automatic valve should act to supply the greater volume required; but it is manifest that if it does act, an indication is given that the vacuum or throttling effect is greatest when it is least wanted, and a greater vacuum exists at high speeds than at low; consequently when running very slowly, the vacuum is insufficient. A negative pressure is, of course, essential, otherwise petrol would not leave the jet, but as any vacuum or negative pressure represents a throttle on the engine, it is only desirable when maximum quantities of gas are not required. It is essential to have an abnormally strong vacuum in the induction pipe when very slow running is to be obtained—a greater vacuum than when the engine is running very fast—consequently it will be seen that an automatic valve which would open when the engine was running fast would also open when it was running slowly, and so defeat its object.

"Further, it will be seen that if an automatic valve be fitted on a two-jet carburetter, it must be below the throttle on the small jet, and above the throttle on the large jet, but it is a well known fact, although somewhat a curious one, that the two openings past the large and small jets on some two-jet carburetters can be so graded as to give such good results that the adoption of a hand operated air valve fails to give any appreciable increased efficiency. This mainly applies to carburetters of that type which feed the engine from both jets at full power. In these carburetters when running very slowly the main throttle is shut right off, and the engine is run by a small jet which gives a rich mixture. When greater power is required, the main throttle is opened. The effect of this is to dilute the gas somewhat as it is being admitted past the small jet, which has the effect of increasing it in volume without weakening it beyond a useful extent; soon after this the main throttle is opened, and before the gas from the small jet is weakened to any serious extent the main jet comes into operation, and both work together.

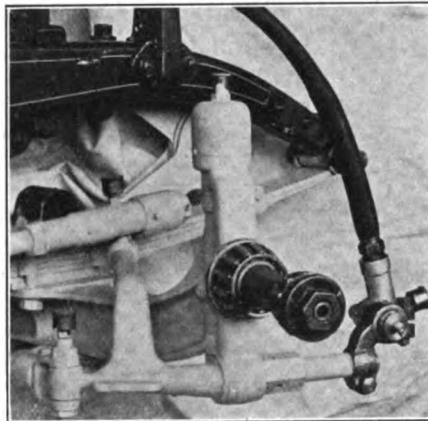
"The writer noticed a year ago on a certain make of a car a carburetter in which the main choke tube was so restricted to obtain slow running on the top gear that the automatic valve with which it was fitted would open at two periods—at high and low speeds—the latter causing the unfortunate owner a great deal of annoyance by weakening the mixture when the little required should have been rich."

"The A B C of Electricity." Price, 50c. The Motor World Publishing Co., 154 Nassau street, New York City.

## MOUNTING THE SPEEDOMETER

**One Automobile Manufacturer Makes Special Provision for It—Form It Takes and the Ends Served.**

Manufacturers of accessory equipment are considerably handicapped in designing their attachments by the lack of standardization among the various automobile makers. The result is that, despite their best efforts, unless special fittings are produced for each make of car supplied unsatisfactory results not infrequently are obtained, especially in cases where the mounting of the accessories is done by careless and unskilful garage employees. So great is this difficulty that in at least one instance an automobile manufacturer himself has under-



MARMON SPEEDOMETER BRACKET

taken to provide a suitable and reliable mounting for the speedometer drive, thereby ensuring that such equipment as he furnishes shall be certain to render satisfactory service.

The Nordyke & Marmon Co., Indianapolis, Ind., has inaugurated the practice of fitting a special arm on the steering knuckle of all cars which are speedometer equipped at the factory, while on this arm a special bracket is fitted to carry the speedometer driving gear. The picture shows the general way in which this is done, illustrating the application of the idea for the driving gear of a Warner instrument. In addition to the one shown, special fittings also are produced for use with the Jones and Stewart instruments.

The steering arm is fitted into the knuckle by means of a pin and also a pinned nut on the forward side. When the special fitting is to be applied, the nut is removed and an extension substituted for it, which is secured to the arm in a similar way. This arm affords substantial support for the driving gear, the mounting of which thus is brought into a plane of equal substantiality with the front axle and the ball bearing and steering knuckle construction, which are Marmon characteristics. This sim-

ple provision obviates any owner's troubles consequent upon careless fitting of the speedometer and further relieves the car from any damage which might result were the steering arm to be drilled in an attempt to secure the speedometer gearing—a class of difficulty which has been known, in the experience of other makers, to result from just such causes.

### Providing for the Oil Can.

Although one or two manufacturers now provide special clips alongside the engine for retaining the oil squirt cans when not in use, in altogether too many instances it still is necessary to carry these troublesome portions of the equipment inside the tool boxes. Besides presenting more or less risk of becoming damaged and of flooding the contents of the box under such circumstances, there is the further drawback that during cold weather, oil so carried is liable to congeal and not be available for immediate use when wanted. It is a simple matter to provide means of taking good care of the oil cans inside the engine space, and even where the maker has overlooked this fact, it is little trouble for the owner to attend to the matter himself and make adequate provision.

### Bolts that Should be Kept Tight.

Security bolts which serve to hold the body down upon the frame of the car should be kept tight at all times. Although usually provided with lock washers of one sort or another, this does not guard them against slackness arising from the shrinkage or wearing of the wood sills upon which some bodies are built. Therefore all such bolts should be drawn up occasionally, as otherwise they may become sufficiently loose to allow the body to work excessively upon the chassis and thus become strained and slack in the joints.

### About Brake Equalizing Beams.

Brake equalizing beams which are carried in slots cut in the side frame members to much the same objection which prevails against the older method of equalizing by means of wire rope drawn through the tubular rocker shaft. Dust, mud, rust and heavy grease may oppose unequal resistances to the movement of the two ends of the beam, while also introducing considerable resistance to their motion. It is very essential that the slots be kept clean and well lubricated, if it is desired that the brakes afford full service.

### Where to Test the Cooling System.

Testing the condition of the cooling system by feeling of the outside of the radiator is a quick and handy way of getting at the truth. The observation so made is apt to be misleading, however, unless the hand is pressed against the bottom of the cooler, where the water is at its lowest temperature, and therefore never should be more than blood warm.

## LENGTHENING THE A. A. A. ROLL

Three More State Associations Formed—  
Committees Render Reports, One of  
Them Opposing Speed Limits.

Thirty-three state organizations are now included in the membership of the American Automobile Association, Texas and Alabama being added to the roll at the monthly meeting of the executive committee, held Friday last, 17th inst., at the national headquarters, 437 Fifth avenue, New York City.

Another addition was the Automobile Club of St. Louis, with some four hundred members, which joined as an unfederated club, and which subsequently will be included in the formation of a Missouri Association.

President Lewis R. Speare presided at the meeting of the committee, the others present including George C. Diehl, Automobile Club of Buffalo, chairman of the Good Roads Board; Powell Evans, Automobile Club of Philadelphia, chairman Touring Information Board; Charles Thaddeus Terry, chairman Legislative Board; S. M. Butler, chairman Contest Board; A. G. Batchelder, chairman Executive Committee; William R. Innis, of the National Association of Automobile Manufacturers; H. M. Rowe, Automobile Club of Maryland; J. P. Coughlin, of the Worcester (Mass.) Automobile Club; A. E. Lerche, of the Automobile Club of Springfield (Mass.); C. H. Gillette, of the Automobile Club of Hartford (Conn.); H. A. Bonnell, of the New Jersey Automobile and Motor Club; J. H. Edwards, of the Automobile Club of Hudson County (N. J.); Paul C. Wolff, Pennsylvania Motor Federation; Gorton W. Allen, of the Auburn (N. Y.) Automobile Club, and Secretary F. H. Elliott.

Chairman Terry of the Legislative Board indicated in his report that the National Legislative Convention at Washington, D. C., February 15, 16 and 17, will be a notable event in connection with this important work of the Association. Mr. Terry's committee had held a meeting earlier in the day, at which the reintroduction of the proposed Federal licensing bill was discussed and at which it was made the sense of the meeting that the following clause should be incorporated in all automobile laws:

"Every person operating a motor vehicle on the public highways of this state shall drive same in a careful and prudent manner, and at a rate of speed so as not to endanger the property of another or the life or limb of any person"; in other words, it was the sentiment that there should be no miles-per-hour provision in any such motor vehicle statute.

Chairman George C. Diehl of the Good Roads Board explained the plans of this department for the coming year, and obtained a substantial appropriation for the

carrying on of its work. Reference was made to the National Good Roads Convention to be held in St. Louis next fall.

Chairman S. M. Butler of the Contest Board reported that the 1910 competition rules were practically ready for the consideration of the Executive Committee. The number of applications for sanctions exceeds by far any previous list ever filed early in the season.

Powell Evans, of the Touring Information Board, presented some facts and figures which made clear the certainty of future activities of considerable scope.

George B. Ellis, president of the Automobile Club of Southern California (Los Angeles), and John N. Brooks, of the Connecticut State Automobile Association, were elected members of the executive committee, and the nominations of the following directors by their respective clubs was also approved: Dr. E. W. Omensetter, North Wildwood (N. J.) Automobile Club; Hon. Walter E. Edge, Atlantic City Automobile Club; J. J. Hinners, Edgewater-Fort Lee Automobile Club; Edward C. Smith, Automobile Club of Vermont; William E. Goucher, Jamestown (N. Y.) Automobile Club; J. B. McMurrich, Oswego Automobile Club.

The next meeting of the executive committee will take place at Chicago in February.

### Alabama Forms a State Association.

With representatives present from the Montgomery, Anniston, Mobile and Ozark automobile clubs, the Alabama Automobile Association was organized in the first named city last week and the following officers elected: Dr. Gaston Greil, Montgomery, president; J. M. Valentine, Ozark, first vice-president; A. G. Ross, Mobile, second vice-president; Percy F. Black, Montgomery, secretary, and W. H. McKleroy, Anniston, treasurer. Plans looking to the organization of a state association were discussed, and it was decided that each club represented be requested to elect by ballot at its next meeting a director for the state association. The first annual meeting of the newly organized association will be held the first Monday in April.

### Reviving the Illinois Association.

Seeing in the moribund Illinois State Automobile Association, which, despite its inactivity, retained its affiliation with the American Automobile Association, an agency possible of performing such valuable service to the cause of motoring, some active members of the Chicago Motor Club have rescued it from the slough of despond. A vigorous campaign has been mapped out for the ensuing year, with a view to restoring the association to the prominent position it once held in state motoring councils, and new officers have been elected as follows: Charles P. Root, president; George Ehrhard, vice-president; F. H. Trego, secretary, and John Farson, treasurer.

## TESTING PENNSYLVANIA'S LAW

Accident Leads to Law Suit that Will Decide Whether Motorists Must Stop  
When Trolley Cars Stop.

That clause of the Pennsylvania automobile law making it obligatory on the part of a motorist to stop his car when it nears a halted trolley car, and not to start the car again until all passengers alighting from the trolley car have safely reached the sidewalk, will have its first test in a court of law when a civil suit, instituted for \$25,000 damages, by Arthur Garis, of Abington, comes to trial in the Montgomery County courts, at Norristown, probably at the forthcoming session of court.

Garis, after attending a lodge meeting at Hatboro one night in August last, boarded a car and rode to a point near his home, along the Old York Road at Abington. At the point where the car stopped passengers could alight on only one side—the "highway" side—as a deep gutter made it impossible to alight on the side from which there would have been absolutely no danger from passing teams or motors. It was 11 o'clock at night—a night just "ordinarily" dark.

As Garis started across the Old York Road toward his home—he had less than sixty yards to go—a car owned by Edward S. Radley, a wealthy Philadelphia builder, approached, going southward toward the city. It is understood that Radley's son was the driver of the car. Garis was struck and was very seriously hurt.

Radley, the car owner, carried liability insurance in the Employers' Liability Company of London, a foreign corporation. Protected in this manner, he naturally felt the insurance company should be responsible for the later settlement, which Garis just as naturally expected. But, it has developed, all efforts to reach an adjustment between the attorneys of the insurance company and the attorney representing the injured man have failed, and Harry S. Amber, Jr., an attorney, of Philadelphia, has instituted suit, asking compensation in the amount of \$25,000 for Garis.

The clause in the law cites "that an automobile approaching a trolley car must come to complete stop, and not start until all passengers have alighted from or have boarded the trolley car and the trolley car shall have started." As it will be alleged in the trial of the suit that this clause was violated the crux of the suit is in this particular point, and Attorney Ambler anticipates an interesting trial.

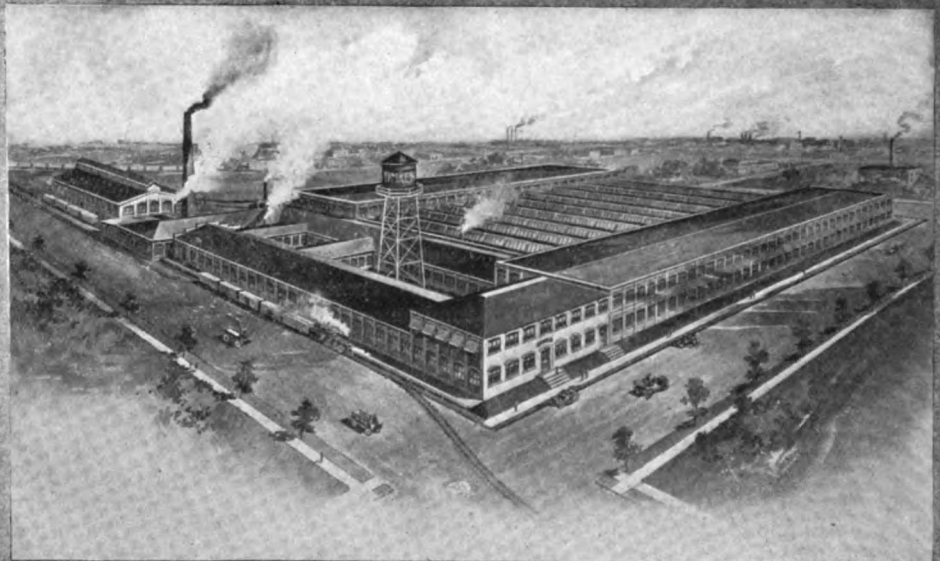
While Radley is the "named defendant" in the suit, it is to be presumed that the insurance company to which he paid money for protection against accidents will be the actual defendant.



Mc Cord  
Manufacturing Co.  
*Detroit, Mich.*



Tinken  
Roller Bearing Co.  
*Canton, Ohio.*



Remy  
Electric Company  
*Anderson, Ind.*

REPRESENTATIVE AMERICAN PARTS FACTORIES



### John Farson Suddenly Succumbs.

John Farson, the well known Chicago banker and motorist, and ex-president of the American Automobile Association, died suddenly of heart disease at his home in Oak Park, a suburb of Chicago, early Tuesday morning, 18th inst. Formerly an enthusiastic lover of horses, he took up motoring several years ago and achieved national prominence in the sport, being elected president of the A. A. A. in 1906. He also served the Chicago Automobile Club in several capacities, including the presidency, and at the time of his death was a member of the board of managers, as well as vice-president of the National Good Roads Association and treasurer of the Illinois State Automobile Association. Mr. Farson was born in Union City, Ind., October 8, 1855, and came to Chicago 1877, and in 1885 became a member of the banking firm of Kean & Farson. At the time of his death he was head of the firm of Farson, Son & Co., with branch offices in New York City. He is survived by a wife and two sons, both of the latter being associated with him in business. Through his unfailing good humor and unostentatious generosity he was beloved by many of all classes and was noted for his eccentricities, chief among them being his affection for red neckties and vests; in fact, mention of either in Chicago circles became synonymous with his name.

### Cars for Bee-Keepers Not Stingable.

The automobile as a promoter of bee-keeping seems a far cry, but a publication devoted to that industry has not only traced the connection, but discovered that the bee-keeper's occupation is such that it helps him to become an expert automobilist.

"With a series of outyards and reasonably good roads it is no trick at all with one of these machines to manage twice as many colonies as before," says the publication in question. "It is not only tiresome, but most aggravating to jog along with an old-style wagon and team when one is needed at every yard at the same time. It is then that the long-felt want is most apparent, and it becomes worse when some other fellow passes by with the thing you 'auto' have, and leaves you behind.

"With outyards 20 miles away it is necessary to drive eight hours in hot weather and there are two hours left for work on that trip. With the machine the time would be just reversed—two hours for the trip and eight for work, if ten working hours are figured for the day. Furthermore, with a team it would be cruel to misuse the animals for many such trips; but the automobile, if kept in good working order, would always be ready to go instead of being tired out. Furthermore, the danger of horses being stung would be done away with.

"Bee-keepers generally should more readily learn to manage and care for automobiles than men of any other class, because of their practical knowledge of machinery,

etc. The automobile not only brings the bee-keeper and his bees closer together, aiding him to be a more successful and extensive bee-keeper, but it brings him closer to his neighbors and closer to the markets. It aids both in social as well as in business affairs. One or a dozen miles cuts but little figure with the owner of one of these machines, and he can get more profit and more pleasure out of life. The time is not far distant when every up-to-date bee-keeper will own an automobile. ..

### For the "World's Speed King!"

Probably because they have been in the habit of bestowing crowns on the mimic



kings of the annual Mardi Gras carnival, the people of New Orleans, La., felt that it is but proper that they should also provide for the creation of a "world's speed king," to be chosen at the two days race meet, February 4-5, which will be held in connection with the carnival. To that end Klaw & Erlanger, the theatrical managers have offered, through the New Orleans Automobile Club, a "speed crown," which as the accompanying photograph shows, is really a plaque to be awarded to the winner of the ten miles race for the American amateur championship. The trophy is valued at \$500, and there also are offered two other trophies of similar value in addition to numerous lesser prizes. There are 14 events carded for the meet, which will be promoted by the New Orleans Automobile Club, under the management of Homer George, and it is promised that most of the prominent drivers will compete.

### Where Negro Chauffeurs Are "In Bad."

As a result of the running down and killing of the six-year-old son of State Senator Eldridge recently, in Memphis, Tenn., by a car driven by James Alexandre, a colored chauffeur, the sons of Ham who ply this vocation are in distinctly bad favor with a large number of the Memphis populace. The feeling is such that President Perkins of the Memphis Automobile Club has issued a call for a meeting of that organization to institute a movement for the abolition of negro chauffeurs in Memphis.

### Says Mile Board Track is Building.

F. E. Moskovics, until recently connected with the Bristol (Conn.) Engineering Co., and who has been identified with the trade in many capacities in the last few years, has become interested in Los Angeles racing affairs and is authority for the statement that Jack Prince's long cherished dream of a mile board track for automobile racing is about to be realized. Work on the new track, which will be located in Los Angeles, Cal., began this week, it is said, and dates for the inaugural meeting, which will last seven days, and has been sanctioned by the contest board of the American Automobile Association, have been set for April 8-17. According to present plans the track will be a true circle, 75 feet wide, with 25 foot banking all around and will be laid with Oregon pine, which is said to be most suitable for the purpose. It is claimed that wood will have less wearing effect on rubber than any other surface, and this, together with the absence of turns, is expected to result in the breaking of a large crop of records.

### Texans Complete State Association.

Permanent organization of the recently formed Texas Automobile Association with headquarters in Houston, has been completed by the adoption of a set of by-laws and the election of the following officers for the ensuing year: Harry Landa, New Braunfels, president; Dupont B. Lyon, Sherman; E. J. Fry, Marshall; J. F. Williams, El Paso; George W. Bancroft, Orange; J. H. Zachry, Uvalde, and Henry Stude, Houston, vice-presidents; J. Arthur Baker, secretary; F. W. Vaughan, Houston, treasurer; directors, Col. J. W. Munn, Galveston; Frank Alvey, Beaumont; E. H. Perry, Austin; O. J. Lorehn, Houston; Dr. F. J. Fielding, San Antonio; M. L. Mertz, San Angelo; Edwin J. Kiest, Dallas; J. F. Minton, Houston; J. W. Link, Orange; E. F. Simmons, Forth Worth; George Ropee, Waco, and J. W. Lagon, Port Arthur.

### St. Louis Chauffeurs May "Do Things."

St. Louis chauffeurs are planning to form a union with the object of preventing incompetent drivers and those under 21 years of age from obtaining professional drivers' cars. As outlined the proposed organization will have an official examining board which will put all applicants for membership through a rigid course of sprouts to determine their fitness to handle cars, before taking them into the fold.

### Montgomery Club to Build a Home.

As the first step towards the attainment of a new home, the Montgomery (Ala.) Automobile Club has appointed a committee consisting of Dr. G. Greil, A. M. Kennedy and Percy Black to purchase a plot of 50 acres on the outskirts of the city, on which a clubhouse will be erected. It will be a \$10,000 structure, and work will be begun shortly.

## RECENT PATENTS.

934,762. Valve Gear for Descending Automobiles. Hippolyt Saurer, Arbon, Switzerland. Filed Aug. 28, 1905. Serial No. 276,183.

1. In a four stroke cycle explosion motor for automobiles, means to retard the speed of the motor when the automobile is running by momentum or gravity and the supply of the explosive medium is stopped, the said means comprising a shifting device with a roller interposed between the stem of the outlet valve and the cam for actuating the same and the roller being adapted to roll on the cam, and means under the control of the driver for varying the position of said shifting device.

934,862. Removable Rim for Vehicle Wheels. George S. Van Voorhis, Boston, Mass. Filed March 13, 1908. Serial No. 420,864.

In a vehicle wheel, a permanent rim having an integral outwardly extending flange on one side and an inwardly extending flange on the other, a removable rim seated on the permanent rim and having outwardly extending rim retaining flanges and an inwardly extending flange abutting against the inwardly extending flanges of the permanent rim, said inwardly extending flanges having open ended slots, and pivotally attached locking bolts resting in said slots.

935,036. Gear Casing for Motor Vehicles. John C. Lott, Columbia, S. C. Filed June 18, 1908. Serial No. 439,129.

1. In a motor vehicle, the combination with its running gear and frame, of a sprocket wheel mounted on the running gear, a driving chain, a hood or apron open at its rear end and suspended from the frame, a gear casing secured to the running gear at one end and having the other end open and extending into the apron for receiving said driving chain, and means for limiting the lateral play of the casing and guiding it in its vertical oscillations.

935,108. Automobile Safety Appliance. Mortimer A. Howe, Tacoma, Wash. Filed Feb. 15, 1909. Serial No. 478,008.

1. In a device of the class described, the combination with the frame of an automobile; of a pair of bars or feelers pivoted to said frame and extending in front of each front wheel; a pair of cross-bars rotatively mounted on the frame and each operatively connected with one of the feelers; and pairs of means mounted on and operated by said cross-bars whereby the course and force of the automobile is controlled by either of the feelers.

935,190. Wind Screen. Edwin K. Conover, Paterson, N. J., assignor, by mesne assignments, to C. A. Mezger, Incorporated, Brooklyn, N. Y., a Corporation of New York. Filed Nov. 26, 1907. Serial No. 403,857.

1. A wind screen for motor vehicles having an inclosing frame formed with a groove along its inner side, said groove having its outer or entrance portion contracted relatively to the inner or base portion of the groove, a resilient metal retaining strip substantially U-shape in cross section sprung into said groove and having return bent side portions, a glass shield plate inclosed by said frame and retaining strip and having its edges received between the return bent sides of the retaining strip and a cushion seated in the retaining strip and engaged by the edge of the shield plate.

935,211. Motor Vehicle. Allen Loomis,

Detroit, Mich., assignor to Packard Motor Car Company, Detroit, Mich., a Corporation of West Virginia. Filed Jan. 2, 1908. Serial No. 408,923.

1. In a motor vehicle, the combination with the frame, the rear axle casing and the torsion rod rigidly connected with the rear axle casing and connected at its forward end with the frame, of springs connected to said frame and rigidly secured between their ends to said rear axle casing, the portions of said springs rearward of said casing being adapted to flex more freely than the portions forward thereof, for the purpose set forth.

936,337. Carburetter. Karl Maybach, Paris, France. Filed Jan. 15, 1908. Serial No. 410,938.

1. In a carbureting apparatus, the combination, with means for directing the flow of the moving body of fluid to be carburetted, of a supply for the carburetting liquid, means for conducting the carburetting liquid from the supply into operative proximity to the path of flow of the moving body of fluid to be carburetted comprising a tubular structure having its discharge end projecting upwardly and open, and a tubular discharge device arranged in the upper end of said structure and having less external diameter than the internal diameter of the same, the upper ends of said structure and the discharge device being approximately in the same plane, substantially as described.

936,394. Signal and Tail Light. Paul C. Woodnut, Port Washington, N. Y. Filed Jan. 27, 1909. Serial No. 474,456.

1. In a signal for vehicles, a rotating shaft driven by the vehicle, a signal light having a plurality of apertures, a semaphore adapted to oscillate so as to cover certain of said openings, and means governed by the speed of the shaft for operating said semaphore.

936,446. Bulb Support. Frank Gorman, New York, N. Y., assignor of one-third to Leon Sussman, Bayonne, N. J., and one-third to James A. Watt, New York, N. Y. Filed April 29, 1908. Serial No. 429,935.

1. The combination of a pear-shaped compressible bulb and a support therefor comprising a ring fitted around the bulb between its neck and the point of greatest diameter, longitudinal bars converging from said ring toward the neck and engaging the bulb along their entire length, and a clamp for securing the support on the neck of the bulb.

936,513. Vehicle Seat. Judson Benson, Amesbury, Mass. Filed Dec. 12, 1908. Serial No. 467,145.

1. The combination with a seat, a bar or carrier to which the seat proper is hinged with capacity to be swung vertically, and a support on which the said bar or carrier is mounted with capacity to be turned horizontally, of a spring actuating locking device acting normally to lock the seat from turning horizontally out of position for use, and a projection carried by the seat proper and caused by the upward swinging movement of the latter to positively disengage the said locking device so as to render the seat free to turn horizontally.

936,750. Supplemental Wheel for Motor Cars. Arthur E. Whitner, Winchester, Mass. Filed June 22, 1908. Serial No. 439,884.

1. A supplemental wheel for motor cars having a central flanged annular member

provided with a cylindrical flange projecting therefrom at right angles to its outer face, a tire supporting rim, a yielding tire upon said rim, and a plurality of tubular spokes between said rim and the flange of said annular member and rigidly secured to said rim and flange, said annular member being provided with means for securing it to one of the supporting wheels of the car.

936,831. Vehicle Lamp Attachment. Arthur G. Thompson, San Francisco, Cal. Filed Dec. 8, 1908. Serial No. 466,448.

1. In an automobile, the combination with the body and the steering wheels thereof, of a lamp pivotally mounted on the body, and means extending between the wheels and engaged directly thereby to turn the lamp in unison with the wheels.

936,837. Tire. Henry L. Walbridge, Springfield, Mass., assignor to The Chandler Company, Springfield, Mass., a Corporation of Massachusetts. Filed Aug. 24, 1907. Serial No. 389,929.

1. A tire including in combination, a tread and means for yieldingly supporting said tread, said tread containing a plurality of continuous layers of fabric extending circumferentially about said tire and protruding flush with the road contacting surface, said layers lying substantially normal to the road contacting surface and being separated from each other by a layer of rubber.

937,005. Lamp Working Apparatus. Thomas C. Luce and Charles R. Silvernail, Dalton, Mass. Filed Dec. 14, 1908. Serial No. 467,379.

1. In an apparatus of the kind described, the combination with the lamp bracket, of a crank loosely connected therewith, a second crank tightly connected with the bracket, teeth arranged in pairs on the two cranks, and a pin extending through one of the cranks and having lugs to engage both pairs of teeth.

934,187. Detachable Wheel Rim. Carl Kind-scherf, Hanover, Germany, assignor to The Firm of Continental Caoutchouc & Gutta Percha Compagnie, Hanover, Germany. Filed June 30, 1908. Serial No. 441,251.

A device for securing removable tire rims of the character described, comprising a bolt and a nut working thereon together with a wedge piece pivoted on said nut and adapted to engage a rim, said wedge piece being moved into and out of engagement with said rim by the rotation of said nut and swiveling on said nut when cleared of said rim, so as to permit the removal of the latter, as described.

934,264. Friction Clutch Mechanism for Automobiles and for Other Applications. Alberto Balloca, Turin, Italy, assignor to Company Itala, Fabbrica di Automobili, Turin, Italy. Filed Jan. 18, 1906. Serial No. 296,730.

1. In a friction clutch mechanism, the combination of flat frictional discs alternated with cylindrically bent discs.

934,366. Means for Supplying Oil to Carburetters. Matthew Steel, Jr., Gosforth, England. Filed April 24, 1908. Serial No. 429,008.

1. The combination of a carburetter, an oil tank, means for supplying air under pressure to said carburetter, a dish open to atmospheric pressure located on top of said tank, and connections between said carburetter and said tank and said carburetter and said dish, substantially as described.

937,146. **Armor Tired Wheel.** Charles E. Dulin, Glens Falls, N. Y., assignor of one-half to F. D. Howland, Sandy Hill, N. Y. Filed Oct. 28, 1908. Serial No. 459,952.

1. The combination with a flanged wheel rim, of a hollow shoe provided with a co-operating flange, adapted to be secured to the rim, said shoe being substantially elliptical in cross section, with the major axis parallel with the axis of the wheel and provided with a peripheral flange, and a pair of rigid rings clamped on opposite sides of the flange and immovably secured to the flange and the shoe.

937,153. **Ball Bearing.** Oscar H. Karcher, Lansing, Mich. Filed Jan. 19, 1909. Serial No. 473,163.

1. In a bearing of the class described, an annular bearing member formed with ball races and an annular rib separating the races, an inner bearing member having a bearing surface which at all points is defined by the arc of a circle having its center coincident with the axis of the said inner member, balls within the ball races of the said outer member, the inner member being free to oscillate and rotate within the outer member, and an element carried removably upon the bearing surface of the inner member engagable with the balls in one race whereby to limit the oscillatory movement of the said inner member.

437,186. **Tire for Vehicle Wheels.** Frank A. Seiberling, Akron, Ohio. Filed July 2, 1908. Serial No. 441,570.

1. A vehicle tire consisting of a base having an expansible and contractible inner face, and a series of transversely extending non-elastic, vulcanizable hard rubber elements suitably spaced from each other and embedded in and arranged at the inner part of said face, said elements and said base intimately connected together to provide a homogeneous tire.

937,211. **Automobile.** Henry K. Holsman, Chicago, Ill. Filed Jan. 18, 1907. Serial No. 352,848.

1. In a motor vehicle, in combination, a frame having engine supporting beams, a shiftable engine arranged beneath and movably supported from said beams, a transverse engine shaft carried by and shiftable with said engine, manually controlled engine shifting and locking means, a vehicle traction wheel, and an endless friction driving belt between said shaft and said wheel, and controlled by the position of said engine, substantially as described.

937,212. **Braking Mechanism for Automobiles.** Henry K. Holsman, Chicago, Ill. Original application filed Jan. 18, 1907, Serial No. 352,848. Divided and this application filed Feb. 1, 1909. Serial No. 475,341.

1. In a device of the class described, the combination with the traction wheel, of the frame, the engine shaft movable to and from the traction wheel to stop and start the vehicle, driving connections between the engine shaft and the traction wheel, an annular braking surface rotating with the traction wheel, and a brake moving with the engine shaft to engage the annular braking surface as the engine shaft is moved to stop the vehicle.

937,231. **Speed Indicating and Distance Recording Mechanism.** Theodore M. Foote, Boston, Mass., assignor to Peter B. Bradley, Hingham, Mass. Filed Oct. 11, 1906. Serial No. 338,380.

1. A speed indicator for vehicles comprising a driving member, a driven member,

a speed symbol carrying element rotatably connected to the latter and having speed symbols, speed controlled means relatively to move said members into driving contact, and driving contact terminating means to terminate the period of driving contact upon the presentation of the proper symbol.

937,320. **Speed Changing Mechanism.** George D. Munsing, Hoboken, N. J. Filed Feb. 6, 1909. Serial No. 476,401.

1. In a speed changing mechanism the combination with the driven and driving shafts of a gear wheel and a brake wheel, means to drive the gear wheel from the driving shaft, planet gear wheels mounted in said brake wheel and gearing with the said gear wheel, a set of friction discs mounted to rotate in unison with each planet gear wheel, the discs of one set overlapping and alternating with those of an adjacent set, means to exert pressure on the friction discs, a pinion on the driving shaft and a gear wheel on the driven shaft, and planet mechanism connected to the brake wheel and between said gear wheel and pinion.

937,321. **Speed Changing Mechanism.** George D. Munsing, Hoboken, N. J. Filed Feb. 8, 1909. Serial No. 476,599.

1. The combination with a driving and a driven shaft; of a pinion keyed to the driving shaft, planet gear wheels meshing with said pinion and means to frictionally retard the movement of the planet gear wheels, a bevel gear wheel loose on the driving shaft, a supporting member for the planet gear wheels rotatable with respect to the driving shaft, said support and bevel gear wheel rotating in unison, a brake wheel, beveled pinions mounted in the brake wheel, meshing with the beveled gear wheel and a beveled gear wheel on the driven shaft, also meshing with said pinions and means to brake said brake wheel.

937,380. **Radiator.** John A. Miller, Tarrytown, N. Y. Filed July 13, 1909. Serial No. 507,395.

1. A radiator of the character described comprising upper and lower chambers, a central vertical tube, side tubes, and pipes connecting said vertical tube and side tubes.

937,522. **Ignition Apparatus.** George Haniquet, Longbeach, Cal. Filed June 11, 1908. Serial No. 437,872.

1. The combination of a support, a plurality of distributing rings carried by the support and insulated from each other, a series of contacts arranged in a circle and connected with the distributing rings in groups, each group being connected to a ring, electrical connections for the several groups of contacts, and a revolvable brush for successively engaging the contacts.

937,536. **Carburettor.** Frank H. Knight, Washington, D. C. Filed July 23, 1906. Serial No. 327,343.

1. In a carburettor a casing having its central portion provided with a downwardly inclined flange, a movable diaphragm above said inclined flange said diaphragm apertured for the passage therethrough of air and hydrocarbon valve shafts, there being a passageway between the upper surface of said flange and the lower outer edge of the diaphragm, means to adjust the diaphragm toward the flange to control the passage of an explosive compound through the passageway between the diaphragm and the inclined flange, a vaporizing compartment below the diaphragm, ports to admit air and a carburetting fluid into the vaporizing compartment to become thoroughly mixed when drawn from said compartment through the

passageway between the diaphragm and the inclined flange to the space above the diaphragm, valves to control the passage through the air and hydro-carbon ports which open to the vaporizing compartment, and air and hydro-carbon valve shafts to control the air and hydro-carbon valves, substantially as described.

937,557. **Automobile Brake.** Clyde Todd, Pittsburg, Pa. Filed June 25, 1909. Serial No. 504,304.

1. In an automobile brake, the combination with the longitudinal frames and rear axle of the automobile, and toothed wheels mounted upon said axle, of a transverse rock shaft carried by said frames, an operating lever carried by one of said frames for rocking said shaft, cranks carried by said rock shaft, a shaft journaled in said cranks, spacing wheels mounted upon said shaft and adapted to engage the toothed wheels of said axle, a link loosely connected to said shaft, bifurcated hangers loosely mounted upon said axle, a shaft journaled in said link and said hangers, and toothed wheels or shoes mounted upon said shaft in the bifurcations of said hangers.

937,618. **Vehicle Wheel.** Charles A. Lindstrom, Allegheny, Pa. Filed Sept. 6, 1906. Serial No. 333,471.

1. A vehicle wheel having a series of pairs of overlapping plates independent and separate from each other, detachably connected to and interposed between the hub and rim in sliding engagement with each other, and means for creating friction between said plates or brackets.

937,908. **Spark Plug.** Otto C. Winestock, Perkinsville, Vt. Filed Sept. 1, 1908. Serial No. 451,213.

1. A spark plug having a central electrode stem with one end tapering, a removable member for said electrode, a tapering sleeve of insulating material interposed between the tapering end of the electrode stem and the removable member, said sleeve having parallel inner and outer walls, an annular fixed electrode, and a disc-like movable electrode exterior to and of greater diameter than the inner diameter of the fixed electrode, said movable electrode being adjustable bodily to and from the fixed electrode in the direction of the longitudinal axis of the electrode to different active positions relative to the said fixed electrode with the spark gap substantially constant throughout the active portions of the electrodes.

938,053. **Vehicle Fender.** Charles W. M. Guhle, Tuckerton, N. J., assignor of one-half to Frederick J. Ritter, Philadelphia, Pa. Filed Oct. 28, 1908. Serial No. 459,817.

1. The combination with a vehicle, of a fender comprising a spring arm fixed at one end, and means connected to the free end of said arm and detachably connected to said vehicle to hold said spring arm in a flexed condition, said arm being released from said condition by a further flexing thereof.

938,108. **Spark Plug.** William S. Rech-told, Newark, N. J. Filed June 24, 1909. Serial No. 504,027.

1. In a spark plug: the combination with a socket, and a sparking terminal attached thereto; of an insulator fitting within said socket; a bushing screwed into said socket to hold said insulator in place; a sparking pin passing centrally through said insulator to co-operate with said sparking terminal; a terminal cap secured to the outer end of said insulator; and means passing through said cap to advance said sparking pin.



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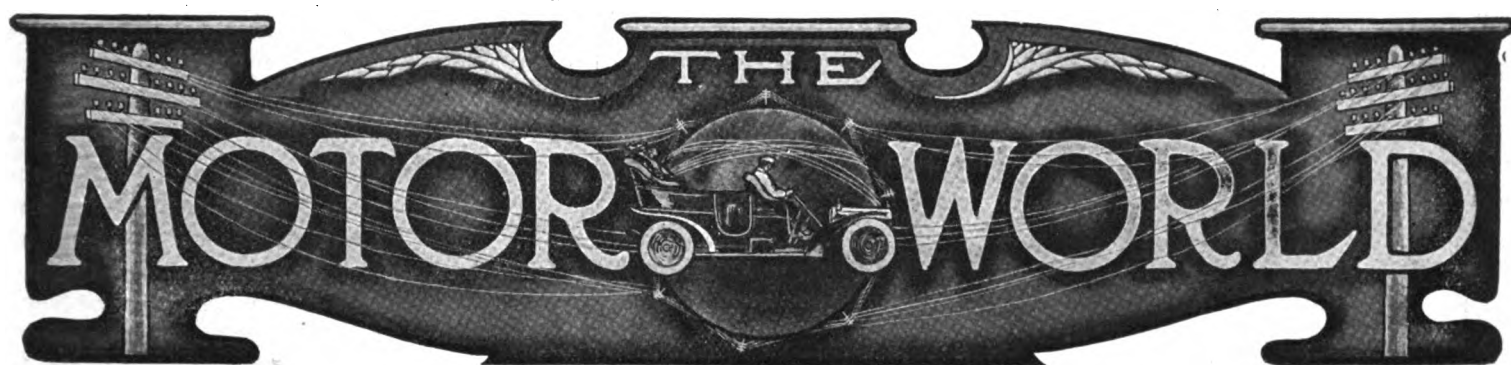
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Volume XXII.

New York, U. S. A., Thursday, January 27, 1910.

No. 4

## PACKARD TO TRY NEW POLICIES

**Will Seek to Control Prices of Its Used Cars—"Moral Suasion" to Promote Exclusive Agencies.**

What probably is the first attempt of an automobile manufacturer practically to control or direct the sale of second hand cars of his production has been undertaken by the Packard Motor Car Co. This company has adopted a graduated schedule of prices to apply on its used cars of each succeeding year and its agents will be required to adhere to it as strictly as is the case with new Packards.

In line with this move, the Packard people have under consideration an equally interesting experiment, which is nothing less than the first step toward the adoption of an exclusive agency policy. First reports stated that such a plan was about to be put into effect and that it would embrace all Packard agents, but according to more authoritative information, the policy merely is under discussion and if adopted will apply only to the dealers in the larger cities, whose sales are sufficiently great to assure a good income and who therefore have less need of a lower priced line. The Packard company believes that with a fixed scale governing the used cars of its manufacture, such cars will take the place of such lower priced lines as may be handled by the larger agents. It is stated that no immediate effort will be made to apply thumb-screws in the enforcement of the policy; "moral suasion," which will point out the beauties of such exclusiveness is expected to achieve the same end.

### Morley Goes from Tires to Tops.

Having Bert Morley as president and treasurer, Claire L. Barnes, vice-president, and W. F. Connelly, secretary, a new company has been organized in Detroit, Mich., with \$25,000 capital, to buy outright the Auto Accessories Manufacturing Co., on

Congress street, which, in addition to handling a general line of accessories, has been making tops, wind shields and kindred parts. The new company is to be known as the Sterling Auto Top Co., and President Morley, who until recently was the Detroit manager for the Diamond Rubber Co., indicates that it will take up the manufacturing end more vigorously than before.

### Lozier Gets Detroit Money and Plant.

The Lozier Motor Co., of New York City, which for some time has been negotiating a plan by which it should gain a number of new Detroit stockholders and should establish a plant in that city, finally has completed arrangements to that end. The company's present plant at Plattsburg, N. Y., will be retained, but an investment of approximately \$1,000,000 will be made in the factory which is to be established in Detroit, where the general offices of the company ultimately will be located.

### May Make Magnetos in Wyandotte.

The Whistler Mfg. Co., organized for the manufacture of magnetos and having a present capitalization of \$10,000, is trying to obtain a subsidy from the people of Wyandotte, Mich., which is "just down the river" from Detroit. Investigation is being made by the Wyandotte taxpayers as to whether they should subscribe for \$15,000 worth of stock in order to obtain the proposed factory, which, it is asked, should be free from taxation and water rates for a period of five years.

### Fisk Increases Capital to \$4,000,000.

At a special meeting of the stockholders held yesterday, the Fisk Rubber Co. voted to increase its capital stock from \$600,000 to \$4,000,000, equally divided into common and preferred shares, as is the present capitalization. It officially is stated that the entire issue has been underwritten. The growth of the Fisk business since 1904 and the desire to add to the present plant and equipment are given as the reasons for the big increase of capital stock.

## CREDITOR SUES BUICK FOR \$100,000

**Tiring of Promises to Pay, Castings Makers Go to Law—Buick "Covers up" with Counter Suit.**

Wearied of waiting for the payment of its large account, which was put off from week to week, the Wetherill Finished Castings Co., of Philadelphia, on Tuesday last, 25th inst., instituted action in Detroit against the Buick Automobile Co., of Flint, Mich., for \$100,000, the amount claimed to be due. Writs of garnishment were immediately served on four banks in which Buick funds are deposited.

Carrying out a threat which had been made after the Wetherill people became pressing in their demands, the Buick company in turn instituted proceedings against the Wetherill company for the recovery of \$250,000 damages claimed to have been sustained by reason of the Philadelphia concern's alleged failure to make deliveries according to contract, and also because the goods were not up to the required standard. The Buick account was some four months overdue and all other efforts failing, one of the Wetherill principals, late last week went to Michigan to enforce collection or know the reason why; the suit is the outcome of the visit. The Wetherill company has supplied the castings used in a number of the best cars on the market and their reputé or the reputé of their product never has been questioned and the company states that it never was questioned even by the Buick people until insistent demands were made for payment of the long overdue account. The Buick company is the chief cog in the General Motors "trust" project and it was its demand for four months' credit that caused some 30 material and accessory manufacturers to meet in New York to consider the demand. The conference resulted in a decision not to take the risk involved and the credit was refused.

## LICENSED DEALERS GET TOGETHER

**New York Agents Hold First Meeting to Organize—May Dissolve Existing Trade Association.**

Considerable mystery was thrown around the meeting of New York dealers which was called for the purpose of organizing a "Licensed" dealers' association. Twenty-six of the 54 concerns in the metropolis handling cars licensed under the Selden patent, gathered at the Hotel Astor on Thursday, 20th inst., and although they were in session for some time the official report of their proceedings was exceedingly brief. The meeting having been called to order by Sidney B. Bowman, it was moved and carried that Percy Owen, of the Chalmers-Detroit Motor Co., be made temporary chairman, with Bowman acting as temporary secretary. As a result of the deliberations, the chairman was instructed to appoint a committee on organization, composed of five members, which also is to act as a nominating committee. Announcement by the chairman as to who the committee will be is to be made later, and an adjournment was taken, subject to his call.

Something further of what took place at the Hotel Astor meeting transpired on the following Tuesday, 25th inst., when the New York Automobile Trade Association held a meeting at the Automobile Club of America, at which General John T. Cutting, the president, tendered his resignation, to take effect on February 15. He explained that he was resigning from the Trade Association in order to join the association of licensed dealers. In fact the meeting appeared to be chiefly for the purpose of preparing the Trade Association for dissolution or reorganization, so that those of its members who handle licensed cars may withdraw and join the new organization. Inasmuch as the Trade Association numbers among its members a great many garages and accessory houses who, since they do not sell cars, have little concern one way or the other with the licensed question, there is considerable sentiment toward continuing the association as an organization for the metropolitan garage and accessory interests alone, although it is probable that in such a case it would have to change its name. When the licensed dealers have withdrawn and the fate of the Trade Association is decided, the organization of the licensed dealers is expected to proceed with promptness.

### Pope Common to Draw Dividends.

Dividends on the common stock of the Pope Mfg. Co., of Hartford, Conn., are to commence this spring, and an initial common stock distribution at the rate of 6 per cent. per annum is to be declared before April 1. Under the re-organization there is

about \$3,500,000 of the common stock outstanding, on which the company is estimated to be earning about 20 per cent. after allowing 6 per cent. on the \$2,400,000 preferred. For the year 1909, when the company made approximately 800 cars, the company earned about 10 per cent. on the common, which in the last few months has advanced from 50 to about 85, with a corresponding gain in the preferred.

### Bankruptcy Follows Proprietor's Death.

A petition in bankruptcy has been filed against the Pierson Motor Supply Co., a New York supply house with a branch in Brooklyn, the three petitioning creditors having claims aggregating \$581, of which \$400 is for back rent. Walter G. Pierson, the president of the company, died on the 14th inst., and it is alleged that the company is insolvent and that it has been admitted by Helen T. Pierson, the secretary, that it is unable to pay its debts. The concern was incorporated two years ago with \$20,000 capital. The liabilities are placed at \$7,500, and the assets at about \$4,000.

### End of Elkhart's Industrial in Sight.

A receiver has been appointed for the Industrial Automobile Co., of Elkhart, Ind., the liabilities being placed at \$4,313.59, as against considerably less in assets. The company commenced business last April, making cars, motors and parts. It is alleged in the petition that the stock and machinery of the plant were being disposed of; that there are numerous creditors threatening suit, and that a receivership is necessary to conserve the interests of the creditors.

### Three More Secure Selden Licenses.

Further additions have been made to the list of licensees under the Selden patent in the Acme Motor Car Co., of Reading, Pa.; the American Motor Car Co., of Indianapolis, Ind., and the Hol-Tan Co., of New York City, the latter the importer of the Lancia car. Another group of new licensees is to be announced by the Association of Licensed Automobile Manufacturers within a day or so.

### Delmar to Make Bodies and Wheels.

The Delmar Auto Body & Wheel Co. is a new enterprise which has been established in Indianapolis, Ind., the plant being located in west Indianapolis. In addition to bodies and wheels, the concern also will make tops. The management is under the direction of E. H. Habig and E. E. Weir, who have been identified with Indianapolis manufacturing for many years.

### Bennett Joins Colt-Stratton Staff.

Albert L. Bennett has been appointed sales manager of the Colt-Stratton Co., the New York agents for the Cole Thirty and the Paige-Detroit cars. He has been in the selling end of the business for nine years.

## STILL DEMANDING AN INJUNCTION

**Studebakers Continue Action Against E-M-F.—Delayed Arguments Simply Recite Old Contentions.**

The delayed hearing of the Studebaker Automobile Co.'s injunction suit against the E-M-F. Co., in Detroit, took place before Judge Swan in the United States Circuit Court on Tuesday, 25th inst., and the proceedings made it very plain that the South Bend company has not relaxed in the slightest in its insistence that the E-M-F. Co. be enjoined from disposing of its cars except through the Studebaker channels. The entire day was taken up by the arguments of Attorney John S. Miller, presenting the Studebaker case, and Attorney Elliott C. Stevenson, for the E-M-F. Co. Judge Swan then allowed counsel three days in which to file briefs, when he will take the case under advisement.

The arguments were chiefly a legal rehash of all the charges, counter-charges and difficulties that have arisen between the two sides as a result of the confusion existing as to what part of their arrangement was actual contract and what part mere business "forecasts," unauthorized promises and tentative arrangements. The Studebaker attorney consumed the entire morning while the E-M-F. attorney took the afternoon. The latter dwelt at considerable length on the history of the projected \$80,000,000 merger proposition which he alleged the Studebakers had been fostering, and again declared that it was the Studebaker purpose to embarrass the E-M-F. Co. and make the stockholders sell their holdings, so that the Studebakers could get control and start the merger.

The fact that the Studebaker company made no effort to proceed in the original court of jurisdiction from December 27, when the original application for an injunction was withdrawn, until the present time, the E-M-F. attorney contended, excluded the plaintiff from the remedy sought.

"Since that time, your honor," he added, "we have sold \$14,000,000 worth of cars. The plaintiffs went out of court voluntarily and in the meantime we have made contracts to sell 18,000 machines, which affect 12,500 working men and establish obligations which must be met. This situation would not have arisen but for their dilatory conduct. They had 1,000 dealers. We now have 4,500. The courts are still open to them on the question of damages."

### Fal Begins Work on Big Factory.

The Fal Motor Co., of Chicago, Ill., has in process of erection a new factory which is scheduled to be ready for occupancy by the first of June. It is to have 250,000 square feet of floor space, with its own power plant and a half-mile testing track.

**HOW TO AVOID THE SELDEN PATENT**

**Diplomats of Licensed Association Point the Way for Budding Manufacturers—  
Cars that do not Infringe.**

Carriage makers who have been affected by the trend of the times and who feel an itching to take up the manufacture of automobiles have discovered an alternative course which provides a way out of the difficulties which confront them in regard to getting a Selden license for the making of gasoline machines.

In addition to the great number who already have undertaken to make gasoline in come quantity, there are many more who still are in the purely experimental stage, having made perhaps one or two cars, but equally numerous are those concerns who have not as yet made a car of any kind, but who have been considering the possibilities of building gasoline vehicles. From all three classes there have come in the last few weeks a flood of applications for licenses, and the Association of Licensed Automobile Manufacturers has been obliged to advise most of them that their chances are exceedingly slim, inasmuch as the Association's policy as now determined upon is to grant licenses only to such concerns as actually have been making cars for a considerable period.

That their case is not hopeless, however, so far as concerns the manufacture of automobiles is made plain by the fact that not a few of them have turned to electric vehicles as a solution for their problem, this being a field which is not controlled by any "basis patent" situation. In diverting the mind of the carriage maker to the electric as the type he should espouse for his automobile making ambitions, the arguments presented are alluring in the extreme, and give rise to some surprise as to why more carriage makers have not been already attracted to the electric vehicle rather than gasoline.

It is pointed out that while it now is possible to get ready-made gasoline motors, gear boxes and other parts, a great measure of designing skill and experience is necessary to make an assembly of these that will result in a satisfactory car, and that even the assembling alone entails a degree of expense and an amount of factory equipment which requires a heavy investment. On the other hand the assembly of electric vehicles is comparatively simple, in that the intending manufacturer is given every technical assistance by the manufacturers of electric motors and batteries as to the equipment that should be used for each type and kind of vehicle. All the necessary parts of the power plant and controlling system are readily available, and, what is more, can be obtained with a degree of promptness which is almost impossible in the gasoline

field. While a few important questions of design are involved in the selection of a system of transmitting the power from the motors to the rear wheels, they by no means present the engineering problems of a gasoline car.

With an organization of agents who are in touch with the better class of retail carriage trade, the carriage maker's chances of disposing of electric pleasure vehicles are represented as being quite as good as with gasoline machines, especially since women are getting to look upon the electric with growing favor. Every opportunity is presented in the designing of new and improved bodies, so that the carriage maker's body building abilities and capacity are apt to be given all the test he may desire.

Many of the experimenters have been dissuaded from beginning quantity production in the gasoline field, but are taking up the electric instead. The likelihood of the electric receiving considerable impetus from the carriage making ranks is further increased by the fact that the virtues of the electric as a manufacturing proposition are being pointed to in the case of those who have not as yet taken up either type but who have expressed the intention of becoming automobile builders if possible.

**Bossert to Produce Stamped Parts.**

Pressed steel automobile parts are to be manufactured on a large scale by the Bossert Electric Construction Co., of Utica, N. Y., which for a dozen years has been making stamped and drawn steel specialties for the electrical trade. James P. Jones, who has been in the stamping business for 15 years and is especially familiar with the requirements of the manufacturers of automobile axles and wheels, became manager of the company on the 7th inst., and some \$40,000 worth of new machinery is being installed, including presses for the manufacture of brake drums, hub flanges, ball cups and retainers, thrust discs, clutch discs and pressed steel step hangers.

**Seattle Dealers Reorganize.**

The Seattle Automobile Dealers Association has been reorganized in that Washington city, with the following officers: President, H. P. Grant, Seattle Automobile Co.; vice-president, R. P. Rice, Seattle manager Ford Motor Co.; treasurer, H. C. Fenn, manager Overland Automobile Co.; secretary, Fred Hainens, Seattle agent for Pierce-Arrow. These officers, together with W. D. Wallace, manager Olympic Motor Car Co., and E. J. Strelau, manager Motor Equipment Co., comprise the board of directors.

**Shackelford Gets Empire Branch.**

J. M. Shackelford has been appointed manager of the uptown New York City branch of the Empire Tire Co., of Trenton, N. J., at Seventy-third street and Broadway. He succeeds Marcus Allen who recently resigned.

**REDUCED RATES TO CHICAGO SHOW**

**Two Passenger Associations Grant Fare and a Half—Procedure Necessary to Obatin Advantage of It.**

Due to the fact that the American Automobile Association will hold an open convention in Chicago during the period of the show there, the Trunk Line Association and the Central Passenger Association have granted a rate of a fare and one-half to all who attend the convention from the territory embraced within their territory. The rate is an open one and is not restricted to members of the A. A. A., but it is conditional on at least 1,000 certificates being presented for validation in Chicago.

The territory of the two passengers associations includes the states of New York, Pennsylvania, New Jersey, Delaware, Maryland, District of Columbia, Virginia (points on Chesapeake & Ohio and Baltimore & Ohio), West Virginia, Michigan (east of Lake Michigan), Indiana, cities of Louisville, Ky., and St. Louis, Mo., and stations in Illinois, and points east of and on line of the C. R. I. & P. R. R., from Chicago to Peoria; thence the T., P. & W. R. R. from Peoria to Burlington, thence Mississippi River to Cairo, Ill.

All persons residing outside the territory defined and who desire to avail themselves of the rate, should purchase regular one-way or excursion tickets to the nearest point from which a certificate reduction has been authorized, and there purchase a one-way ticket to Chicago and secure certificate.

Tickets and certificates may be secured not earlier than February 2, 1910, and not later than February 8. These tickets should be presented for validation at the A. A. A. headquarters in the First Regiment Armory, Chicago, February 8, 9, 10, 11. In view of the necessity of having the 1,000 certificates actually in hand before the validating can begin on Tuesday morning, February 8, it is imperative that certificates be deposited on arrival in Chicago.

The holders of tickets will be entitled to procure up to and including February 16, a continuous passage ticket by the same road over which the going journey was made, at one-half of the regular one-way, first-class fare, to the point at which the certificate was issued.

All meetings in connection with the convention will take place in the First Regiment Armory. Due notice of them will be available at the A. A. A. headquarters in that building and in the public prints.

**New Supply House in Seattle.**

The Wahsington Automobile Supply Co. has been organized in Seattle to do a business implied by its title; it will locate at 700-702 Pike street, and will be under the management of W. B. Neff.

**THE WEEK'S INCORPORATIONS.**

East Stroudsburg, Pa.—Sharp-Arrow Automobile Co., under Pennsylvania laws, with \$75,000 capital.

Racine, Wis.—Wisconsin Auto Top Co., under Wisconsin laws, with \$25,000 capital, succeeding McAvoy Bros.; to manufacture tops and accessories.

Cape Girardeau, Mo.—Vogel Auto Co., A. J., under Missouri laws, with \$2000 capital. Corporators—A. J. Vogel, E. W. Vogel and W. D. Black.

Dover, Del.—Knight & Kilbourne Patents Co., under Delaware laws, with \$1,000,000 capital. Corporators—W. N. Akers, W. J. Maloney and E. B. Davis, Wilmington.

East Orange, N. J.—Taxi-Service Co., of Baltimore, under New Jersey laws, with \$500,000 capital. Corporators—F. C. McKinney, A. R. Mapletoft and R. E. Taylor.

Los Angeles, Cal.—William R. Ruess Automobile Co., under California laws, with \$50,000 capital. Corporators—William R. Ruess, Lona Maude Ruess and Thomas F. Keefe.

Trenton, N. J.—Druck Auto Selling Co., under New Jersey laws, with \$30,000 capital; general automobile business. Corporators—N. P. Druck, E. H. Steele and L. B. Risdon.

Dover, Del.—Auto Storage Co., under Delaware laws, with \$30,000 capital. Corporators—H. E. Seibert, H. O. Keenery, Philadelphia, and W. E. Harrington, Pottsville, Pa.

Hackensack, N. J.—Bacon's Garage, under New Jersey laws, with \$50,000 capital; to deal in automobiles and supplies. Corporators—J. Bacon, R. D. Earle and R. D. Earle, Jr.

New York, N. Y.—Childs & Co., Inc., S. W., under New York laws, with \$25,000 capital; general garage business. Corporators—S. W. Childs, M. H. Childs and W. G. Whaley.

Louisville, Ky.—Straeffer-Arterburn Motor Car Co., The, under Kentucky laws, with \$4,000 capital. Corporators—E. Edgar Straeffer, Burton H. Arterburn and George Straeffer, Jr.

Pittsfield, Mass.—Alden Sampson Mfg. Co., under Massachusetts laws, with \$300,000 capital; general automobile business. Corporators—L. E. Sampson, G. E. Mitchell and others.

Chicago, Ill.—Oak Park Garage, under Illinois laws, with \$10,000 capital; general machine shop and garage business. Corporators—Robert B. Crandall, Rosell Irving Wallis and Richard C. Hanna.

New York, N. Y.—Post Lock Register Co., under New York laws, with \$150,000 capital; to manufacture taxicabs and lock registers for same. Corporators—T. W. Post, G. W. Morse and C. Colgate.

Buffalo, N. Y.—Ballou Co., F. A., under New York laws, with \$25,000 capital; to manufacture and deal in automobiles, bicy-

cles and other vehicles. Corporators—F. A. Ballou, C. H. Phillips and H. J. Harrison.

Denver, Col.—Colorado Interstate Motor Car Co., under Colorado laws, with \$5,000 capital. Corporators—Henry A. Linthroth, William Thorney and Richard H. Zinke.

Indianapolis, Ind.—Co-Auto Motor Co., The, under Indiana laws, with \$25,000 capital. Corporators—Mark C. Beckner, John Larrison, Fred W. Wiese and Harry W. Woodmansee.

Lafayette, Ind.—Hoffman-Moore Auto Co., The, under Indiana laws, with \$10,000 capital; general automobile business. Corporators—A. E. Hoffman, W. W. Hoffman, and S. C. Moore.

Chicago, Ill.—Crescent Garage Co., under Illinois laws, with \$100,000 capital; general taxicab and livery business. Corporators—Frank D. Moon, Charles D. Fuller and Harry L. Fuller.

Camden, N. J.—General Ball Bearing Co., under New Jersey laws, with \$500,000 capital; to manufacture ball and roller bearings. Corporators—J. A. MacPeak, W. F. Fidell and F. R. Hansell.

Detroit, Mich.—Century Motor Sales Co., The, under Michigan laws, with \$10,000 capital. Corporators—J. F. Williams, F. E. Tallmadge, H. P. Tallmadge, W. D. Peabody and L. C. Cope.

Oakland, Cal.—Detrick Co., The, under California laws, with \$5,000 capital; to manufacture automobiles. Corporators—W. G. Gardiner, San Francisco; G. A. McDougald, Oakland, and G. F. Detrick, Berkeley.

New York, N. Y.—Nilmelior Electrical Co., The, under New York laws, with \$150,000 capital; to deal in magnetos and automobile ignition apparatus. Corporators—G. Pouzet, O. V. Schrenk and F. F. Kirkpatrick.

Kansas City, Mo.—Walden W. Shaw Auto Livery Co., under Missouri laws, with \$100,000 capital; to manufacture and deal in automobiles. Corporators—Edward N. D'Ancona, A. J. Pflaum and H. C. McCormick.

New York, N. Y.—Eisemann Magneto Co., under New York laws, with \$470,000 capital; to manufacture and deal in magnetos and electrical apparatus. Corporators—P. Fuller, Jr., A. D. Yeekes, Jr., and C. A. Conlon.

New York, N. Y.—Firestone Tire & Rubber Co., of New York, with \$50,000 capital; to manufacture and deal in rubber tires for vehicles, etc. Corporators—D. C. Swander, New York City; H. S. Firestone, R. J. Firestone, Akron, O.

Bridgeport, Conn.—Royal Engine Co., The, under Connecticut laws, with \$50,000 capital; to manufacture automobile and marine engines. Corporators—Arthur F. Law, H. N. Law, Bridgeport, and Frank I. Prentice, Hartford, Conn.

Asbury Park, N. J.—Asbury Park Auto-

mobile Co., under New Jersey laws, with \$50,000 capital; to manufacture automobiles and conduct a general garage business. Corporators—D. Haynes, F. T. Weeden, W. C. Weeden, and L. P. Croce.

Newark, N. J.—Public Automobile Service Corporation, under New Jersey laws, with \$2,000,000 capital; unlimited taxicab service. Corporators—William R. Buchler, Charles E. Thorne, Ernest D. Kahn, all of New York City, and others.

East St. Louis, Ill.—St. Louis-Stearns Automobile Co. of East St. Louis, under Illinois laws, with \$10,000 capital; general automobile business. Corporators—J. W. Ford, Jr., Dell C. Brown, J. L. Flannagan, C. E. Chamberlin and J. C. Londen.

New York, N. Y.—Motor Car Conveyance Co., under New York laws, with \$100,000 capital; to manufacture and deal in motor vehicles, taxicabs, etc. Corporators—C. E. Lockwood, East Orange, N. J.; A. Lee, Brooklyn, and J. W. Chapman, New York City.

Birmingham, Mich.—Oriental-Detroit Motor Car Co., under Michigan laws, with \$100,000 capital; to manufacture automobiles. Corporators—George E. Daines, Guy L. Watkins, Ellsworth Randall, G. William Crary, Frank Ford, Edgar A. Parks, T. B. Smith and others.

Newark, N. J.—Wind Shield Mfg. Co., under New Jersey laws, with \$100,000 capital; to manufacture wind shields and automobile accessories. Corporators—C. A. Mezgar, R. H. Montgomery and R. M. Owen, New York City, and W. W. Trimpi and J. Close, Newark, N. J.

**Increases of Capitalization.**

Kansas City, Mo.—Auto Specialty Co., increases capital to \$30,000.

Detroit, Mich.—Watt Motor Co., increases capital from \$100,000 to \$300,000.

Akron, O.—Stein Double Cushion Tire Co., increase in capital from \$100,000 to \$200,000.

Topeka, Kan.—Smith Automobile Co., The, a Missouri corporation increases capital \$100,000.

**Studebakers' Palatial Branch Completed.**

What is claimed to be the finest sales and garage building in Denver, Col., just has been completed for the Studebaker Automobile Co. It is located on Cheyenne street between Fifteenth and Sixteenth streets and the company now is emigrating from its old quarters on Broadway.

**Ford to Maintain Texas Branch.**

The Ford Motor Car Co. will establish a branch in Dallas, Tex., on February 1, which will be located at 443-45 Commerce street. The quarters will consist of two stories and basement and will include a complete repair shop. Byron L. Graves will have charge of the establishment.



## IN THE RETAIL WORLD.

The Beaver Valley Motor Co., Rochester, Pa., when alterations are completed will "open up" in the Traction building with the Reo and Olds lines.

J. C. Eagen, Oklahoma City, Okla., is preparing to open sales rooms on Fifth street in that city. He will act as state distributor for the Parry cars.

The McAllister Bros. Motor Co., Pittsburgh, Pa., are preparing to let the contract for the erection of a garage on Baum street. The structure will cost \$25,000.

The Sweet-Edwards Co., Omaha, Neb., has taken possession of its new garage on Farnam street. The concern will handle the Moon, Parry and American cars.

The J. A. McIntyre Co., Omaha, Neb., is having built a new garage on Farnam street, the local "automobile row." The company represents the Oakland cars.

C. H. Goss, St. Johnsbury, Vt., the oldest dealer in the city, is having built a new garage on Central street, the cornerstone of which was laid last week. He represents the Packard.

Frank Yates, Omaha, Neb., has embarked in the renting business, with a squad of Stevens-Duryea and Inter-State cars. For the present he will make his headquarters at the Kimball garage.

M. J. Spencer, Pontiac, Mich., has purchased a plot of ground adjoining the Colonial hotel, and will erect a garage thereon. The structure will be 39x100 feet and will include the repair department.

The Pennsburg (Pa.) Automobile Co., which operated a garage in that town, has been dissolved, John F. Weyand retiring from the firm. V. H. Steckel will continue the business under the old name.

E. W. Squires, New Haven, Conn., has had plans drawn for a garage to be erected at the corner of Whalley avenue and Orchard street. The structure will be of brick, one story, with dimensions 48x88 feet.

The Skowhegan Garage, Skowhegan, Me., has been formed in that town to take over the business of the Skowhegan House Garage. The members of the firm are W. H. Norton, Charles M. Hobbs and H. I. Spinney.

Seamans Bros., Canandaigua, N. Y., are erecting a garage said to be the largest between New York and Buffalo. It will be one block long and will have two entrances, one on Phoenix street and the other on Lafayette avenue.

George Keyt & Son, Rockford, Ill., old-time liverymen of that place, have "seen the handwriting on the wall" and added automobiles to their line. They have secured the Stearns agency, and will conduct a taxicab service also.

Henry Kerst, Jersey City, N. J., had had plans drawn for a new garage which will be erected on the west side of Crescent avenue near Astor place. It will be a one

story brick structure, 50x75 feet, and will cost about \$7,000.

The Myatt-Dicks Co., New Orleans, La., has leased the property adjoining the Spofford estate at St. Charles and Julia streets, and will erect a large and up to date garage. The structure will be 45x150 feet and will be of fireproof construction.

The Western Motor Car Co., Springfield, Mo., have leased for three years the Auditorium rink on Pickwick avenue, which will be used for a repair shop. The present quarters on Jefferson street will be devoted to salesrooms and garage.

Col. A. T. Pierce, Dover, N. H., proprietor of the American House, soon will let the contract for a new garage to be erected in the rear of the hotel. The establishment will be built of steel and concrete, and will have ample storage and repair facilities.

The Velie Motor Vehicle Co. is having built in Kansas City, Mo., a large and well equipped building to handle their local trade. The structure, which is situated at Thirty-third and Main streets, is two stories, 50x160 feet, and will cost \$30,000.

The Kissel Automobile Co., Omaha, Neb., the first new firm of the year in local trade circles, has opened temporary quarters at 2016 Farnam street. Ralph Mansfield, H. W. Holtzinger and C. E. Holt constitute the firm which will represent the Kisselcar.

Warburton Bros. is the style of a new firm which has established itself at 172-174 Victoria street, Toronto, Can., and which is handling the Maxwell line. One of the brothers, W. C. Warburton, was for several years in the employ of the Maxwell-Briscoe company.

The L. J. Wells Livery Co., Des Moines, Ia., one of the pioneer equine establishments in the city, have taken possession of a new seven story building on West Eighth street, between Cherry and Mulberry streets, and have taken on automobiles. They have secured the Moon agency.

Motor car dealers in Oklahoma City, Okla., have formed the Oklahoma Automobile Dealers Association with the following officers: John McClelland, president; G. Page, vice-president; Ray Colcord, secretary; Robert H. Mulch, Jr., treasurer, and F. R. Thompson, chairman.

The Wagner-Renliff Motor Car Co., San Francisco, Cal., northern California representative of the Auburn, have established a branch in Oakland, across the bay from San Francisco. It is located on Twelfth street in the heart of the automobile section and will handle all business in Alameda county.

The Des Moines (Ia.) Automobile Dealers Association, which includes all of the 13 firms in the local colony, has been organized with the following officers: W. E. Moyer, president; Dan Patten, secretary; Cheney R. Prouty, treasurer; directors, the officers, T. J. Williams, Harold Wells, and Ross Clemons.

The United Motors Co., Chicago, Ill., representatives of the American and Sterling cars, have leased quarters in New York City and will open an eastern branch in August. George L. Derr and W. F. Gray constitute the firm, which acts as general distributors of the entire output of the Sterling factory.

Harry S. Moore, who has been handling the Stoddard-Dayton car at 1761-63 Cranford road, Cleveland, Ohio, and who just has added the National line, is opening another store at 2034-36 Euclid avenue, in the heart of the downtown automobile district; the new place will become Moore's headquarters and main salesroom.

For the second time in a little over two years fire visited the garage of William M. Whitney & Co., 203 Hudson avenue, Albany, N. Y., on the 14th inst. and gutted the building, eight cars being consumed. Hot coals dropping from heating stoves on the oil soaked floors are said to have been responsible for the blaze.

The Johnson Automobile Co., Boone, Ia., one of the largest establishments in the state, has changed hands. Dr. S. O. Stockslager and Chris Williams, two local men, being the new owners. They will continue the business under the old name and E. R. Johnson, the retiring owner, will remain with the new firm for the present.

The Means Automobile Co., Des Moines, Ia., is the latest recruit in local trade circles and has opened for business at 309-311 East Walnut street. They will push the Moline and De Tanble cars in Central Iowa. George Means, formerly with the Mason Automobile Co., of Des Moines, and Dr. B. Thompson, of Tama, constitute the firm.

The Jacksonville Automobile Co., Jacksonville, Ill., which is composed of twelve business men of that town, all of whom are car owners, has taken possession of its new garage on East State street. It has a storage capacity of 50 cars and includes a well equipped repair shop. The White, Chalmers-Detroit, Maxwell and Studebaker cars are handled.

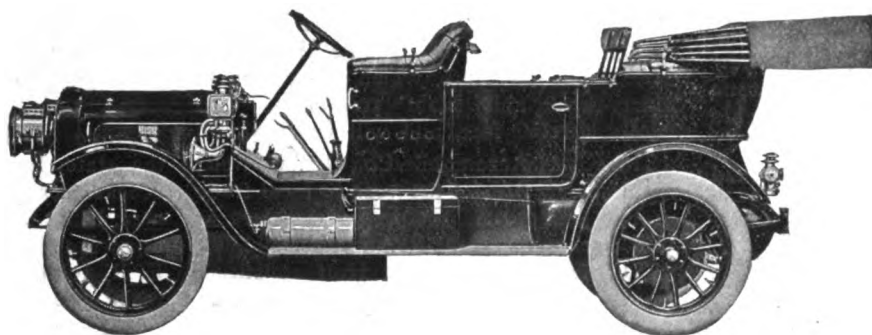
The Patton-Van Vliet Co., Des Moines, Iowa, has taken possession of its new and elaborately appointed salesrooms and garage on the ground floor of the new commercial college building at West Tenth and Walnut streets. The quarters have a frontage of 66 feet on Walnut street and will include a repair shop. The Studebaker lines will be handled exclusively.

The Superior Motor Co., Calumet, Mich., one of the largest garage establishments in northern Michigan, just has completed equipping its repair plant at Laurium with an extensive complement of machinery of all kinds. In connection they also maintain wood working and upholstering departments. They handle the Peerless, Stoddard-Dayton, Interstate, Security, Overland, Buick and Baker electric in four counties.

**No Piece-Work—No Over-Time  
No Nightwork—No Rush Methods**

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**WHITE** **Steam  
and  
Gasoline** **CARS**



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The workmen are paid by the hour—not by the piece—so there is no incentive for them to devote less time and care to any operation than is its due. No over-time work is permitted, because work so done is generally not so painstaking as it should be. We do not employ a “night shift” because in this way responsibility is divided and work done by artificial light cannot be as good as that done by daylight. Finally nothing is rushed through the White factory.

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The Chicago Show issues of the Motor World will bear dates February 3 and 10th. They will contain bona fide reports of the show, not reviews of catalogs masquerading as such reports and written weeks before the doors of the exhibition have opened.

### Strenuousness of Snow Travel.

All-weather automobile service has become an accomplished fact. Although, largely as a matter of personal inclination, owners of small and medium powered machines continue to lay them up for a more or less protracted period during the winter months, those who own larger cars, particularly if equipped with enclosed bodies, never for a moment question the advisability of keeping them in commission the year round. It is no longer a matter of doubt that motor vehicles are qualified to negotiate frozen ground, muddy roads and snow successfully. The heavier and better balanced cars seldom even balk at soft and slippery snow, al-

though town cars and particularly taxi-meter cabs frequently are stalled temporarily, owing to the poor traction which it is possible to obtain where the wheels are equipped only with ordinary tires and non-skid chains.

Whatever feeling of complacency this very natural outcome of motor vehicle development may engender, however, is offset to some extent by the admitted fact that the heavy duty which snow travel involves has presented to the automobile manufacturer new and wholly unexpected problems. For strange as it may seem, cars which withstand successfully the long-continued effects of heavy mud-plugging expeditions begin to develop sudden weaknesses when subjected to snow work, even for relatively short periods. A recent and forcible illustration of the point, which serves to emphasize the gravity of the matter, was the return of five cars to an agency for one of the most eminent makes of American machine, after a recent snow storm, each affected with some serious difficulty; twisted shafts, stripped gears and other troubles not ordinarily encountered at other periods of the year, being among the symptoms of strenuous overwork.

The reason for the arduousness of snow travel is not far to seek, when it is considered that in addition to the greatly increased traction resistance which the snow entails, the tires are practically robbed of their adhesion at times, the co-efficient of friction between the tires and the snow-covered road surface, varying greatly even on the same stretch of highway and on the same day. The result is that the driving wheels constantly are liable to slippage, the result being a vast amount of overtaxation for the differential and other gears, while the occasional necessity of racing the engine serves to rack the entire fabric tremendously. In addition to this, the loss of guidance of the front wheels results in throwing the machine about, straining not only the steering gear, but the springs, axles, wheels and frame in a way that seldom, if ever, occurs under other circumstances.

Since the difficulties arising from snow service cannot be localized in any one member, but are distributed over the entire machine, it is evident that no specific remedy for them is to be found; save only that of strengthening the entire machine to a point considerably beyond that which hitherto has been considered necessary for ordinary

service. That such a reinforcement of the fundamental parts of the average machine is absolutely required is rather a grave assertion to make, yet it must be admitted that the ordinary car, even though of most substantial construction, is ill suited to the rough and tumble of long continued snow plowing. The real point is to teach the owner and the average hired driver that cars are not made to withstand the stresses which heavy winter work entails. With cautious handling they will endure all classes of service, but the slam-bang treatment of the would-be "clever" driver, injurious at any time, is particularly harmful when snow is on the ground. That many cars well are worth reinforcing in certain parts, however, is a consideration which a touch of real winter is apt to bring home to manufacturers who otherwise might not have the fact called to notice until the entire output now in the making was well out of hand and distributed among the owners.

### Governors for Commercial Vehicles.

While the use of mechanical governors for limiting engine speed largely has been done away with in the construction of pleasure cars, it is noteworthy that the use of such devices is regarded in an entirely different light by makers who are devoting their attentions to the commercial vehicle problem. Such are the demands upon the engine of the pleasure car, and such the growing intelligence of the average user, that the real need of a governor to prevent racing the engine largely has been overcome. The increasing use of the throttle method of control in driving obviates its need entirely for ordinary purposes, and so it is considered entirely superfluous by most manufacturers.

The commercial vehicle presents in running conditions a totally different state of affairs from this, however. In the first place, it is a prime requisite of motor vehicle work as a business venture, that the mechanism shall be run under as nearly constant conditions as possible, and that the requirement of skill in operating be reduced to its lowest terms. Hence, the governor becomes considerably more desirable in this instance, than in the case of the car which is presupposed to be in intelligent and watchful hands at all times. A more important point, however, and one which has led several commercial vehicle producers already to install governing devices and to place them under seal, is the low

gearing which the business wagon ordinarily is given.

While under load-carrying conditions, there commonly is little risk that the engine will be raced, circumstances change when the vehicle is being returned unladen after a long haul. Under such circumstances the temptation of the driver to make what speed he can is very strong, even aside from his natural inclination to "go fast." This inclination is accentuated, it also may be supposed, if the driver be of the sort which is easily tempted to dally at wayside road houses or at corner saloons, secure in his ability to conceal the delay and make up time on the return trip. Hence, it is a wise provision which safeguards the engine against the overspeeding which otherwise might be indulged in, by the installation of a governor enclosed in a sealed case.

That such provision is found on several of the more up-to-date trucks and delivery wagons, as it has been installed for several years on at least one make of public service cab, is sufficient proof that the importance of the governor is well recognized. That its use is not universal upon vehicles which are intended wholly for business purposes, is not as easily explained. Its utility would appear to be so great as to raise it almost, if not quite, to the dignity of an essential in the commercial field.

Pelham Parkway and the Shore Road, two of the widest and most traveled routes in New York and which are of the few that have escaped the invasion of the trolley, practically have been captured by two traction companies and soon will be torn up and narrowed and made more dangerous by the laying of a double line of street car tracks. Unless those who use the thoroughfares make themselves heard at once, the danger is likely to be made greater by positioning the tracks in the center of the roadway instead of at the sides. Nelson P. Lewis, the city's chief engineer, to whom the traction companies' applications have been referred, is the man to whom protests should be addressed.

Charles Thaddeus Terry's clear-cut exposition of the intolerable conditions to which motorists are subject by reason of illiberal and conflicting state laws ought to "win over" every legislator in whom the sense of justice abides. But justice so often is subordinated to public hue and cry that the hoped-for relief is all too uncertain.

## COMING EVENTS

January 24-29, Portland, Ore.—Portland Automobile Club and Dealers Association's show in Armory.

January 24-29, Detroit, Mich.—Detroit Automobile Dealers' Association's third annual show in Wayne Pavilion.

January 24-30, Washington, D. C.—Washington Automobile Dealers Association's fourth annual show in Convention Hall.

January 28-February 5, Edinburgh, Scotland—Scottish Motor Trade Association's annual show in Waverly Market.

January 29-February 5, Grand Forks, N. D.—Northwestern Implement Dealers' first annual automobile show.

February 1-5, Grand Forks, N. D.—Grand Forks Automobile Dealers first annual show.

February 5-6, New Orleans, La.—New Orleans Automobile Club's annual Mardi Gras speed carnival.

February 5-12, Chicago, Ill.—National Association of Automobile Manufacturers' ninth annual show in Coliseum.

February 8-14, Los Angeles, Cal.—Automobile Dealers' Association of Southern California's show in Grand avenue rink.

February 14-19, Buffalo, N. Y.—Automobile Club of Buffalo's eighth annual show in Convention Hall.

February 14-19, Hartford, Conn.—Hartford Automobile Dealers Association's third annual show in Foot Guard Armory.

February 14-19, St. Louis, Mo.—St. Louis Automobile Dealers Association's annual show in First Regiment Armory.

February 15-17, Washington, D. C.—American Automobile Association's national legislative convention.

February 17-19, Grand Rapids, Mich.—Grand Rapids Automobile Club's first annual show.

February 18-22, Fargo, N. D.—Fargo Automobile Dealers first annual show.

February 19-26, Los Angeles, Cal.—Licensed Association of Los Angeles' first annual show in Hamburger building.

February 19-26, Minneapolis, Minn.—Minneapolis Automobile Show Association's exhibition in National Guard Armory.

February 19-26, Newark, N. J.—Associated Automobile Clubs of New Jersey's show in Essex Armory.

February 19-26, Salt Lake City, Utah—Automobile show in Auditorium.

February 21-26, Binghamton, N. Y.—Automobile show in State Armory.

February 21-26, Cincinnati, O.—Automobile Club of Cincinnati's annual show in Music Hall.

February 21-27, Cleveland, O.—Cleveland Automobile Dealers Association's annual show in Central Armory.

February 22, Los Angeles, Cal.—Los Angeles Licensed Dealers' Association's Pasadena-Altadena hill climb.

February 22-27, Milwaukee, Wis.—Milwaukee Automobile Club's second annual show in Auditorium.

February 24-March 3, Toronto, Can.—Ontario Motor League's show in St. Lawrence Arena.

February 28-March 4, Omaha, Neb.—Omaha and Council Bluffs Automobile Dealers' show.

February 28-March 5, Kansas City, Mo.—Kansas City Automobile Dealers Association's fourth annual show in Convention Hall.

March 5-12, Boston, Mass.—Boston Automobile Dealers Association's eighth annual show in Mechanics Building.

March 5-12, Cleveland, O.—Cleveland Automobile Club's eighth annual show in Central Armory.

March 5-12, Des Moines, Ia.—Des Moines Automobile Dealers Association's first annual show in Coliseum.

March 12-19, Syracuse, N. Y.—Syracuse Automobile Dealers Association's annual show in State Armory.

March 20, San Francisco, Cal.—San Francisco Motor Club's hill climb on Nineteenth avenue hill.

March 21-28, Denver, Col.—Denver Motor Club's annual show, in Convention Hall.

March 26-April 2, Montreal, Can.—Fourth National Automobile and Sportsmen's show.

March 28-29, Savannah, Ga.—Savannah Automobile Club's 675 miles endurance run to Jacksonville, Fla.

April 8-17, Los Angeles, Cal.—Inaugural meet on the new Los Angeles Motordrome.

April 23-29, Bangor, Me.—Eastern Maine automobile and motor boat show in Auditorium.

June 1, Berlin, Germany.—Start of Prince Henry tour, finishing at Homburg on 8th.

June 11, Wilkes-Barre, Pa.—Wilkes-Barre Automobile Club's annual hill climb on Giant's Despair, Wilkes-Barre Mountain.

July 2, Wildwood, N. J.—North Wildwood Automobile Club's roadability run from Philadelphia to Wildwood.

July 4, Wildwood, N. J.—North Wildwood Automobile Club's annual beach races meet on Ocean drive.

August 6, Wildwood, N. J.—North Wildwood Automobile Club's beach race meet on Ocean drive.

September 5, Wildwood, N. J.—North Wildwood Automobile Club's beach race meet on Ocean drive.



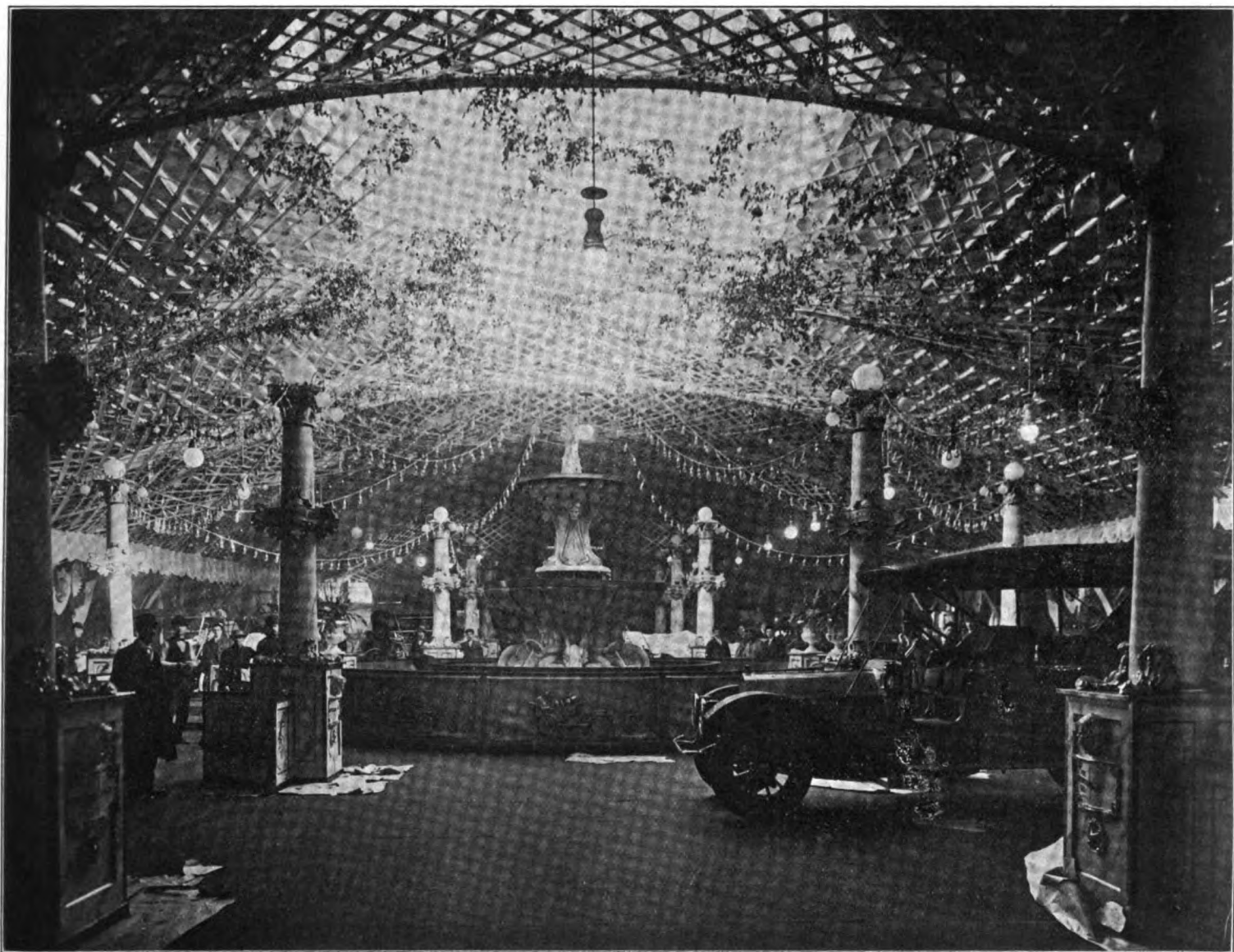
**THIRTEEN NEW CARS AT DETROIT**

**That Number Make First Appearance at Local Show—Representative Array of Ripened Productions Also There.**

In many respects most important of the host of local shows, and the apparent climax of its long series of factory enlargements and company productions, Detroit is fairly bursting with automobile enthus-

iasm, the trade show proposition, which has been revived after an unsuccessful attempt at exploitation last year, has assumed more definite proportions than ever before. The movement for holding a purely industrial exhibition there is being agitated with vigor at the show; Mayor Breitmeyer touched upon the subject in his opening address of welcome, it was the theme discussed at the banquet of the dealers' association, and a later meeting to be held sometime during the week, is to be called

Guarding the grand stairway, are two heroic statues of the motor girl of 1910, who is proudly perched on the hood of a touring car, only the fore part of which protrudes from the wall, while she holds aloft an indefinable something, which, be it fish, flesh or fowl, certainly is decorative in intent and in effect. Two statues of "labor" and two more revealing the dignity of "science" also have places of honor in the setting, while the band stand is guarded by a troupe of fierce looking lions, upholding a golden



PICTURESQUE SETTING OF THE DETROIT SHOW

iasm this week, which is to say that the third annual show of the Detroit Automobile Dealers Association is holding forth in Wayne Pavilion; it opened on Monday, and will close Saturday night. In respect to setting and general arrangement, it is reminiscent of former "D. D. A." shows held in the same building, but in bulk of displays, new exhibitors and expectant atmosphere, it exceeds either of the previous shows held in that seething center of the industry. Because the industrial atmosphere of Detroit is surcharged with automobile enthus-

iasm for the express purpose of considering the question of holding a national show, either in the fall of 1911 or sometime during 1912.

As a spectacle, the properties of last year's show are somewhat in evidence, notably in the huge decorative fountain. The general scheme of decoration, however, is distinctive. Green, ivory and gold are the prevailing color tones, while the roof is covered by an illuminated glass dome. The main entrance is shrouded in a smilax covered lattice, the same decorative vine being liberally used in all parts of the hall.

cord in token of their bondage, perhaps.

Local, only in respect to the names of the exhibitors, the show really assumes the proportions of a manufacturers' exhibition, when the number of local producers represented, and the close relationship existing between some of the manufacturing and sales organizations is considered. Nearly three hundred different cars are on view, products of two score and more of makers. To a considerable extent they are of the low or medium priced contingent, though it is noteworthy that the light commercial

vehicle of the delivery type is more in evidence than ordinarily is the case, either at local or national shows.

Among the better known cars not made in Detroit, which are displayed, are the Stevens-Duryea, Pierce-Arrow, Stoddard-Dayton, Mitchell, Maxwell, Stearns, Pope-Hartford, Overland, Haynes, P-S, Thomas, Reo and Jackson. Of the more prominent domestic products shown by local representatives, are the Chalmers-Detroit, Everitt "30," Ford, Brush runabout, E-M-F., Hupmobile, Herreshoff and Hudson "20."

The "tumbling chassis," which was the feature of the Thomas display at the recent Madison Square Garden show in New York City, continues to rotate in dignified distinction. Palmer-Singer, Winton, and Stoddard-Dayton torpedo bodies and others which were the cause of more or less comment at the two big national shows, still claim distinction by reason of their novel characteristics. Sectioned and moving chassis, many of them brought from New York by way of Philadelphia, rule at a large number of the stands.

Among the newcomers, mostly of Detroit manufacture, and hitherto unexhibited, are a baker's dozen of machines. They are the Dearborn-Detroit, Anhut Six, Watt, Van Dyke, Michigan, Whiting, Patterson "30," Krit, Keystone, Warren-Detroit, Beyster-Detroit, and Templeton Dubrie. The Krit, which is one of several machines new to the show, but which have been in the making for some months, is a 22 horsepower runabout, of neat, light and low construction, embodying such modern and approved features as unit power plant, magneto ignition, two-speed selective gearset and a lubricating system incorporating no small originality.

The Anhut Six, also a new comer, which has had some seasoning before the show, is a graceful attempt to produce a standardized six-cylinder machine at a very low price. Its design is compact and pleasing, and its standing locally is assured from the fact that Detroit's own mayor is interested in its production. The Patterson "30" is a four-cylinder car, with unit power plant and other standard features, which is noteworthy by reason of the fact that all working parts are enclosed and protected from the effects of dust and dirt.

Distinguished in its specification of dual ignition by magneto and battery, but embodying the set spark, the Warren-Detroit, one of the brand new cars of the show, also has several other points of merit. Among them may be mentioned the four cylinder block motor, three-speed selective gearset, and 34 by 3½ inch tires, which is the equipment for the small tonneau style. Outwardly, it is built to clean cut, standard proportions. The Whiting "20," is one of the very low prices cars which have recently come into being. It is distinguished by long, sweeping "aeroplane" mud guards, round fuel tank back of the single runabout seat, semi and full elliptical springs front and

back, and is conspicuous at the show in its all-white finish.

Additions to the commercial contingent include the Michigan steam truck, which embodies a most unusual and compact form of steam engine of the quadruple expansion order, and is claimed to lead the way in point of efficiency when using kerosene for fuel; and no less than three light wagons of the gasolene type. Of these, the Beyster-Detroit is driven by a four-cylinder 22 horsepower motor, has magneto ignition and other up-to-date features, and is shown in the form of a covered delivery wagon. The Van Dyke is a 1,000 pound vehicle, with 12 horsepower opposed motor, friction transmission, and pneumatic tires, which is built to sell for the remarkably low figure of \$750. The Templeton-Dubrie is of 20 horsepower, very pretentious outwardly, with open tray body, covered driver's seat and shapely bonnet over the engine, and rated at 20 horsepower. It has thermo-syphon cooling, axle mounted gearset, and is noteworthy for its very low mounted body and easy spring suspension.

The exhibitors, and the cars displayed are as follows:

Anderson Carriage Co., Detroit electric; Anhut-Robinson Auto Sales Co., Anhut Six; Arant Bros., American Simplex and Chalmers-Detroit; Auto Commercial Co., Grabowski commercial.

Bemb Auto Sales Co., P-S; Beyster-Detroit Motor Car Co., Beyster-Detroit commercial; Brady Auto Co., J. H., Peerless, Pope-Hartford and Hudson "20"; Broadway Auto Co., Haynes; Brush Runabout Co., Bruch; Buick Motor Car Co., Buick.

Cadillac Motor Car Co., Cadillac; Cartercar Co., Cartercar; Cunningham Auto Co., E-M-F. "30", Flanders "20", and Studebaker.

Detroit-Dearborn Auto Co., Dearborn-Detroit; Detroit Motor Sales Co., Keystone, Paige-Detroit and Warren-Detroit; Fee-Bock Electric Co., Woods electric; Flint Wagon Works, Whiting; Ford Motor Co., Ford.

Gillispie Auto Sales Co., Thomas Flyer and Reo; Gilmour & Fear Auto Co., Mitchell and Krit; Harper-Aldrich Co., Demotcar; Herreshoff Motor Co., Herreshoff; Keeler-Hupp Co., Hupmobile; Lozier-Detroit Sales Co., Lozier.

McIntosh Co., J. B., Lambert; Maxwell-Briscoe-McLeod Co., Maxwell; Metz Plan Co., Metz; Michigan Motor Sales Co., Oakland and Welch-Pontiac; Michigan Steam Motor Co., Michigan steam commercial; Montgomery Sales Co., American roadster; Neil-Ketchell Motor Sales Co., Parry and De Tamble.

Neuman Co., W. V. F., Stoddard-Dayton and R. & L. electric.

Olds Motor Works, Oldsmobile; Overland Motor Sales Co., Overland.

Palmer Auto Co., Stearns; Patterson Co., W. A., Patterson "30."

Rapid Vehicle Co., Rapid commercial; Regal Auto Sales Co., Regal.

Schneider, J. P., Pierce-Arrow, Stevens-

Duryea and Baker electric; Schulte Garage Co., P. W., Kisselkar; Security Auto Co., Everitt "30"; Seidler & Miner Auto Co., Jackson and Babcock electric; Standard Auto Co., Packard.

Templeton-Dubrie Auto Co., Templeton-Dubrie commercial.

Van Dyke Construction Co., Van Dyke commercial.

Watt Motor Car Co., Watt; Welch-Detroit Auto Co., Welch-Detroit; Winton Motor Carriage Co., Winton.

#### Outline of the Next Glidden Contest.

Doubts as to whether the Glidden trophy would be retained as an object for annual competition were set at rest the first meeting of the new contest board of the American Automobile Association, which took place in New York on Tuesday, 25th inst., which resulted not only in a decision to retain the trophy instead of returning it to its donor, but in the selection of tentative route for this year's contest, with Cincinnati as the starting point and Chicago the finish.

Instead of the 1910 event being styled the "Annual Reliability Contest of the American Automobile Association for the Glidden and Other Trophies," as the more recent struggles have been called, it is probable that the affair this year will be known as the "National Contest for the Glidden Trophy."

Considerable discussion also was given to a plan by which "Glidden certificates" should be given to those contestants who come through the event with a score of 95 per cent. or better. The idea evidently was regarded with some favor by the board, and there is every likelihood of its being incorporated in whatever system of awards ultimately is decided upon.

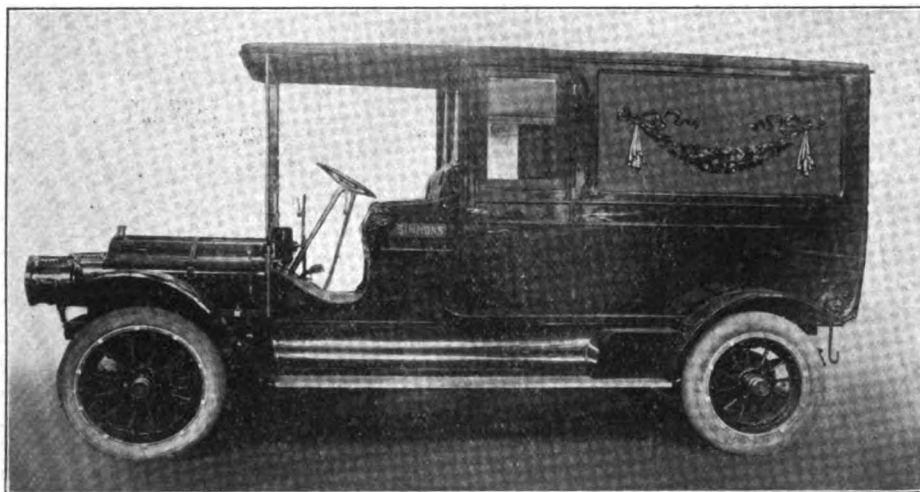
As at present outlined, the tour is to start in July, and the route through the Southwest and West, which has been selected, is as follows: Starting from Cincinnati, through Louisville, Nashville, Memphis, Little Rock, Dallas, Oklahoma, Wichita, Topeka, St. Joseph, Des Moines, Cedar Rapids, Davenport and ending at Chicago. The distance that this represents is about 2,300 miles, and it is possible that the tour may be shortened in accordance with modifications that will be suggested after the scout cars have gone over the territory.

The meeting of the board was presided over by S. M. Butler, the new chairman, and the others to attend included: Alfred Reeves, general manager of the Association of Licensed Automobile Manufacturers; E. Rand Hollander, of the Importers' Automobile Salon; Joseph H. Wood, president of the Associated Automobile Clubs of New Jersey, and L. R. Speare, of Boston, president of the A. A. A. In addition to the matter of the contest, the board took up a number of other questions before it, including the plan for the appointment of paid expert examiners in the various racing districts which are to be created.

**QUAKERS' SECOND INSTALLMENT**

**First Week's Exhibitors Move Out and "Left-overs" Move in—Who They are and What They Showed.**

With a larger and more varied list of exhibits, the second and last installment of the Philadelphia Automobile Trade Association's two weeks show in Third Regiment Armory was uncovered on Monday afternoon of this week, and the crowds which thronged the hall exceeded those of the first day of the previous week, which may be taken as a possible indication that there was more of general interest to be seen at the



UNDERTAKERS WAGON EXHIBITED AT PHILADELPHIA

last half of the exhibition. Despite the inclement weather during the latter part of the first week, the attendance continued strong, and all the exhibitors expressed themselves well satisfied with the results. Immediately after 11 o'clock on Saturday night the show was transformed into one grand scene of hubbub and confusion, the returning exhibitors starting to remove their displays, while the incoming contingent impatiently awaited the necessary signal to move in.

By working all night Saturday and Sunday the transfer was accomplished, and with few exceptions all of the exhibits were complete on Monday. For the first time commercial vehicles were shown at a Quaker exhibition, and they made an impressive display. There were all sizes from the small delivery wagon to a ten-ton truck, with a wide range of body styles, while the Crane & Breed undertaker's wagon was one that was out of the usual order.

Several of those firms that exhibited at the Armory the previous week held private shows at their salesrooms this week, as did others who were unable to secure space for either week. The list of exhibitors follows:

**Pleasure Cars**—North Philadelphia Automobile Station, Knox; B. C. K. Motor Car

Co., Kline; Motor Supplies Co., Empire; Imperial Automobile Co., Imperial; The Autocar Co., Autocar; Springfield Motor Car Co., Springfield; Haynes Automobile Co., Haynes; E-M-F and Flanders Agency; Studebaker Brothers Co., Studebaker; Otto Gas Engine Co., Otto; Collings Carriage Co., Rainier and Waverley; J. C. Bartlett, Woods; J. C. Parker & Son, Detroit; Westinghouse Electric and Manufacturing Co.

**Commercial Vehicles**—The Autocar Co., Commercial Truck Co., Mack Brothers Motor Car Co., Martin Carriage Co., Studebaker Brothers Co., Packard Motor Car Co., General Vehicle Co. and Collings Carriage Co.

**Motorcycles**—C. V. Stahl Motor Works, C. V. C.; Stoddard-Dayton Automobile Co.,

**KANSAS CITY SHOW BIG SUCCESS**

**Representative Display and Large Crowds Reward "Insurgent" Dealers' Effort—New Vehicles in Evidence.**

Inaugurating the local show season for 1910 the first of the Kansas City (Mo.) motor car exhibitions under the auspices of the Motor Car Trade Association of Kansas City was opened in Convention Hall, the city's largest building, on the 17th and "played" to crowded houses daily, the "engagement" terminating on the 22d. In number of exhibitors, decorative effects and attendance, this first effort of the youthful and "insurgent" organization surpassed all previous local shows. The striking feature of the decorations on which the sum of \$5,000 was expended, was the Japanese tea garden, of double deck construction, at the far end of the hall. It was illuminated with hundreds of electric lamps and shrouded with posies.

The main color scheme was blue and purple, while the roof was concealed by a canopy of blue and white. Around the walls was a huge panel containing 25 reproductions of western prairies scenes most of which were the work of the late Frederic Remington. Large arc lights furnished the initial illumination on the main floor, supplemented by hundreds of incandescent bulbs. The center space of the main floor was divided by a green hedge and a wide walk encircled the whole section. In the arcade where the commercial vehicles held forth the principal decorations were blue and white bunting, which was strung to the roof and descended to the opposite side of the hall.

Including all types of vehicles there were some 49 different makes, representing a total of 175 cars. The main floor was given over exclusively to pleasure cars, while the overflow from this division was located in the arena, where also some of the commercial cars were placed; others of these found space in an enclosed section near the entrance while the accessory men held forth in the balcony. Of course there were the usual late comers on the opening night, most of whom were held up by transportation delay, but on the second day the belated exhibits had arrived and the show was complete. Many of the exhibits included a polished chassis, while a few others showed sectioned engines and other parts for the education of the visitors and those always had their quota of interested spectators. And, too, there was a brave display of trophies won in local contests during the past year, which proved strong attractions at the booths of their owners.

Of the cars on exhibition, two, the Cino and Parry, made their debut at a show. The first mentioned, which takes its name from a combination of the names of the city and

New Era, and George W. Reinbold, Yale.

**Accessories**—Charles E. Miller, supplies and accessories; John A. Salman, name plates and monograms; Ernest Flentje, shock absorbers; Paul & Herst, supplies and accessories; Hydraulic Oil Storage Co., storage systems; Rose Manufacturing Co., Red Star Oil Co., Penn Auto Supply Co., Home Tire Co., Consolidated Rubber Tire Co., Howard Demountable Rim Co., James L. Gibney & Bro., Auto Equipment Co., Britson Manufacturing Co., J. H. McCullough & Son, Lyon Non-Skid Co., Puritan Soap Co., George W. Nock Co., Auto Light and Motor Supplies Co., William Sanford Co., Keystone Lubricating Co., Philadelphia Storage Battery Co. and Perfection Wrench Co.

**Automobile Line for Honduras.**

According to the report of the Belgian Minister at Honduras, Central America, the Honduran government is building a 75 miles macadam road from San Lorenzo (on the Pacific) to Fegucigelpa, and intends to establish a regular automobile transportation of passengers and freight on this road. This would seem a promising field for some energetic American manufacturer to investigate, although results are likely to be slow in forthcoming.

## WASHINGTON'S REVIVED SHOW

**It Proves More Attractive Than in Its Predecessors—Two Near-Native Cars Add Interest.**

state in which it is made—Cincinnati, Ohio—is built by an old carriage concern, Haberer & Co., and follows conventional lines, employing a four cylinder 40 horsepower motor with valves in the head, multiple disc clutch, selective transmission and enclosed shaft drive. The frame is upswept in the rear and carries three-quarter elliptic springs, while semi-elliptics are used in front. Axles both are of Timken make, the front being of I-beam pattern and the rear of pressed semi-floating construction. Wheels are 34x4 all around, and the wheel base of 112 inches.

Hailing from Indianapolis, the Parry is the product of the old carriage firm of that name. It also is an exponent of the valve in the head motor of the four cylinder type, and which is mounted on a sub-frame, which is welded to the main frame. Final drive is through an enclosed shaft. Springs are semi-elliptic front and full elliptic rear.

Two new commercial vehicles also made their appearance, one the product of the Avery Farm & City Tractor, the other the product of the H. E. Wilcox Motor Car Co., of Minneapolis.

Beginning with the opening night when the building was crowded to capacity from the time the doors were opened until the lights went out, the attendance held strong throughout the show and all previous local records for attendance were broken. This accomplishment largely was due to the excellent weather which prevailed throughout the exhibition. Following were the cars exhibited and the firms showing accessories:

## Gasolene Cars.

Apperson	Oakland
Badger	Ohio
Buick	Oldsmobile
Cadillac	Packard
Chalmers-Detroit	Parry
Cino	Paterson
Columbus-Firestone	Peerless
Corbin	Pierce
Courier	Regal
Crawford	Reo
Fiat	Royal Tourist
Ford	Staver
Hudson	Stevens-Duryea
Hupmobile	Stoddard-Dayton
Inter-State	Studebaker-Garford
Marmon	Studebaker-E-M-F
Maxwell	Studebaker-Flanders
Mitchell	Thomas
Moon	Velie
Mora	Welch

## Electrics.

Babcock	Rauch & Lang
Broc	Studebaker
Columbus	Waverly
Detroit	Woods
Fritchie	

## Commercial Trucks.

Avery	Rapid
Chase	Reliance
Frayer-Miller	Studebaker
Packard	Wilcox
Granm-Logan	

## Accessories.

Pioneer Auto Top Co., Holcker-Elberg Mfg. Co., Kansas City Vehicle Co., Fidelity Oil Co., Moriarty Auto Supply Co., Sireno Horn Co., Uncle Sam Oil Co., and the Columbian Steel Tank Co.

Electric Vehicles—Motor Sales Co., R. & L.; Wilson Co., Woods; Pope Automobile Co., Waverley; Cook & Stoddard Co., Baker; Washington Motor Vehicle Co., delivery wagons, and Commercial Auto and Supply Co., Studebaker.

Accessories—Miller Bros., supplies; National Electrical Supply Co., accessories and supplies; Baltimore Buggy Top Co., tops and curtains; Standard Oil Co., lubricants; Wayne Oil Tank & Pump Co., tanks and pumps; Electric Speedometer & Dynamometer Co., speedometers; R. Milton Norris, tops and accessories, and Patuxent Lumber Co., portable garages.

## Oakland Show Exceeds Expectations.

For their maiden effort the Oakland (Cal.) Automobile Trade Association's first annual show, which was held in Piedmont Pavilion, from the 16th to the 23rd inst., surpassed expectations and proved one of the most successful motor car exhibitions ever held on the coast. While in former years Oakland has had what were termed automobile shows, they were combined with some festival or similar function which partly detracted from their glory, so that this was the first year that the show was held as a separate function.

There were some 55 different makes shown, comprising a total of over 200 machines. Coming at a more opportune time when many more of the 1910 models were ready, the Oakland exhibition embraced about 33 cars which were not shown at the San Francisco exhibition last October, during the Portola celebration. Following is a list of those who exhibited:

Gasolene Pleasure Cars—W. L. Loos & Co., Stoddard-Dayton and Reo; Pullman Automobile Co., Pullman; Hugo Muller Auto Co., Moline and Premier; Auburn Automobile Agency, Auburn; Maxwell Auto Agency, Maxwell; Reliance Auto Co., Knox; Palmer-Singer Auto Co., Palmer and Singer; Locomobile Co. of America, Locomobile; Jones Automobile Co., Regal; Studebaker Brothers Co., Garford, E-M-F and Flanders; Elmore Auto Agency, Elmore; Western Electric Vehicle Co., Kisselkar; Haynes Auto Sales Co., Haynes; Tallman & Stephenson, Overland and Sunset; H. O. Harrison Co., Peerless, Selden and Everitt; Rambler Auto Agency, Rambler; Oldsmobile Agency, Oldsmobile; Buick Agency, Buick; Pacific Motor Car Co., Stevens-Duryea; S. G. Chapman, Oakland and Hupmobile; Consolidated Motor Car Co., Pope-Hartford; Pioneer Automobile Co., Thomas Flyer, Chalmers-Detroit, Hudson and Randolph; Cartercar Agency, Cartercar; White Co., White, steam and gasolene; John J. Bunting, Jr., Franklin, and Corbin Auto Agency, Corbin.

Electric Vehicles—Studebaker Brothers Co., Studebaker; Western Electric Vehicle Co., Detroit and Waverley; McDougal Mfg. Co., R. & L.; Bay Cities Electric Co., Columbus; Pacific Motor Car Co., Woods, and Pioneer Automobile Co., Babcock.



## FURTHERANCE OF THE COMMERCIAL VEHICLE

### Importance of Trained Men and Proper Maintenance To Its Complete Success—How Such Men May Be Trained and Their Usefulness Demonstrated—Selling Campaigns As They Have Been and Should Be Conducted.

Much has been written and said on the subject of the commercial vehicle, I know, and the fact that many of our leading automobile manufacturers today are engaged with no uncertain success in supplying the at present limited demand for this class of vehicle, is an indication of future possibilities. But it nevertheless remains a fact that we are producing nearly 18 pleasure vehicles today to one commercial, and this, in view of two already established facts: a great world's commerce increasing in normal times faster than the facilities for handling it; and the closer drawn competition in the pleasure vehicle of all classes, already pointing directly to the future "firing line," where only the fittest will survive.

To sum up so far: Is not the industry at a point in its history where some disastrous consequences can be expected in certain quarters unless a balance can be struck to put it on an even keel by providing further outlets for the almost frenzied energy of production that we are witnessing? And right here it seems to me looms up the commercial problem, large and strong.

"Why problem?" will be asked. I do not know that there is any problem connected with this subject, but there are certainly some new factors to be reckoned with by comparison: Technical differences of construction for one thing, which can be discussed later, as I want to move quickly to my main subject.

The selling forces of all the great producers today are arrayed chiefly for pleasure vehicles. While the supply of ammunition is getting pretty short in some localities, and the stock arguments are becoming a little seedy in spots from being trotted out very frequently—the individuals are all there, basing their hopes and working their claims on one known definite factor, the love of the average American of means for pure, wholesome, outdoor enjoyment, recreative and health-bringing, coupled with a desire for making "short-cuts" in life—energy and time-saving, personal transportation. It is a good thing for the industry that this factor has not been judged incorrectly so far. Where pleasure is involved price is not the first consideration. Many a man today capitalizes pleasure in no uncertain terms. "So and so bought a car of certain make two years ago," we hear. He had lots of trouble at times with it (due more to his own ignorance than any fault of the maker) and the expense has been just so many dollars more than he thought it would be.

But, "look at the pleasure we have had out of it—the good health, etc." This is familiar to us all. Here is capitalization of pleasure as a financial offset. It goes, and furthermore it repeats itself and will continue to repeat itself forever.

But let us throw a new slide on the screen. A big business corporation, its officers counting with exactitude every cent incoming and outgoing, guided by clear cold mathematics in every move they make, were induced two years ago to discard a portion of their horse-drawn teams, without which their business would come to a standstill just as certainly as if the trunk lines refused to haul their freight. They were induced by some commercial vehicle salesman to substitute a motor truck on the arguments deduced from a hastily prepared mathematical program. The figures looked good, and the salesman talked better. They could "easily operate as they were operating." The use of the self-propelled vehicle would require little or no change in their traffic arrangements. It would slide into a fit in their existing system so easily that it would never be noticed, except in the saving of so many men's work at so much per day, and the feed and care of so many horses on a like basis.

But at the end of a year they had had some trouble with the innovation, and trouble spelled expense that was overlooked at the start, and the clever young mathematical sharp in their accounting force to whom had been assigned the particular business of keeping tab on that particular experiment, brought in a report with ever so slight a balance on the wrong side! Will that corporation capitalize pleasure at being the proud possessor of a motor-driven truck, or even some advertising gained by having its name paraded through crowded streets on a self-propelled vehicle? It is to be guessed not. Real live business managers are after dividends, and what doesn't produce dividends—well, must be lopped off or cut out.

I expect to hear someone say, "writing this article you have in mind some exaggerated or unfortunate case." Not so. I am merely presenting what I know and believe can easily become and is in some cases to my definite knowledge the normal result of exploiting the commercial vehicle—if some very clear understanding of the differentiation to be employed in the sale of the commercial vehicle as against the pleasure vehicle, is ignored.

Having previously dismissed technical differences in this article we might as well consider a very apparent phase of the sale of the commercial. Let us first approach the suppositionary case above described along new lines of attack and selling method. To begin with we will assume that in this age it is a fairly easy task to get the "lead," for if "a better mouse-trap" will lead the world in "a beaten track to your door even though you are in the wilderness," so will any idea that will advance dividend-producing conditions even one notch, be received in almost all business quarters with consideration. Suppose Mr. Commercial Vehicle Salesman had prefaced his reply to the inevitable first query of cost and maintenance with the proposition that this prospective business customer try first to look at urban transportation in a systematic light, much as it departmentizes and systematizes other phases of its corporate organization. He would begin by sizing up the total amount of traffic and the complete change from horses to motors. Then he would and could frankly say that success for the undertaking would lie not in substituting so many cars for so many horses and their drivers, but in the economical and efficient operation of a "traffic department," or "freight operating department," or whatever it might be designated. He would not hesitate to ask this corporate customer to create such department with an efficient, well trained man of proven mechanical ability and integrity at its head as superintendent, with a salary commensurate with the position—and manifestly not computed on the basis of the wage scale of shipping clerks, teamsters and the like.

Asked where such a man could be found the salesman would be ready to state that his company had a "school" of men for that purpose. That this "school" was not located in the top floor of some city office building, nor did its curriculum consist of some "correspondence" nonsense, but that its headquarters was at the factory where the vehicles under discussion were built. That these men were first "picked," and then trained as extra help at the factory, and after a certain period of proven ability were optionally "sold" with the cars as competent. The salesman went on to suggest full scope of a reasonable amount of executive capacity and autonomy in the new appointee. Offered with the man a "system of operation," first formulated and tried out at the factory and which could not fail to

make good if practiced, said "system" to involve at once the establishment of garage and shop facilities adequate to the purchase contemplated, which garage and shop facilities would include machine tools and power carefully designed by the manufacturers in a detailed plan to insure proper repair and maintenance under the supervision of the aforesaid superintendent of motive power. He then proved on paper by the same mathematical process that condemned the motor truck in the first instance that all of the above was first, necessary, and second, not prohibitive in cost of initial outlay. That it would, roughly speaking, be so proportionated by its authors that it would never exceed in first cost the price of one extra vehicle of the class considered—exclusive of rent and real estate charges, which have to be borne anyway, horses or motors. Shown in this plan was every detail of the system—the hiring of the drivers—where and how they can be educated and recruited. Showed that although the salaries paid, including the superintendent's, make an unfavorable array at first glance, the grand total is not so much more owing to the total reduced number of employees required to handle the traffic under the new conditions. Showed how tremendous the gain was in fuel and lubrication for the motors over feed and shoeing for the horses, and that everything was in the balance of favor for the motor-driven, except, that one great hoodoo, the mechanical repair. And then, in summing up, he showed in detail just how the factory management would educate the buyer up to the handling of this problem in much the same way that a well-organized railroad company handles its mechanical and operating departments.

After this deliberate exposition is it to be supposed that any responsibility for failure to save costs or improve the transit facilities will fall on the manufacturer? But even here this scheme or system does not release its grasp on that particular customer's wants and needs. The manufacturer will continue to send at stated intervals, say once a month, the same well-trained salesman or other qualified representative to the customer's traffic department in an advisory capacity, to impart new information, see that the system is adhered to, locate defects and leaks, in short do anything and everything to better or maintain a high standard of service.

Coupling this with what every car builder knows he ought to perform under his relation as seller, i. e., give prompt and efficient supply of parts for renewal at fair prices and not at robber rates, would not the newly created "traffic department" yield a successful return in a reasonable period? Can there be much doubt on this point, after recalling the loose, slipshod, unsystematic method not a few of the earlier purchasers of commercial vehicles were wont to employ, chief of which was the housing of their business vehicles in garages and under garage systems designed for

pleasure vehicles, and which even in this year of the industry are so defective from many points of view as to be a fruitful source of discussion among automobile clubs and motorists generally.

Right now an objection in many minds who have studied this situation carefully will present itself against this plan. "It is nice in theory—it is sound and based on sound business principles, but it is laid out in embryo for only large surplus capital to employ!" "How about the 'littler' business, corporate or individual, to whom the investment in a single motor-driven vehicle is a matter of supreme financial effort?" This is another phase of the case, one that is a corollary to the manufacture and sale of the multitude of low priced pleasure cars, and their purchase by an almost unlimited number of persons of moderate means.

It is not the intention of this article to evade it, even though it can be dismissed without elaboration of detail. There are certainly fixed limits to all our efforts along any line, mechanical or otherwise. It can safely be said that there will be a certain fairly definite financial limit to the universal substitution of motor vehicles for horse-drawn in business fields anyway. But of this I am positively certain—that the application of some such system as I have outlined can be made in carefully proportioned and regulated detail to apply just as efficiently and economically to the "corner grocery class" as to the larger business interests, which have perhaps, no greater need for the inevitable change, but who of course have the financial strength to compass it immediately.

The time is surely coming in this country, where unless our present liquid fuel supply fails us, the horse will be more and more relegated to the background of antiquity, and when a horse-drawn vehicle employed in commercial activity will be an anomaly. But I have witnessed already a number of commercial vehicle failures, not viewed so much in the sense of the manufacturer, as from the experience of the user, and based as near as I could judge from an inadequate conception on the part of the buyer of not so much the change of the vehicle itself, but of the change of methods injected thereby in a well-grooved business. It is always a risky thing to attempt to change business methods that are fairly successful, and it is probably the most delicate subject in the world to broach to any fairly successful business man. Knowingly or unknowingly no business man likes to be told that his methods are wrong, or that the injection of a little "system" will help increase his business or success, even though he may be squarely on the lookout for new ideas.

This is a part of the commercial vehicle salesman's work and in how he encounters it and overcomes it will rest largely the success and speed with which we retire the horse from the business world.

The greatest argument the salesman has to overcome in any line is high price. The only way to overcome high price or first costs in the commercial vehicle field is to take into consideration first, not quality or quantity by comparison with other makes, but the change of system the new vehicle will bring about, and how this change will compare in cost and advantage with the existing horse-drawn methods and then the usual comparison of quality and quantity of make vs. make. A motor vehicle at \$300 might be dear or cheap to some business houses. The \$300 does not tell; neither does the vehicle in the first analysis. The system of operation tells and then in the final analysis the vehicle itself.

It has taken ten years of the industry to really bring the commercial vehicle up to a point of efficiency corresponding to that reached by the pleasure vehicles at least five years ago, but from now on we have nothing to fear on this score, as anyone can attest who has witnessed the way the motor trucks in our cities have behaved while hauling their loads through the sleet, snow and ice brought by the recent storms of the winter season.

Just as the freight traffic of today yields the major part of the profits of the railroads, as surely will the urban freight traffic of the future pay in no uncertain measure an ever increasing dividend to automobile manufacture, ownership and operation.

WINTHROP WAITE.

#### New Steam Truck from Michigan.

Considerable ingenuity is claimed for the latest product of the Michigan Steam Motor Co., Pontiac, Mich., which is a steam engine of the quadruple expansion type, and built to develop a large amount of power, relatively speaking, from a very small bulk of plant. The 20 horsepower size, which, as produced for automobile truck use, is claimed to be capable of withstanding a 100 per cent. overload when running at 900 revolutions per minute, is described as "non-centering, without fly wheel," and as consisting of "two nests of four cylinders each, placed at right angles to each other."

"These nests are made up of a high pressure and first intermediate cylinders controlled by high pressure, hollow piston ringed valve, and a second intermediate and low pressure cylinders, controlled by hollow piston ringed valve. All four pistons of each nest operate by way of two stems on one cross head. These by way of a single connecting rod to the driving part of shaft, to which is attached a balance weight." While designed for general power purposes where small units are desired, they are also being installed in a truck produced by the Michigan Co. Under test, the engine is said to consume  $3\frac{1}{2}$  gallons of kerosene oil and 16 gallons of water "to deliver a uniform power of 50 horse for one constant hour; actually delivering 26 $\frac{3}{4}$  per cent. of the heat units in horsepower directly at the driving shaft of the engine."

## HOW PRODUCTION HAS INCREASED

Licensed Association Supplies Figures and a Chart Showing Growth—Last Year's Increase 130 Per Cent.

Because of the opening of the books which was made necessary in the case of all the companies now licensed under the Selden patent, the total production figures of these concerns for the past seven years has

"It must be remembered," the compilers assert, "that the 94,891 cars indicated are authentic beyond all dispute, while the 20,000 estimated as the production of the outsiders and beginners is considered conservative."

More forcible even than the mere statement of the figures as showing the immense increase in production by the licensees which took place in 1909, is the graphic chart which is given herewith and which by means of the heavy black line reveals

13,724. An increase of 51 per cent. took place in 1905, the output being 20,787. In 1906 it was 29,320 cars, representing a 41 per cent. increase, while 1907 showed 34,568 cars, an increase of 18 per cent. over the previous year. The production in 1908 was 40,379, an increase of 17 per cent., the record concluding with the 130 per cent. increase in 1909, with its 94,891 cars, making a total of 244,245 cars produced by the present licensed manufacturers in the seven years.

That the issuance of the figures is less for the purpose of the self-glorification of the A. L. A. M. than to give pause to the manufacturers is indicated by the comment on the statistics.

"The figures indicate very clearly," it is observed, "that production has reached a point that warrants at least a careful look into the future by the makers. There is nothing on the business horizon now to indicate that the present year will be anything but a prosperous one for the motor car builders, yet the figures shown on the chart, prepared and issued by the Association of Licensed Automobile Manufacturers, are deemed worthy of the deepest thought."

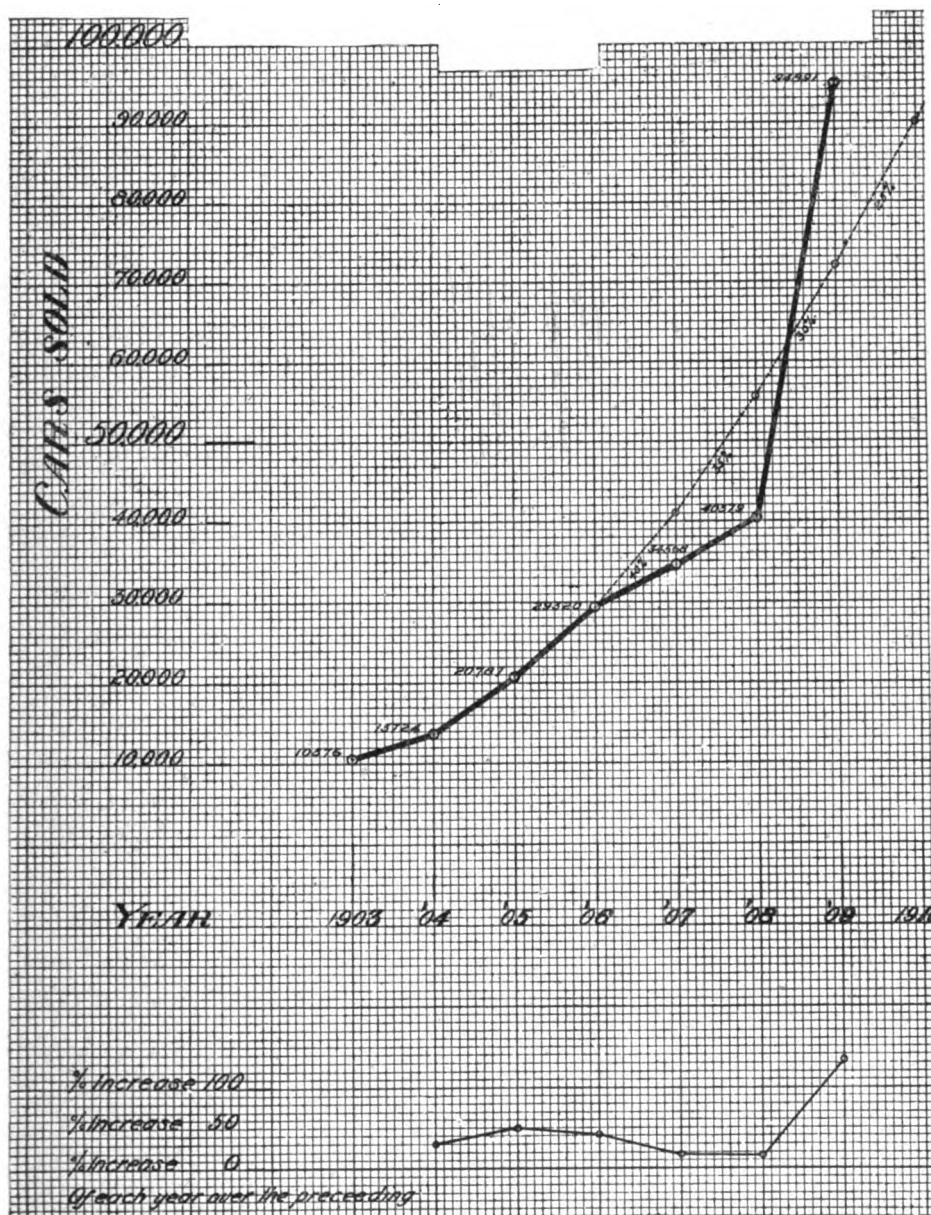
### The Way of Taxicab Drivers.

Public motor cab companies which are alarmed at the rapid depreciation of rolling stock during snowy weather, perhaps might find it advantageous to make close observation of the methods of some of their drivers and frame their restrictions accordingly. Following a recent snow storm, a little red cab was observed buzzing away furiously in the middle of a snow pile on a side street in New York City. After watching the driver sawing away frantically from reverse to forward speeds, while an obliging postman repeatedly fed under the spinning wheels a shred of torn carpet taken from the interior of the cab, a bystander ventured to suggest that possibly a shovelful of ashes from a neighboring can might be helpful. To which the cabby replied with scorn:

"Hell! If we wanted to waste time looking for cans we could shovel ashes all day."

### New Use for the Glass Hood.

In order to give a public demonstration of the operation of the engine and its new cooling system, George E. Messer, manager of the H. H. Franklin Mfg. Co.'s Syracuse (N. Y.) branch, is driving about the streets of that city with a Franklin car fitted with a hood made of glass, instead of metal, an idea which hitherto has been confined to exhibition halls. The interior of the hood is illuminated by means of a series of electric lights, and when standing in the city streets, especially during the evening, the car always is surrounded by a crowd of curious spectators. The engine on such occasions is allowed to run while the car is stopped, so the crowd get a visual demonstration of the operation of the air cooled motor.



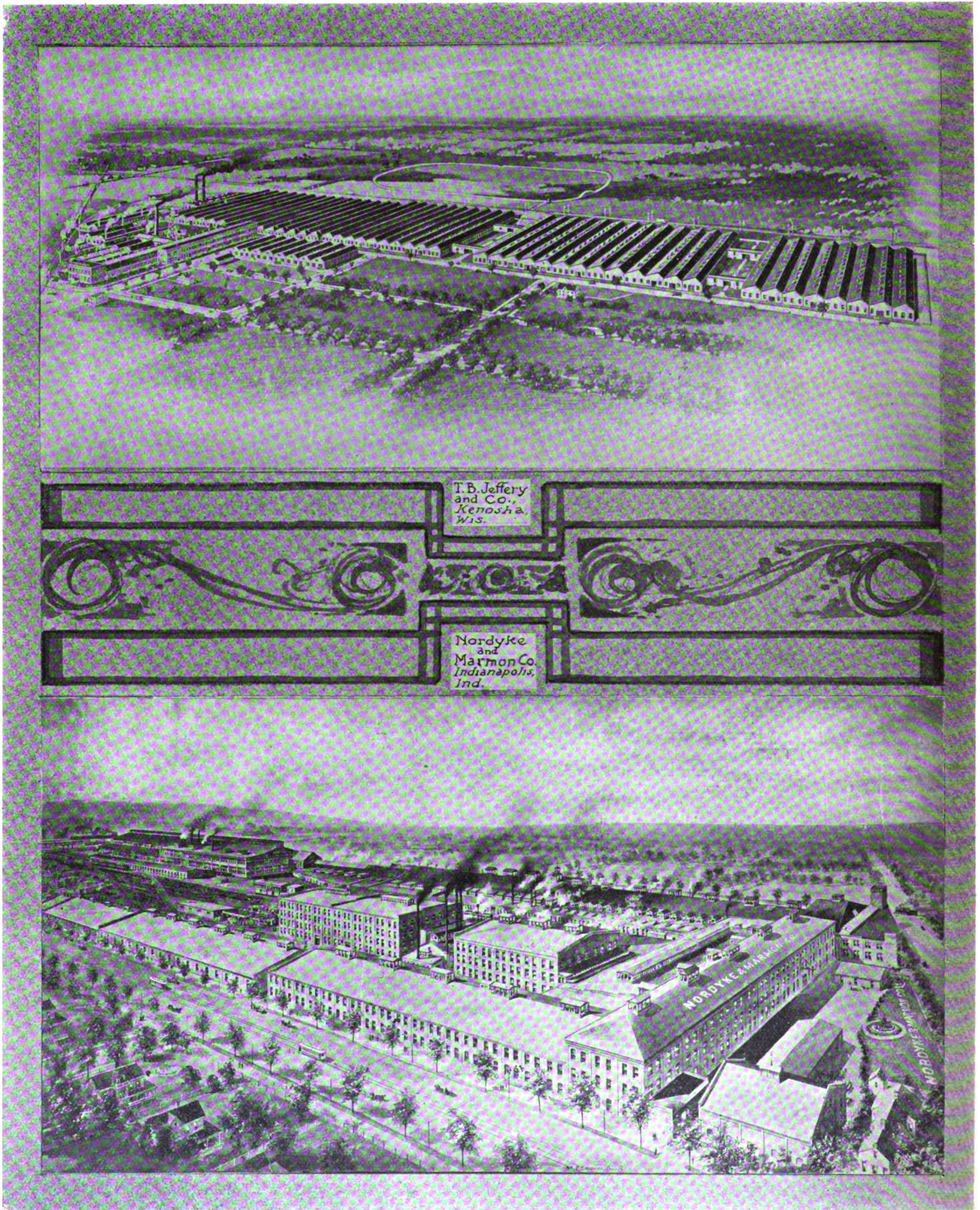
A. L. A. M. CHART SHOWING INCREASE OF PRODUCTION

been made available, and a computation just prepared by the Association of Licensed Automobile Manufacturers discloses that during 1909 the output of the present Selden licensees alone reached the enormous figure of 94,891 cars. The compilers have added 20,000 cars as the product of the unlicensed companies, making a total production of 115,000 cars, in round numbers, for the past year.

the rise in a manner which strikes the eye. The jump which is shown in the past year represents an increase of 130 per cent. over 1908.

The chart, which applies only to the production of the present licensed makers, is made up from the actual records and is in no sense an estimate. In 1903 the production of these makers was 10,750 cars, and in 1904 there was a 30 per cent. increase to





Representative American Automobile Factories.



**MOTOR TRUCKS FOR SNOW REMOVAL**

**One of Them Gives Practical Illustration of Superiority Over Horse Drawn Vehicles—Work It Performed.**

The work of removing the last fall of snow from the streets of New York furnished a striking example of the efficiency and earning capacity of the modern motor truck, as compared with the horse-drawn vehicle. In order to expediate his task, William N. Edwards, commissioner of street cleaning, secured the services of a White three-ton gasoline truck and put it to work side by side with the horse drawn wagons so that the comparison between the two

Again, all of the teams traveled in a beaten track. If one team was delayed, all those behind it were halted. The motor truck, under such conditions, would simply pull through the drifts at the side of the road and pass around the stalled teams. Furthermore, the efficiency of a two-horse truck gradually diminished as the day advanced, while that of the motor truck was unchanged. If it had been desired, the White truck would have been kept in service for 24 hours a day employing another chauffeur, while the hours of service of the horses were necessarily limited.

**Diamonds Used in Motor Car Manufacture.**

That diamonds are used in the making of automobiles is a fact known to but few of those familiar with the finished machines.

**REACHING THE CAR OWNERS DIRECT**

**"Consumers' Corps" as Used in the Co-operative Selling Arrangement of Five Makers—Results Obtained.**

An actual try-out having been given the unique selling campaign instituted by the United Manufacturers, Inc., for the purpose of reaching retail buyers, the originators of the plan are prepared to pronounce it an entire success, the results obtained from the traveling "consumers' corps" being of a kind to prove a surprise even to those responsible for the idea as applied to motor car accessories. The first test of the plan was made in New England, in such towns



THE WHITE TRUCK EN ROUTE TO AND AT THE DUMPING DOCK

might be based on similar conditions of service.

The official figures of the Street Cleaning Department show that the White truck did at least four times the work of the ordinary two-horse truck. First of all, the motor truck carried 10 cubic yards of snow as compared with 5 cubic yards carried by the ordinary contractor's wagon—such as a brick cart. The motor truck was loaded at Union Square, made the trip to the dock at the foot of East Eighteenth street, was unloaded, and returned to Union Square in an average of 40 minutes, while the best recorded time for a two-horse truck was 1 hour and 20 minutes. The rate paid by the city was 36 cents a cubic yard, so that the White truck earned \$7.20 while the best of its horse-drawn competitors was earning \$1.80.

If the average performance of the two-horse truck was considered, the comparison in favor of the motor truck was even better. At frequent intervals, horses would fall down and it was a matter of no small time and labor to get them on their feet again.

Nevertheless several hundred dollars' worth of diamonds is included in the material periodically bought by the purchasing department of the H. H. Franklin Mfg. Co., in the making of the Franklin cars. The average person who knows that jewels of various degrees of hardness are used for the more important bearings in watches, might be led to infer that they fulfill the same purpose in Franklin motor cars. The Franklin publicity man makes haste to explain, however, that they are used for the truing of emery wheels. The diamonds are large, but they are of an inferior quality, being known as bort diamonds. A large number which the Franklin company recently ordered were imported from Asia. They have a faint sparkle, although they are uncut. A radiating crystallization destroys the value of these diamonds as ornaments, because they will not take a polish, but it fits them particularly for cutting and grinding work, as they will not crumble. They are harder than emery and will cut it, but are slowly worn away in the process of truing the wheels.

as New Haven, Hartford, and Springfield, and according to John E. Bruce, the sales manager, the returns considerably exceeded the most optimistic expectations.

As was fully explained at the time of its organization, the United Manufacturers, Inc., is a combination of the selling departments of five automobile accessory manufacturers, including the Jones Speedometer, C. A. Mezger, Inc., the New York & New Jersey Lubricant Co., the Weed Chain Tire Grip Co., all of New York City, and the Connecticut Telephone & Electric Co., of Meriden, Conn. These co-operatively share in the expenses and the benefits of the selling campaign which the United Manufacturers conducts for them all alike.

By far the most radical feature of the co-operative arrangement which is involved is the putting out of a "consumers' corps," the function of which is to "cash in" on the newspaper advertising which is done in each town on their route, supplementary to the \$60,000 which is to be spent during the year in the automobile papers and the magazines and a like sum for catalogs and other spe-

cial sales literature. In an interview explaining the workings of the corps, Bruce goes very fully into the means and methods which the United Manufacturers is employing. He says:

"These consumers' corps are something new, I believe. There will be three of them: one to operate along the Atlantic Coast, one to cover the territory from Chicago to the Gulf, and a third to work in the Coast cities. Each corps is made up of ten hustling men and a manager. Only consumers' corps No. 1 is as yet doing actual field work.

"To show you just how a corps goes to work: The men go into a town to remain a week. They call upon every dealer and all the automobile owners, explaining the line handled by the United Manufacturers. They go after business hard—we don't keep a lazy or a dull man long. As soon as they strike a city, they arrange for a show of our goods at the rooms of a leading automobile dealer. The automobile owners are urged to inspect it, and it is made very plain to all of them, as well as to the dealers, that the goods are to be sold by every reputable dealer. Indeed, each automobile owner is asked the name of his dealer, and that dealer, if he is square and not a price-cutter, is henceforth one of the units in our marketing machinery. Every other day a full page advertisement is taken in the best of the local dailies, talking about our line. You see that while a consumers' corps is in a town and stirring up interest, this advertising makes possible an immediate cashing in. The corps and the advertising run alongside and are planned to be of equal aid in creating local buying. When a corps moves on, so does the newspaper advertising. Within a year we expect to cover the larger part of the country, certainly all of the important towns, in this manner.

"From the time our advertising begins to create interest, the consumer will be figuratively escorted to the shop of his dealer and there will be made to understand that the dealer is with us because we insist upon giving a square deal to himself and to the consumer. Each dealer will be provided with a large lettered sign, in black and orange, to be hung in the front of his store. This sign is identical in shape and design with that we are printing in all our advertising.

"In New Haven, where we spent one week, we turned over to the dealers 565 separate orders from consumers for our lubricants alone. The consumers' corps is not a theory, it's a mighty successful fact. Naturally, the expense would be impossible to any one manufacturer, but division by five is the pleasantest sum I have to do.

"By the time one of these consumers' corps has gone through a town every dealer and every owner has come to realize three points that are all important in our campaign: First, that we try to reduce the cost of our product to the consumer; second, that we protect the honest dealer in every way

possible; third, that we are enemies of the shoddy dealer and the price-cutter. Our advertising will urge that prices must be maintained if quality is to be assured."

#### New Firestone Sidewire Flange Tire.

After almost three years of more or less private trial on dozens of motor trucks, a new commercial vehicle tire is being offered publicly for the first time by the Firestone Tire & Rubber Co., of Akron, O. It is



known as the Firestone side-wire flange tire, and although it resembles the regular side-wire tire it is distinguished by the addition of the flange attachment for fastening to the wheel, in the manner indicated by the accompanying illustration. A further point of difference lies in the fact that the side wires, instead of being round, are four-sided, and they are vulcanized in the tire instead of being applied to it on the wheel. One compound of regular Firestone rubber stock is used throughout, with a view to providing a maximum of resiliency and long wear.

#### Compound Pump with Advanced Features.

When "compound" tire pumps first began to make their appearance among the automobile accessory offerings they presented the possibility of obtaining so high



a pressure at such a small expenditure of effort that they seemed almost to cheat the laws of physics, but the contrast they presented with single acting pumps has since been matched in a degree by the improved forms of compound pumps over the earlier types. The most advanced form to be put on the market is the 1910 Stapley, manufactured by the Bridgeport Brass Co., of Bridgeport, Conn., and which incorporates

a number of features indicating the thoroughness with which the makers have taken all the requirements into consideration. The cylinders are of rustless, seamless brass and the air intake is at the top of the pump, so that neither dirt nor dust is drawn in. To provide a positively non-leaking joint, the pump cylinder is fastened rigidly to the foot base. On one model there is a pressure gauge at the top of the cylinder, to show the inflation pressure in the tire, and the pumps are provided with an automatic valve opener which allows the tire valve to close without loss of air.

#### Basic Principles of Car Washing.

The man who thinks well of his car sees that the vehicle is washed every time it has been in use, and unless one has fullest confidence in the man who is doing this work, it is well to watch him until one knows just what he does and how he does it, says A. B. Barkman, of the Maxwell-Briscoe Motor Co.

There are many ways of washing motor cars, but one wants to have the finish preserved and not damaged by the ignorance of the hired man. Washing is an exceedingly simple matter, but no end of damage can be done by carelessness. Warm water, not hot, a soft carriage sponge and a chamois skin are necessary.

It is well to avoid the use of soap so far as possible, as many brands contain alkali to a greater or less extent, and the alkali, if the use is continued, will attack the varnish and cause it to become dull.

By applying the water where the mud has accumulated, this will become softened and carried off, which will prevent the grinding of the mud into the polished surface and making scratches and dulling the finish.

If a hose be used, the full pressure of the water should not be allowed because of the grinding effect of the water and mud, and care should be taken to prevent the wiring, the batteries, the coil, and especially the magneto, from becoming wet, as this may cause serious ignition trouble.

After the vehicle has been made free from mud and rinsed clean, the car should be wiped dry with the chamois skin, and when thoroughly dry it can be given a brilliant polish by using a mixture of one part of turpentine and two parts of boiled linseed oil, a small quantity being placed on a piece of waste and applied. Then the polish can be given by means of a piece of dry waste, which will remove the mixture and leave the car handsome and shining.

#### Headlights Only for Country Travel.

Drivers of experience agree that for night driving in the country the use of the headlights alone is most advantageous. If the dash lamps as well as the headlights are lighted, confusing reflections from the metal work on the hood and even from the backs of the headlights are apt to be caused, rendering it difficult to see the road plainly.

## ORIGINALITY IN THE GLIDE CARS

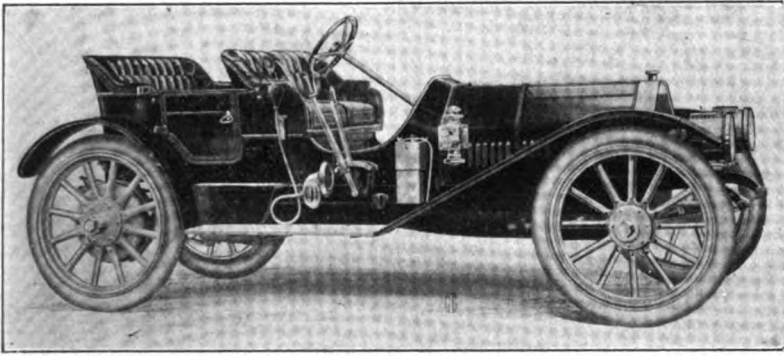
Wherein Those Peoria Productions Differ from Others—Nothing Suggestive of "Assembling" in Their Make-up.

Enjoying the rather unusual distinction of being produced almost entirely in a single factory, instead of being assembled from the products of independent parts makers, the revised and improved line of Glide cars

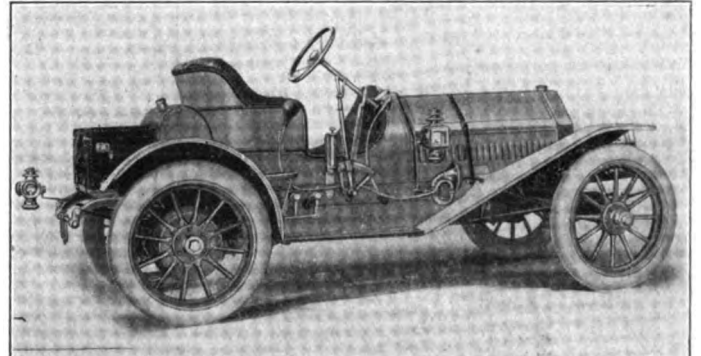
price, which are correlated, the differences between them are slight. The wheel base of the roadster and Scout is 122 inches, while for the semi-racer, which is purely a speed car, the base is reduced to 106 inches. The spring suspension uniformly is of the semi-elliptic order insofar as the mounting of the front portion of the machine is concerned. The rear of the touring and semi-racer machines also is semi-elliptic, but the roadster and Scout models have the popular three-quarters elliptic suspension in

ed on the top of the pillar which thus is formed, and which, by reason of its construction, lends itself well to the purposes of lubrication. Save for the magneto, this side of the motor is kept clear of auxiliaries, but the two hand hole openings to the crank case, are provided with vertical breather pipes, the flared tops of which also serve as filler openings, when it is desired to replenish the supply of oil in the crank case.

The gear circulating pump is carried on the left side of the engine, which also is the



GLIDE "SCOUT" 45 HORSEPOWER SMALL TONNEAU



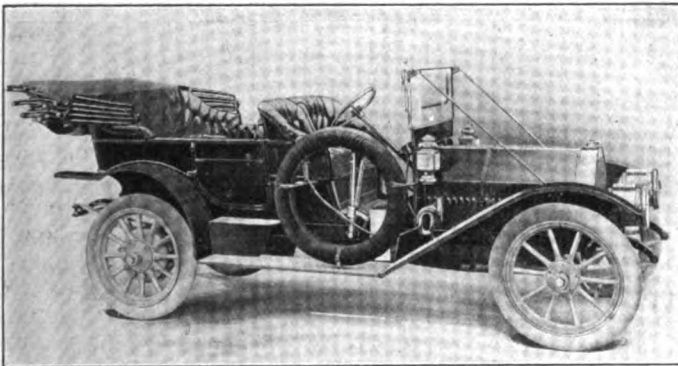
GLIDE SEMI-RACER TWO-PASSENGER RUNABOUT

is one which creates good impressions. It is one of the boasts of the Bartholomew Co. that "every part of a Glide car, excepting the tires only," is the product of its complete and well equipped plant in Peoria, Ill. Exception also must be made of the accessories, which are of standard make, and are unusually liberal both in quantity and quality, as is shown by the specifications of double ignition, with two sets of plugs and Eisemann magneto; lamps, horn, pump, jack and full tool kit; and the use

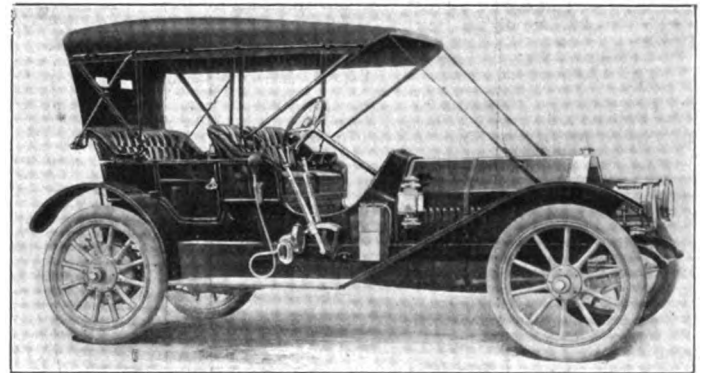
the rear. On the Scout and semi-racer, the clearance is 12 inches; the two touring models, however, are set a trifle lower, and have but 10 inches clearance. In addition to this, the use of the new drop frame serves to lower the bodies some 3 inches as compared with the practice employed on former models.

Originality in Glide construction begins with the motor, which, though of generally standard proportions, displays a number of special characteristics, most conspicuous of

valve side, and is mounted directly in front of the gear housing, and takes its drive directly from the cam shaft. As the valves are placed side by side, but one cam shaft is required. The cylinders are cast individually, and are provided with cleaning plugs near the heads, through which it is possible to scrape the interiors in order to free them of carbon deposits, without the necessity of dismantling the remainder of the engine. The lubricating system, which embodies a good sized reservoir in the bottom



GLIDE SPECIAL 45 HORSEPOWER TOURING CAR



GLIDE SPECIAL ROADSTER EQUIPPED WITH TOP

of 36 by 4½ inch tires on the touring model and 36 by 4 on the roadster and semi-racer, and 40 by 4 inch on the Scout.

Four different styles are produced, but as they are generally uniform as to mechanical structure, one description of the general design will apply to all. The points of difference relate mainly to body structure, wheel base and tire sizes. The four models are known, respectively as the "touring," "roadster," "Scout" and "semi-racer," and aside from matters of seating capacity and

which is the method of mounting and driving the engine auxiliaries, namely the magneto and timer, the circulating pump for the cooling system, and the engine lubricating system. Upon the right side of the motor, and in front of the half-time gears, rises a staunch housing, which encloses a vertical shaft. On the level with the cylinder bases is mounted the magneto, its drive being taken by bevel gears from the vertical distributing shaft, while the timer for the battery half of the ignition system is mount-

ed on the top of the pillar which thus is formed, and which, by reason of its construction, lends itself well to the purposes of lubrication. Save for the magneto, this side of the motor is kept clear of auxiliaries, but the two hand hole openings to the crank case, are provided with vertical breather pipes, the flared tops of which also serve as filler openings, when it is desired to replenish the supply of oil in the crank case.

Transmission is accomplished through the medium of a 13-disc clutch of large diameter, mounted in the fly wheel and running in oil. The rear axle and change gear system is an original Glide characteristic, and has been retained through several years of

successful practice. It embodies a heavy torsion tube, anchored to a cross frame member in front by means of a ball and socket joint, which also encloses the single universal joint of the propeller system. Just back of the joint, a special fitting provides means of attachment for the two diagonal braces which serve to maintain the parallelism of the rear axle with the front axle. The rear axle is of the floating type mounted on adjustable Timken bearings, with the three-speed selective change gear carried as an integral part of the torsion tube assemblage. By means of a massive housing, and careful design of bearings and shafts, it is rendered unusually staunch and durable. Careful design also is evidenced in the construction of the brakes, which are of the double expanding and contract-

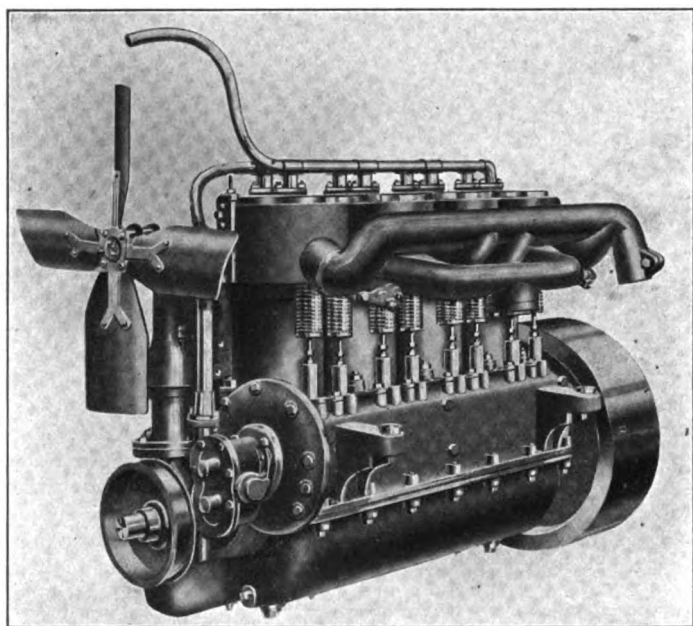
### LUBRICANTS MIXED WITH FUEL

Some of the Grave Faults of the System,  
Due to Gravity Separation—What  
Tests Disclose.

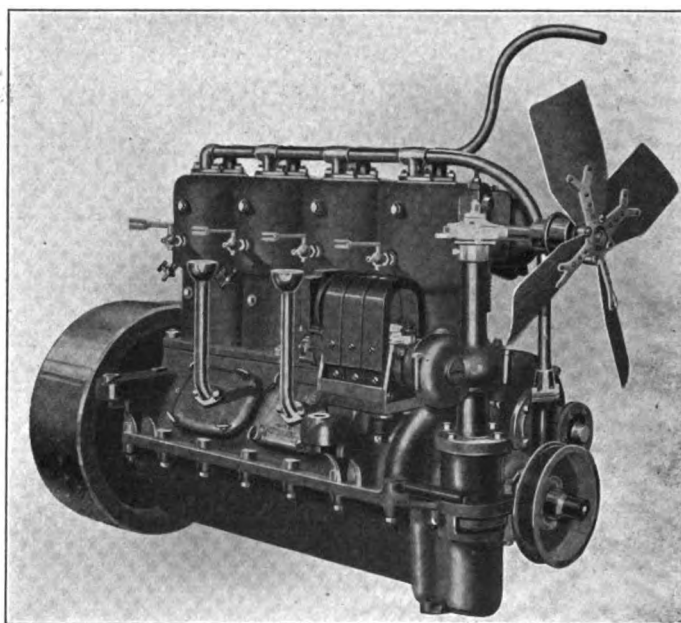
Lubricating automobile motors by the simple expedient of mixing oil with the gasoline in stated proportions, is a method which has been more or less strongly advocated by several engineers, and which has worked out successfully in several instances in motors used for marine purposes. However, it has some drawbacks, which, indeed, are sufficiently important to lend point to the theory of one expert that the system cannot be made to succeed, owing to the

from those of greater specific gravity; if this will occur when substances differ only slightly, the result is bound to be even more marked when there is wide variation between specific densities.

Distilled water at 39 degrees F., which is the temperature of its greatest density, is a standard for all liquids and solids, being given a value of 1. As substances are heavier or lighter than water the specific gravity will be proportionate. A simple definition of specific gravity is the relation the weight of the liquid or solid bears to an equal volume of water. To determine this in a simple manner when liquids are to be tested, a so-called hydrometer is used. It is not possible to make a mechanical mixture of substances which have different specific gravities. Oil will float on water be-



VALVE SIDE OF 45 HORSEPOWER GLIDE MOTOR



RIGHT SIDE, SHOWING MAGNETO AND DRIVE

ing type. The drums are 16 inches in diameter and no less than 3 inches wide.

#### Inflating the Taximeter's Reading.

It frequently has been urged by irate taximeter cab patrons that the operators were unduly watchful of their employer's interests, and incidentally of their own commissions, in taking very wide turns on corners, making long detours to avoid blocked streets and getting entangled in traffic hold-ups. But the zeal of the ordinary cabby is totally eclipsed by the thoughtfulness of one loyal servant who was observed standing on the running board of his car on an uptown side street in New York City one evening this week, industriously manipulating the flag on his taximeter. Every time the flag went down, up went another initial charge for the waiting "fare" inside a neighboring house, and every time the flag went up the cabby looked over his shoulder apprehensively. When last seen he was still in a watchful attitude, gazing upon the dial of the meter almost affectionately, it seemed.

inevitable tendency of the two fluids to separate as a result of their different specific gravities. This objection, it should be borne in mind, in no way militates against the somewhat similar system which also has been proposed, in which the oil is fed to the cylinders through the medium of injections into the intake pipe. In regard to the method of mixture, the Co-operator brands it as a "dangerous undertaking" to apply the system to an automobile motor.

"It is not in the least difficult to test the matter," says the authority in question. "If gasoline and oil be mixed and allowed to stand for a time, the two ingredients, though derived from the same base, having different specific gravities, will separate, the heavier liquid falling to the bottom of the tank. It is a well known fact that if the commercial gasoline, as automobile fuel is improperly known (being composed of a wide range of hydro-carbons, of which the fraction known as gasoline is only a small part) is allowed to stand for a time, the more volatile constituents will separate

cause it is lighter. If one were to mix gasoline, kerosene and lubricating oil together and stir or shake briskly, as long as the mixture is agitated there would be an indiscriminate relation of liquids. Allow this to stand, however, and the three liquids will separate and exist in clearly defined strata in the container. Any doubter may try the experiment for himself.

"From the foregoing it will be evident that any attempt to mix gasoline and oil can have but one result: the separation of the two liquids as soon as opportunity presents itself for the heavier substance to settle. While the continued vibration which is set up when the motor car is in motion on the road would have the effect of agitating the liquids and prevent settling, it is at the same time clear that the fuel tank is not always empty at the end of every run, and for all these reasons the motorists will do well not to concern himself with a lubricating scheme which may be well enough for a motorboat engine and its steady work, but is altogether unsuited for the car."



## FIVE CAUSES OF GEAR FAILURES

Dr. Sargent Summarizes Them and Points Out the Several Factors that Make for Success.

Some of the general principles which have come to be regarded as essential to the successful performance of transmission gears were discussed by Dr. G. W. Sargent, at the recent annual meeting of the Society of Automobile Engineers, in New York City.

Failures in general may be traced to one or more causes, of which Dr. Sargent enumerates five, namely, improper design, selection of material not suited to the purpose, improperly manufactured material, improper treatment of material, and conditions arising in service. In the paper in question, the matter of improper design was the only one treated.

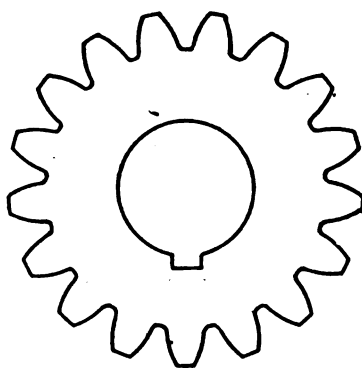
"Wilfred Lewis advises," said Dr. Sargent, "that in figuring the strength of a gear the teeth should be considered as a beam loaded at its extremity and supported at its base; and, furthermore, that one tooth carries the entire load distributed across its face. Right here I wish to emphasize this last. It is exceedingly important that the load be distributed across the face of the entire tooth and this is a condition which is very hard to obtain in some instances; for example, beveled pinions and gears. In these cases, even though the design of the pinion is correct, and the strength all that is necessary under correct alignment; the concentration of the entire load upon one portion of the face of the tooth of the gear, which would follow disalignment, would result in failure.

"We find in 'Elements of Machine Design,' under the heading of 'Influence of the Form of the Tooth on Its Strength,' Professor Unwin remarks: 'It will be seen presently that the teeth tend to break across at the root. The teeth are stronger the shorter they are, and the thicker they are at the root. They cannot be shortened without reducing the arc of contact, and their length should be such as to ensure a sufficient, but not excessive, arc of contact. The thickness at the root depends on the form selected for the teeth. Involute teeth are generally stronger than cycloidal teeth, the teeth are stronger the smaller the diameter of the describing circle used for the flanks. In no case should the flanks be described with a rolling circle, the diameter of which is greater than half the diameter of the pitch line, inside which it is rolled.'

"Under 'Conditions of Durability' he writes: 'The rolling of the teeth over each other, so as to spread the contact over a considerable length of tooth, is advantageous, but the sliding of the teeth against each other is injurious. The amount of

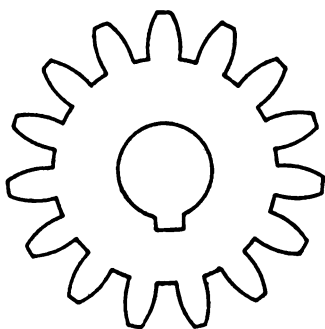
sliding action is the difference of the length of the face of one tooth and the acting part of the flank of its fellow. To ensure durability these two should be nearly equal. The wider the face of the wheel, the more area there is to resist the pressure.'

"I have already referred to Lewis's formula, in which the tooth is considered as a beam loaded at one end and supported at its base. . . . With a full sized tooth there is a strong tendency toward under cutting. Figs. 1 and 2 illustrate this point.



*An extra strong and well designed  
17 toothed pinion filleted at root circle.*  
Fig. 1

"In automobiles, all transmission gears are subjected to a heat treatment and most spur gears are made of the hardened and tempered types of steel. In these latter the under-cut produces an effect similar to a groove or notch; for in the hardened and tempered piece it produces a temper line at



*A weak and more or less undercut  
15 toothed pinion without fillets at the root circle.*  
Fig. 2

more severe under-cutting than a 15 or 17-toothed pinion; and in designing pinions and gears this fact should be borne in mind, especially since the work which the pinion has to do is frequently the most severe of any part of the transmission. Again where the width of the tooth of the bevel pinion and gear at the addendum-circle is greater the groove or notch and this temper line may develop into a plane of weakness. In pinions, this under-cut condition is more likely to occur, for here the number of teeth are fewer, consequently the difficulty of forming the tooth without an under-cut is increased. A 13-toothed pinion will show than at the root-circle, the effect of heat

treatment is to make the overhanging end or ends harder and more brittle than the rest of the tooth; so that any extraordinary severe stress or shock is bound to cause a break at the overhanging part. Disalignment of these gears and pinions can readily occur and usually the overhanging parts then receive the most punishment.

"Generally speaking, all gears which are to be heat-treated should be so designed as to lend themselves to the conditions accompanying or resulting from such treatment; for instance, the sections of the various parts of the gear should be, insofar as it is possible, of uniform dimensions, so that in heating, no one part will heat faster than another, thus warping the gear. Likewise in quenching uniformity of dimensions prevents unequal cooling and hence warpage or distortion.

"Steel expands .0000067 for each degree Fahrenheit that it is heated through and the force developed, if this expansion be opposed, is the same as that required to produce the same distortion by mechanical means. Then assuming a coefficient of elasticity of 30,000,000, 1 degree Fahrenheit would produce a strain equal to  $30,000,000 \times .0000067$ , or 201 pounds. Now the elastic limit of a piece of steel varies with its temperature, but assume it to be 40,000 pounds per square inch, which is exceedingly high for a hot piece of steel, a difference in temperature between any two parts of the same piece, of 200 degrees Fahrenheit, would permanently distort the piece, even if the cross section between the two parts was 1 square inch. In gears, it might readily be .1 square inch, which means a difference in temperature between any two parts amounting to 20 degrees Fahrenheit would produce a permanent deformation. When it is recalled that at 700 degrees centigrade a steel with 80,000 pounds tensile strength at the normal temperature, possesses but 1,000 pounds and an elastic limit likely less than one-half this amount; it will be seen that 3 degrees difference in temperature is sufficient to produce a permanent change in the piece, and a design, therefore, which permits one part of the piece to heat or cool more rapidly than another, is to be avoided as much as possible if distortion or warpage is to be reduced to a minimum. In the nature of things, this distortion of a heat-treated piece of steel cannot be eliminated, but since it can be brought to the least possible amount, and should be, since warped gears are noisy and likely to break. When one recalls that hardened steel has little or no ability to flow when strained beyond its elastic limit, the necessity for a correctly proportioned gear is more appreciated.

"Furthermore, sharp corners or edges and sharp re-entrant angles should be avoided in any heat-treated piece of steel, since such design is not only naturally a weak one, but also prone to have developed through the treatment, temper lines which readily become planes of weakness."

## MAKING MAGNETOS WATERPROOF

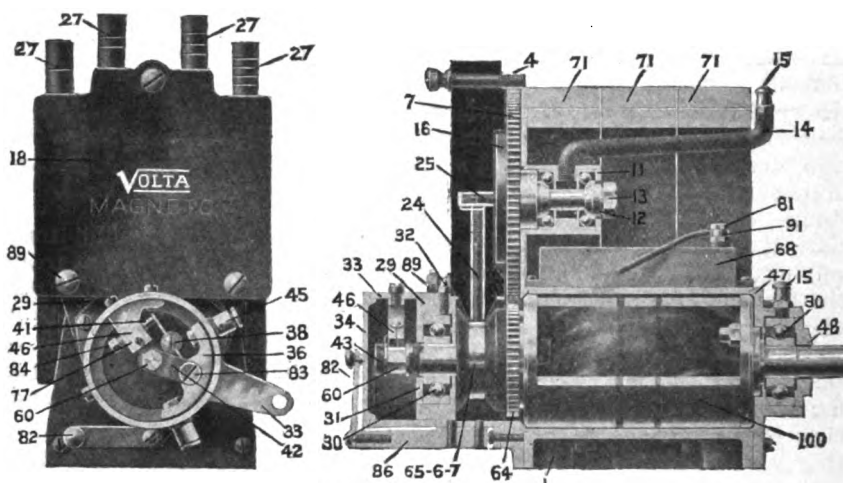
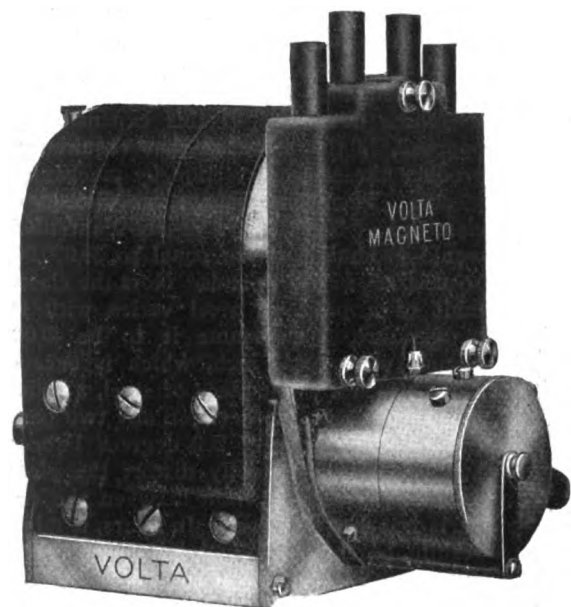
How the Effect is Accomplished by One Manufacturer—Design and Arrangement Which Aid Efficiency.

Automobilists frequently are cautioned as to the advisability of installing protecting housings for their magnetos for the reason that however well constructed the instrument in question may be when new, prolonged intimacy with dust, mud and water, ultimately may lead to a breakdown of the insulation. Owners who use the Volta magneto, however, have the assurance of the Buffalo Ignition Co., Buffalo, N. Y.,

ing to claim for it the waterproof feature mentioned, may be discovered by considering its individual elements. The condenser, for example, is enclosed in a separate water tight box which is so contrived that it may be removed merely by releasing a single screw; its retention being secured by means of a dowel pin in addition to the screw. Its location within the enclosure of the magnets and over the armature may be seen from the illustrations, where it is indicated at 68. The armature, which is numbered 100, in the accompanying illustrations, is completely enclosed, the cover plate which houses it is permanently sealed, and it is mounted on ball bearings, 30, which are of unusual size, and are separated by partitions from the remainder of the mechanism. The

contact segments in the housing proper, has a single T-shaped segment carried embedded in the hard rubber disc, 16, which receives current from the carbon brush, 25. A cross bar of this segment, as it rotates, makes contact successively with as many carbon distributing brushes as there are cylinders in the engine which is being served.

In this way, the distributor may be said to be an inversion of the ordinary type, the stationary brushes replacing the ordinary segments, and the rotating segment replacing the ordinary rotating brushes. The effect is greatly to reduce the likelihood of cross arcing between the collector points, since the stationary brush construction greatly increases the insulating distance



THE VOLTA MAGNETO AND END AND SIDE VIEWS, SHOWING ARRANGEMENT OF PARTS

which produces that device, that no such precaution is necessary. Indeed, it is claimed that playing the hose on the Volta will in no wise reduce its capacity to generate the sparking current which makes its appearance in large arc-flame flashes at the plugs. Another point of excellence, which is emphasized in the same connection is that its construction is such that it is not liable to suffer from the effects of over oiling.

Of generally standard form, embodying high-tension armature winding, which generates the high tension current directly on the armature, and without the use of an external coil, its design involves several unusual and meritorious features which make directly for prolonged and effective service. Among such features may be mentioned the ready removability of the condenser and the complete isolation mechanically of the various individual elements of the device. A simple dual ignition system using a single set of spark plugs and the main distributor of the magneto is another attribute of the system.

How the entire instrument is so thoroughly protected that its makers are will-

bearings are lubricated from the oil caps, 15 and 32, and the wells which they feed are provided with drain outlets to prevent flooding.

As the armature diameter is somewhat greater than ordinary, and is provided with about 600 more turns of the windings, a hot spark is generated at ordinary cranking speeds. The air gap between the armature and the pole pieces is reduced to its smallest practical limits, in furtherance of which ideal, the exterior of the armature is ground to size after the member is completely assembled and is ready for use. Care in winding and insulating the armature is carried to such a point that during the winding process a special form of indicator shows the condition of the insulation at all times. If the wire breaks or a short circuit occurs the fault is detected at once.

Further protection for the vital parts is provided in the distributor casing, 18, which is placed directly over the high tension collector ring, 65-67, and which encloses the high tension carbon collector brushes, 24-25, to the distributor. The latter, instead of having a number of high tension

between the respective points. The method of mounting the distributor in ball bearings, 11, 12, 13, may be seen from the illustration.

As in the case of the distributor, the contact breaker may be said to be of inverted construction, in that the cam itself rotates, while the "breaker box" so-called, is stationary. The cam, 60, is of hardened steel and runs against a steel roller, 38. The contact screw, 84, is stationary, and hence may be adjusted while the engine is running. The primary current, from the windings runs through an insulated central wire leading through the armature shaft to the insulated button, 43, through the flat spring, 42, to the insulated mounting, 36. From the contact arm, it passes to the grounded contact point, 41. One of the binding posts, 45, is connected to the condenser at point 91, while the other connects with the ground switch.

Grand Rapids, Mich., has decided to give an automobile show and is completing arrangements to that end. The week of February 17 has been selected by the promoters.

**TERRY'S PLEA FOR UNIFORM LAWS**

**A. A. A. Chairman Shows How Motorists are Used as Shuttlecocks—Clear Exposition of a Vexed Subject.**

In his plea for uniformity in automobile legislation delivered before the convention of the National Civic Federation, Charles Thaddeus Terry sketched the existing situation and the need for it more clearly probably than it ever was described before. As chairman of the legislative board of the American Automobile Association, Mr. Terry has devoted, perhaps, more study to the question of uniform automobile legislation than any other investigator in the country.

Mr. Terry's speech virtually outlined the fundamental objects of the coming National Legislative Convention to be held under the auspices of the American Automobile Association in Washington just one month later, on February 15, 16, and 17. He said:

"There are 33 states which have separate, distinct, and in many respects very different motor vehicle regulations. When you consider this and the further fact that even within the borders of a single state in not a few instances the separate counties, towns, villages and cities have passed motor vehicle ordinances peculiar to such localities and differing one from another and all differing in some respects from the motor vehicle law applicable to the state in general, you get as a net result confusion worst confounded.

"There are two ways in which this particular evil may be cured—one is by the enactment of Congress of a Federal Registration Automobile Bill, providing only, in substance, that upon registration at a bureau of the National Capitol after registration has been had in the state of the residence of the owner of the motor vehicle, his license to operate and use the vehicle shall be recognized by every state in the Union, and thus freedom in the use of the vehicle secured, without further license and without payment of further fees, the other, by the enactment of all the states of a uniform motor vehicle law exempting non-residents from its registration provisions, as does, for example, the law of the state of New York.

"No one will dissent from the proposition that uniformity in motor vehicle regulation is not only expedient, but in the highest degree desirable. It is conceded that more harm and injustice are sometimes brought about by lack of uniformity of the laws of the various states than by imperfect or even bad laws in special instances. Nowhere is this better illustrated than in the case of travel upon the highways.

"To take a concrete example, suppose that one were to start in his motor vehicle

at New York to make a trip to his National Capitol at Washington, to transact business with his Government. He will have no sooner left the ferryboat on the Jersey shore before he will be stopped and notified that he can proceed no further. He will find that what he had always assumed to be his natural right to use the highways of the country so long as he scrupulously regarded the rights of others up the highway, has been created into a privilege to be purchased only by the payment of money and the expenditure of time and trouble in seeking out one of the government officers and paying fees for a so-called 'license.' He must find the proper officer at the place where these fees are received, fill out and sign an application blank, pay his money and receive four tags, each one of which is good for two days' enjoyment of this grand privilege of using the highways; and after he has done all these things he will find that the state is not yet satisfied. He must, before he may proceed, fill out and execute a regular power of attorney, making the Secretary of State his agent, to receive process in any proceeding which may be brought against him while he is enjoying this so-called inestimable privilege.

"When he reaches the borders of the state of Maryland he will be again held up and obliged, before he will be allowed to continue his journey, to go through very much the same process as he did when he attempted to cross the borders of New Jersey. He will be put to pretty much the same annoyance, inconvenience and expense when he attempts to cross the line into the District of Columbia.

"There seems to be no reason why regulations applicable in one section of the country should not be equally applicable to every other section of the country, why the provisions of law adequate for one state should not be equally adequate for every other state. It would seem that in this country of ours, if we are really a nation, there is no reason why a license to operate a motor vehicle good in New York should not be equally good in San Francisco and in every portion of the highway between these two cities, and why one knowing thoroughly the law under which he has secured such license should not be able to proceed from New York to San Francisco in the perfect confidence that if he obeys that law he will not be violating the law in any of the jurisdictions traversed by the highway upon which he travels.

"The automobilist claims no special privileges, but he claims the right to fair treatment, and to that end, that the laws which regulate the use of his highways shall be so plain and reasonable that he who runs an automobile may read them, and may obey them, and still may travel with comfort and freedom from intolerable exactions and needless burdens."

A Federal registration measure now is before Congress in the Cocks bill. Its provisions are indicated in Mr. Terry's speech,

**MUFFLER EXPLOSION OR PISTOL?**

**Question Brought up in Novel Manner in a Murder Trial—Automobile Experts Give Testimony.**

How many persons who have heard both can distinguish the backfire or explosion in an automobile or motorcycle muffler from a pistol shot?

This simple question, more easily asked than readily answered, and seldom if ever thought of, was brought up last week in a murder trial in Milwaukee, Wis., and played a novel and conspicuous part in the defense.

Briefly the facts are as follows: Ward E. Hedger is on trial on a charge of murdering his wife, Louise, the evidence thus far given being purely circumstantial. Mrs. Hedger was shot in the back of the head and instantly killed one morning while in her kitchen. There was no clue to the murderer, the husband being arrested merely through a chain of circumstantial evidence. No one saw the crime committed but several witnesses for the state testified that they heard pistol shots in the neighborhood about the time the murder was supposed to have been committed.

It was to refute or confound this testimony, and to create a reasonable doubt that the clever lawyer for the defense dragged several automobile and motorcycle experts into the case. He sought to show that the so-called pistol shots which were heard might have been nothing more serious than the muffler explosions of a passing automobile or motorcycle.

The testimony of the experts agreed that pistol shots could not be distinguished from the explosions of a muffler. One of them said that he had conducted experiments in which pistols were fired, followed by the explosions in the mufflers of motorcycles, and that it is impossible to distinguish the sounds. The experiments were made with the explosions out of doors, while the witnesses listened from both outside and inside. One of the jurymen raised the point as to whether the expert had experimented with the pistol and motorcycle when he was indoors and the explosions indoors also. He replied that this had not been done and therefore some of the force of the testimony was lost.

The case, however, is exceedingly interesting, not alone from the fact that it is the first time the point ever has been raised, but because it presents unlimited possibilities in future cases where there is a chance for reasonable doubt upon such issues.

In connection with the winter fetes to be held by the Touring Club of France next month, a competition for automobile sleighs will be inaugurated. The tests will be made on February 13th.

## RECENT PATENTS.

937,808. Vehicle Wheel. Ernest Hopkinson, East Orange, N. J. Filed March 8, 1905. Serial No. 249,014.

The combination with a wheel rim having an inclined flange seat and a contractible and expansible side flange engaging said flange seat, of a hoop or band encircling said rim and presenting oppositely inclined tire seating surfaces.

938,196. Running Gear. Charles O. Wyman, Anoka, Minn. Filed Jan. 22, 1906. Serial No. 297,095.

1. The combination with the forward and rear axles and carrying wheels therefor, of a frame mounted on said axles, a driving shaft geared to said axles, a crank shaft arranged transversely on said frame at right angles substantially to said driving shaft, a source of power connected with said crank shaft, and a chain composed of skeleton links connecting said crank shaft and said driving shaft, substantially as described.

938,253. Combined Turbine Muffler and Fly Wheel. John A. Lawson, New York, N. Y. Filed Dec. 22, 1908. Serial No. 468,829.

The combination with a fly wheel having a plurality of pockets in the periphery thereof, of two concentric rings encircling said wheel and spaced apart to leave an annular chamber therebetween, the outer ring having a series of transverse ridges in its outer surface, pairs of plates at each end of the wheel and spaced apart to form two annular chambers, the inner plate of each pair being provided with apertures therethrough whereby said last mentioned chambers may communicate with the first mentioned annular chamber, each of said plates having a series of outwardly extending lugs or flanges in the plane thereof and in alignment with said transverse ridges, a peripheral row of bolts extending through said ridges and said lugs or flanges to hold said rings and plates together rigid in respect to each other, inlet and outlet conduits terminating adjacent the periphery of the wheel, and an inlet conduit and an outlet conduit for the chambers between said plates and the chamber between said rings.

938,254. Starting Crank for Internal Combustion Engines. John A. Dawson, New York, N. Y. Filed Feb. 26, 1909. Serial No. 480,137.

1. A starting crank for internal combustion engines, comprising two members having opposed gripping surfaces for receiving therebetween the engine shaft, two crank

arm members having relative longitudinal movement and connected to the first mentioned members respectively, a handle member pivotally connected to one of said crank arm members and movable to a position at right angles thereto or to a position substantially parallel thereto, and a second handle member pivotally connected to the first mentioned handle member and having operative engagement with the other crank arm member when said handle members are at substantially right angles to the crank arm members.

938,360. Valve Gear. Austin M. Wolf, New York, N. Y. Filed Jan. 9, 1909. Serial No. 471,474.

1. The combination with an internal combustion engine having inlet and exhaust valves, of an actuating rod having arms projecting therefrom and adapted to engage the stems of both the said valves, a cam imparting the necessary motion to said actuating rod in order to effect an opening of each valve at the proper time, and means whereby said arms can be simultaneously swung out of position, as described.

938,386. Valve Gear for Explosive Engines. Arthur A. Karcher, Detroit, Mich. Filed March 5, 1909. Serial No. 481,494.

1. The combination with a plurality of parallel cylinders having normally closed inlet and exhaust valves located beside each other in the head of each cylinder, a set of telescoped rock shafts of different lengths extending transversely across the cylinder heads and each having arms projecting oppositely and bearing on the stems of the respective valves of each cylinder, to open the same when the shaft is rocked, a spring operatively connected to each shaft to rock the same in one direction, and a cam operatively connected to each shaft and acting in opposition to the spring to rock the shaft in the other direction.

938,456. Automobile Headlight Bracket and Mechanism for Turning Same. Frank H. Aubeuf, Oneida, N. Y. Filed March 5, 1909. Serial No. 481,231.

1. In an automobile, the combination with the running gear frame and steering apparatus, of pivotally supported head light brackets, mechanism for turning said brackets comprising a rock shaft supported on the frame and operated by the steering apparatus, arms fastened to the brackets, and rods transmitting motion from said shaft to the brackets as set forth.

938,679. Variable Speed Apparatus. Eugene C. Marble, Chicago, Ill. Filed Dec. 12, 1908. Serial No. 467,276.

1. In a variable speed apparatus, an internal brake comprising a pinion having a friction member and rotatable upon its own axis, and a non-rotatable member movable radially into frictional adherence with the pinion to retard and prevent rotation of the pinion on its own axis.

938,753. Means for Preventing Rebound in Vehicles. Samuel Furmidge, St. Louis, Mo., assignor to Supplementary Spiral Spring Company, St. Louis, Mo., a Corporation of Missouri. Filed Dec. 22, 1905. Serial No. 292,980.

1. In a device of the character described, the combination of a fixed friction plate, a movable friction plate, each being concave on the side adjacent its fellow, and a convex washer interposed between same.

938,782. Running Gear for Vehicles. Isaac E. Palmer, Middletown, Conn. Filed Feb. 17, 1908. Serial No. 416,170.

1. Running gear for trackless power driven vehicles comprising a truck movable with respect to the body frame and connected to the rear thereof, three wheels mounted upon said truck, two of said wheels being at opposite sides of said vehicle one of said wheels being arranged between the sides of the vehicle so as not to track with the said other wheels of said truck, and means to drive a plurality of wheels of said truck including said non-tracking wheel.

938,783. Trackless Power Driven Vehicle. Isaac E. Palmer, Middletown, Conn. Filed May 6, 1908. Serial No. 431,156.

1. An automobile comprising in combination a body frame composed of opposite, unitary side members of substantially the length of the automobile and transverse connections therefor, a fixed front axle mounted in said frame, a pair of non-driven, but dirigible wheels mounted upon said axle, two axles to the rear of said front axle one of said two rear axles being mounted in both side members of said frame, a pair of driven wheels mounted upon said axle and a pair of non-driven wheels mounted upon the other of said two mounted in said body frame for movement in a substantially horizontal plane, a motor supported by the frame, connections therefrom to the first mentioned of said two rear axles, steering means connecting said front wheels and connections between said steering means and said movable rear axle whereby when steering movement is imparted to the dirigible wheels of the front fixed axle steering movement is imparted to said rear movable axle.

938,786. Trackless Power Driven Vehicle.

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Isaac E. Palmer, Middletown, Conn. Filed Nov. 13, 1908. Serial No. 462,361.

1. Running gear for trackless power driven vehicles comprising, in combination, a vehicle body, an axle or support, a pair of independent yokes or frames, mounted for independent rocking movement at opposite sides of the vehicle upon the axle or support in conformity to the road bed, a yielding connection between each yoke or frame and the vehicle body, and means mounted concentrically with one or both of said yokes or frames for driving one or more of the wheels upon each yoke or frame.

938,828. Touring Map Carrier for Automobiles. Harry Dalitz, Cleveland, Ohio. Filed Nov. 17, 1908. Serial No. 463,120.

1. A tourist's map carrier for automobiles and like vehicles, comprising a body having trough shaped ends transversely with slots centrally therein open to the top of said body, and spools with spindles in said slots, in combination with a cover over said body provided with projections at its sides extending down over the upper portions of said slots and slotted at their extremities to engage over the ends of said spindles, said cover having downward projections centrally at its sides having horizontal open slots on a plane beneath said body and a locking device on the said body adapted to engage in said slots.

438,933. Carriage Top. William Woop, Ossining, N. Y. Filed Jan. 30, 1909. Serial No. 475,165.

1. A carriage top, having a vertical main stay pivotally supported upon the vehicle, a forwardly projecting stay, a rearwardly-projecting stay, the said stays being removably secured to the said main stay, the end of the forwardly projecting stay being secured to the upper portion of the main stay and the rearwardly projecting stay being secured to the main stay at a lower point, the said main stay extending below its own pivotal point, and devices whereby the detached ends of said forwardly projecting and rearwardly projecting stays may be secured together to the end of the main stay below its pivotal point.

939,055. Roller Bearing. Onesime E. Michaud, St. Louis, Mo. Filed June 13, 1908. Serial No. 438,270.

1. A roller bearing comprising a bearing ring having an annular groove therein, annular shouldered portions at each side of said groove, and annular recessed portions next to said shouldered portions at the outer sides thereof, a series of rollers arranged to travel in the annular groove in said bearing ring, said rollers having axial end spindles, separable rigid spacing rings for said rollers, said spacing rings being adapted to loosely fit said annular shouldered portions and having a series of perforations arranged to receive the end spindles of said rollers, and annular retaining devices for said spacing rings detachably secured in said annular recessed portions of said bearing ring.

939,056. Roller Bearing. Onesime E. Michaud, St. Louis, Mo. Filed Oct. 5, 1908. Serial No. 456,171.

1. The combination with an axle, of a wheel hub rotatably mounted thereon, said hub having bearing rings in each end, and each of said bearing rings having an internal annular beveled end thrust shoulder near its inner end, an inner bearing ring sleeved on said axle and in co-operative relation to the bearing ring in the inner end of said hub and having a beveled end thrust shoulder diagonally opposite to the shoulder on said hub bearing ring, a stop on said axle adapted to bear against the outer end of said axle bearing ring, a bearing ring adjustably mounted on said axle endwise thereof in co-operative relation to the bearing ring in the outer end of said hub and having a beveled end thrust shoulder diagonally opposite to the shoulder on said last mentioned hub bearing ring, and a series of cylindrical rollers interposed between the bearing rings at each end of said hub in rolling contact therewith, said rollers having beveled end portions corresponding to the bevel of said end thrust shoulders.

939,077. Trackless Power Driven Vehicle. Isaac E. Palmer, Middletown, Conn. Filed Nov. 13, 1908. Serial No. 462,362.

1. Running gear for trackless, power driven vehicles comprising in combination a body frame, a driving shaft journaled in said frame, four vehicle wheels mounted upon the rear part of said body frame, connections from the driving shaft for driving all of said four rear wheels, said four wheels being arranged in pairs and one of said pairs of wheels being dirigible, and means simultaneously and automatically to disconnect said pair of dirigible wheels from driving relation to said driving shaft upon lateral deflection thereof by the steering mechanism while leaving the other pair of rear wheels in driving relation to said driving shaft, so that said dirigible wheels may travel when disconnected at a differential speed with respect to said other pair of rear wheels and the vehicle be driven by said other pair of rear wheels.

939,180. Steering Gear for Vehicles. John A. Wilson, Jr., Buffalo, N. Y., assignor to Noye Manufacturing Company, Buffalo, N. Y., a Corporation of New York. Filed May 10, 1909. Serial No. 495,101.

1. A steering gear for vehicles comprising a mast, a worm divided lengthwise into a plurality of sections which are mounted on the mast and are adjustable lengthwise relatively to each other, and a screw nut engaging its internal threads with the external threads of said worm sections.

939,357. Magneto Electric Machine for Ignition Purposes. Charles A. Vandervell and Frederick I. Hoffman, London, England. Filed Sept. 25, 1908. Serial No. 454,809.

1. In a magneto-electric machine having a movable element a current distributor consisting of a device having a series of

paths joined up as one continuous path, a series of contact pieces disposed in said paths, a shuttle adapted to co-act with the said paths and constituting a contact piece which co-acts with the contact pieces of the said paths, the shuttle being carried directly by the movable element of the magneto-electric machine and means for permitting the shuttle to follow the continuous path, substantially as described.

939,481. Carburetter. Edgar A. Dickson, Denver, Colo., assignor of one-half to Edwin W. Hurlbut, Denver, Colo. Filed Dec. 21, 1907. Serial No. 407,491.

1. A carburetter comprising in combination with a circular housing having a central inlet and a peripheral outlet, an injector entering said housing through said inlet, and a rotary mixing member having opposed concentric baffles formed therein adapted to receive fluid elements opposite said inlet and to discharge said elements in a mixed condition through said outlets, said mixing member comprising means for passing the fluid from side to side thereof and means to finally discharge them peripherally.

939,589. Variable Speed Transmission Gear. Edward P. Cowles, Lansing, Mich. Filed Sept. 5, 1903. Serial No. 172,106.

1. In a variable speed gear mechanism, the combination of two elements geared together and each comprising a plurality of gears of different diameters, constantly connected to a common rotatable member, the gears of one element being arranged in reverse order to those of the other and each gear adapted to act with a particular gear in the other element, and means for transferring the connection between said elements from one of said co-acting pairs to another without interrupting such connection.

939,643. Changeable Speed Transmission Mechanism. Arthur L. Slee, Berkeley, Cal. Filed April 20, 1908. Serial No. 428,011.

1. In a changeable speed transmission mechanism, the combination of a driving and a driven shaft in alignment, variable speed gears independently rotatable about the axis of the driven shaft, a gear fast on the driven shaft, gear connections between the variable speed gears and said driven shaft gear, means for connecting the driving shaft with any of said variable speed gears, and means for reversing the direction of movement of one of the variable speed gears to reverse the movement of the driven shaft.

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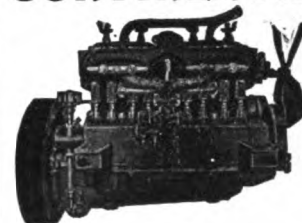
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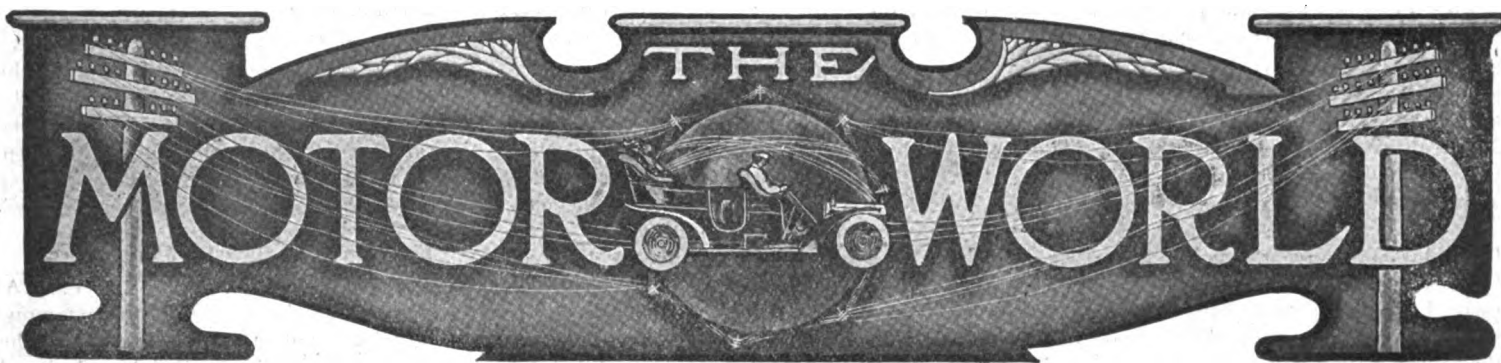
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## DEALERS HOLD ANOTHER SESSION

Take Further Steps Toward the Organization of a Licensed Association—Board of Directors Nominated.

In the welding together of the New York dealers handling cars licensed under the Selden patent, into an association, the process is not progressing with the smoothness which might be looked for, and not all of those who have attended the two meetings which so far have been held appear to be wholly in accord with the program laid down by the "steering committee." While no real antagonism to the organization idea appears to exist, a number of the licensed dealers are exhibiting decided opinions of their own in regard to some of the details, so that on these questions there have been some divisions.

The second meeting toward organization was held at the Automobile Club of America yesterday afternoon (Wednesday), with 38 dealers present, representing 40 makes of cars licensed under the patent. Percy Owen, temporary chairman, presided, and Sidney B. Bowman acted as temporary secretary. As chairman of the committee on organization, Owen read that committee's report, which was accepted. The committee is drawing up constitution and by-laws which will aim to meet the wishes of the prospective members, and is being assisted by the law firm of Lennon, Bailey & Brixey.

During the voting, there occurred a decided division on a point involving the association's policy, and a discerning observer remarked the fact that with a vote of 18 to 15 the majority side numbered 17 branch managers, while the minority was represented almost entirely by dealers. From this it was deduced that the branch managers and the dealers operating for themselves have reason to see things from different viewpoints.

A board of directors was nominated as follows: George W. Bennett, White Co.; Sidney B. Bowman, Marmon and Apperson; M. J. Budlong, Packard Motor Car Co.; Gen. J. T. Cutting, Oldsmobile Co.; Harry Fosdick, Hol-Tan Co.; Robert D. Garden, Pierce-Arrow; Carl H. Page, Chalmers; J. F. Plummer, Locomobile Co. of America; James Joyce, American Locomotive Co., and Charles E. Skinner, Mitchell. The meeting adjourned for about a week, when officers are to be elected and the final organization completed.

### Lamp Makers Adopt Co-operative Plan.

In the line with the spirit of combination and co-operation in selling, which is being manifested in various branches of the trade, a coalition of lamp makers to promote their respective sales has been effected between the Rushmore Dynamo Works, of Plainfield, N. J., and the R. E. Dietz Co., of New York City. The coalition relates purely to the selling end, and provides that the sales department of each concern shall handle the other's goods in addition to its own, so that with Rushmore gas lamps and Dietz oil and electric lamps, a complete line will be presented. No change of name or business for either concern is involved.

### Oklahoma's Factory Changes Location.

The Dixie Motor Car Co., which several months since was organized in Frederick, Okla., has increased its capitalization from \$100,000 to \$250,000 and removed to Oklahoma City. The company expects to produce 500 cars during the current year, the line comprising four models listing at \$1,050 to \$2,500.

### Chalmers Drops Its Hyphenation.

The Chalmers-Detroit Motor Co., of Detroit, Mich., making the Chalmers-Detroit cars, has changed its name. Hereafter it is to be known as the Chalmers Motor Co., and its product as the Chalmers. The new name avoids confusion with many of the more recent concerns who have adopted the "Detroit" hyphenation.

## MAXWELL-BRISCOE NOW A MERGER

With the Columbia It Becomes the Nucleus for a \$16,000,000 Combine—Briscoe Tells of His Plans.

Having avoided one merger proposition which was open to it, the Maxwell-Briscoe Motor Co., with plants at Tarrytown, New-castle and Pawtucket, has carried out the plans which have been whispered in connection with it since last July and has formed a consolidation or combine of its own, with a capital of \$16,000,000, to take in not only the Maxwell-Briscoe company, but other makers of cars, together with parts plants and accessory concerns. Among the first of the outside companies to be acquired by the new creation, which is called the United States Motor Co., is the Columbia Motor Car Co., of Hartford, Conn., formerly the Electric Vehicle Co.

The United States Motor Co. was incorporated some time since under New Jersey laws, with \$2,000 capital, but last week the capital was increased to \$16,000,000, half common and half preferred, following which a preliminary announcement was made indicating something of the plans and purposes of the big corporation. J. D. Maxwell, Benjamin Briscoe and others who have directed the affairs of the Maxwell-Briscoe company will be "prominent" in the manufacturing, the policy and the financial management of the new corporation, according to the announcement, although the representatives of "other companies soon to be acquired" will be associated with it. President Briscoe, of the Maxwell-Briscoe company, however, makes it plain that neither Mr. Maxwell nor himself have relinquished in any way their responsibilities in connection with the latter.

Although the purchase of the Columbia Motor Car Co. by the new company was something of a surprise, other likely acquisitions are not lacking since the

Maxwell-Briscoe interests are known to have a finger in several other companies either by money or consanguinity; among them are the Brush Runabout Co., and the Briscoe Mfg. Co., of Detroit, Mich., the Westchester Appliance Co., and the Ajax-Grieb Rubber Co., of Trenton, N. J., although on behalf of the Ajax company it is denied that it is related in any way to the United States Motor Co.'s plans.

In connection with the purchase of the Columbia company, it is pointed out that in addition to the Selden patent the company owns 128 other patents affecting the structural features of automobiles. So far as the Selden patent is concerned, however, the Columbia company has no control over it, in consequence of the contract with the Association of Licensed Automobile Manufacturers by which the latter has the Selden matter wholly within its own hands, the arrangement being that the Columbia company, as owner of the patent, is paid royalties not exceeding \$150,000 per year and not less than \$90,000. The Columbia people all along have made their own division with George B. Selden, the inventor under the patent, and the deal with the United States Motor Co. provides that the Columbia's net profits on the Selden royalties will go to the old Columbia stockholders.

The Columbia Motor Car Co. will not lose its corporate existence but will continue to do business as a Connecticut corporation. Each of the individual companies in the combination will maintain its stock outstanding, but this stock will be turned in by its present owners and exchanged for stock of the United States Motor Co. The old stock is to be deposited this month. Of the \$1,000,000 common and \$2,000,000 preferred stock of the Columbia corporation, there is outstanding \$2,400,000. Extensive plans are projected for the Hartford factory, which is to make the high priced cars of the United States Motor Co.'s line. C. W. Kelsey, who has been a Maxwell-Briscoe sales manager, already has been transferred to the Columbia plant.

"It appeared on investigation," says Mr. Briscoe, in speaking of the matter, "that the Columbia company had a corner, so to speak, on practically all important automobile patents. I considered these patents such a menace to the security of our business that I opened negotiations with the Columbia owners resulting in the purchase of the concern. Within a short time we shall have from 2,000 to 2,500 men employed at the Hartford plant.

"Without aggregating to itself the function of censor to the industry," he continued, "the United States Motor Co. will throw the weight of its influence for such improvements as will become of benefit to the public and also to the interests of other legitimate manufacturers. The rapid growth of the motor car industry has naturally been attended with many defects in methods, and there is no doubt that manufacturing and distributing methods call for reform. The

swarm of new promotions based on ignorant hope, and doomed for the greater part to disaster, will make matters still more complicated in the future. The troublesome patent situation, which bids fair to involve great burdens on the industry, unless something be done to prevent it, is a field in which the company will be able to work to the benefit of all properly concerned.

"It is the express intention to make public the true financial condition and other general information regarding the conduct of the company's business and the scope of its undertakings. The company will be in a position to control many sources of production for such material as is styled by the automobile manufacturers as raw material, and can thus ensure a greater and more regular production than otherwise would be possible. It will have a large cash working capital, and with a big product and a wide line of cars will be represented in every village and hamlet of the United States.

"I am a co-operationist, and I believe that through the medium of this new company my associates and myself can work out plans which we long have had in mind and which we believe will exemplify most successfully a practical co-operation throughout all departments of the company's business."

Among other plans which from unofficial sources it is intimated are under way, is the building of an immense parts factory in Detroit, on the big property purchased not long ago by the Brush Runabout and Briscoe Mfg. Co. interests.

#### Hudson to Build a Big Plant.

Since being weaned from the Chalmers-Detroit Motor Co., the Hudson Motor Car Co., of Detroit, Mich., has proceeded to testify to its independent and more mature estate by developing plans for a new \$400,000 factory, to be built in the district known as old Fairview, contiguous to Detroit. The plans to build the new factory were completed, following the purchase of 68 acres of the D. J. Campau farm, between Kercheval and Jefferson avenues, by the controlling interests of the Hudson company and members of the Chalmers-Detroit company.

The deal also involved 18 acres of an adjoining farm, and all this added to adjacent property already owned by the purchasers, makes a total of 106 acres for the factory site, the price paid being said to be approximately \$140,000. In addition to providing a site for the Hudson company, the purchase is expected to stimulate considerable real estate activity in Fairview, due to the fact that a factory probably is to be built on it for the Gray Motor Co., and the Michigan Central railway is to build a freight and passenger station in the vicinity.

"The property is largely acquired by Messrs. Hudson, Coffin, Bezner, Jackson and myself," explains President Roy D.

Chapin, "we being the controlling interest in the Hudson company. Associated with us is Hugh Chalmers, of the Chalmers-Detroit Motor Co., who is interested in a portion of the property and also in the Gray estate, which has done much to develop Detroit's new districts. This association also means the probability of the construction on this property of a large factory for the Gray Motor Co. in the near future."

#### Fiat Turns to Bicycle Manufacture.

According to foreign prints, the F. I. A. T. Co., Italy's largest and most famous automobile manufacturer, has taken up the production of pedal propelled bicycles, and will place them on the market during the current year. The De Dion-Bouton Co., which probably occupies a similar position in France, made a similar move last year. It is rather a remarkable fact that while practically all of the many American bicycle makers, who went into the manufacture of automobiles, discontinued the production of bicycles, comparatively few of their competitors across the water, who similarly took up motor cars, let go of their bicycle business.

#### Selden Licenses for Five More.

Another group of licensees, under the Selden patent, has been announced by the Association of Licensed Automobile Manufacturers, the new names appearing on the licensed list, in addition to those already given, being the Cartercar Co., Pontiac, Mich.; Ewing Automobile Co., Geneva, Ohio; Fuller Buggy Co., Jackson, Mich.; Rapid Motor Vehicle Co., Pontiac, Mich., and Brewster & Co., of New York, importing the Delaunay-Belleville. The complete list of licensees up to January 29 contains the names of 62 American manufacturers and two importers.

#### Baumheckel Makes a Change.

Charles Baumheckel, formerly of the Standard Varnish Co., Cleveland, has resigned his connection with that concern and become identified with the Forbes Varnish Co., of the same city, of which he has been elected vice-president. Baumheckel's duties will keep him circulating in the automobile trade as of yore.

#### Gilbert Opens a New York Branch.

The Gilbert Mfg. Co., of New Haven, Conn., has opened a branch in New York City, at 2002 Broadway, corner of Sixty-eighth street. The branch is to maintain a complete stock of Gilbert motor car accessories and Bowers carburettors for the convenience of the New York trade.

#### Croninger Joins American Locomotive.

R. Harry Croninger has resigned from the Pennsylvania Auto-Motor Co., of Bryn Mawr, Pa., to assume the management of the American Locomotive Co.'s plant at Providence, building the Alco cars. The change took place on the 1st of February.



**YEAR'S EXPORTS NEARLY \$8,000,000**

**Gain During Twelve-Month Almost Reaches \$3,000,000—Canada, Great Britain and France the Biggest Buyers.**

Exports of American motor cars are still climbing higher and higher. During the month of December there were shipped abroad three times as many cars as during the corresponding month of 1908, the quantities being 458 and 159 respectively. The average value of the exported cars fell, however, from \$1,445 to \$1,099 per car. The aggregate value of the 458 cars was \$503,431; that of the parts, \$96,604; the total value of both being \$600,035, compared with \$264,171 in the same period of 1908. The gain in car values amounts to more than 219 per cent.; that in the value of parts to over 281 per cent.

For the twelve months of 1909, ending December 31, the aggregate gain over 1908 amounted to \$2,838,023. During this interval 3,686 cars were exported, as against 2,164 in 1908; the gain in car values amounting to \$2,542,738, while parts values improved to the tune of \$295,285. As was clearly foreshadowed in the monthly reports, Italy shows the chief falling off in imports of motor cars from America, the British East Indies being the only other country in which no increase can be shown. The greatest actual gain is presented by British North America, where the value of cars imported from this country increased from \$1,115,540 in 1908, to \$2,437,042 in 1909, a clear gain of over 110 per cent. The greatest proportionate gain, however, is shown by Africa, to which country were shipped during 1909 fully \$69,181 worth, compared to \$14,993 in 1908, a gain of nearly 500 per cent.

Twelve of the fourteen countries stand on the plus side, with British North America leading, and the United Kingdom, France, Mexico and the West Indies following in the order named. Italy and the British East Indies are on the minus side, with an aggregate loss of \$41,279. The report in detail:

	December		Twelve Months Ending December			
	1908	1909	1907	1908	1909	
Automobiles, and parts of—						
Automobiles .....	\$229,817	\$503,431	\$5,120,963	\$4,346,293	\$6,889,031	
Parts of .....	34,354	96,604	636,009	602,301	897,586	
Exported to—						
United Kingdom .....	66,730	155,442	1,738,488	1,728,704	2,059,206	
France .....	12,166	28,365	596,450	560,449	846,136	
Germany .....	175	8,992	175,250	158,979	181,087	
Italy .....	11,000	498	255,160	248,519	224,068	
Other Europe .....	12,994	23,110	288,211	217,172	335,675	
British North America .....	40,174	174,795	1,167,355	1,115,540	2,437,042	
Mexico .....	20,208	44,001	629,807	312,603	494,238	
West Indies and Bermuda .....	38,492	46,490	293,885	198,078	337,414	
South America .....	19,041	28,787	244,466	126,285	240,453	
British East Indies .....	1,034	1,747	35,586	25,111	18,283	
British Australasia .....	11,712	56,415	213,645	87,543	303,452	
Other Asia and Oceania .....	11,477	19,242	99,009	129,968	191,448	
Africa .....	7,402	7,181	8,194	14,993	69,181	
Other countries .....	2,566	4,970	11,466	24,650	48,934	
<b>Total .....</b>	<b>\$264,171</b>	<b>\$600,035</b>	<b>\$5,756,972</b>	<b>\$4,948,594</b>	<b>\$7,786,617</b>	

**Body Builders, Too, Cross the River.**

As a means of providing for the growing Canadian trade, the Victor Mfg. Co., of Detroit, Mich., and the Walkerville Carriage Goods Co., of Walkerville, Ont., which latter is just across the river from Detroit, have come to an arrangement by which the factory property formerly occupied by the Imperial Rattan Co., in Walkerville, will be used for the manufacture of automobile bodies and the building of tops. The woodwork and painting will be in the hands of the Victor company, while the trimmings and tops will be taken care of by the Carriage Goods Co., whose main plant is across the street. The establishment of Canadian branch factories by Detroit makers of cars is looked to for the main volume of anticipated business.

**Marion Men to Make a \$650 Car.**

Some confusion is likely to arise, at least in a limited circle, if a new motor car manufacturing company, which has started in Marion, Ind., carries out its expressed intention of calling its product the Marion Flyer, as already there is a car of this name on the market, made by the Willys-Overland Co., of Toledo and Indianapolis. The new concern, which is known as the Marion Automobile Mfg. Co., has taken a location at Western avenue and West Second street for a factory, and announces that its machines are to sell for \$650. It is controlled by three Marion young men, Clifford Rust, Charles Rennaker and John Rennaker.

**Allen Near to Fort Wayne Money.**

Having agreed to raise \$50,000 to induce a new concern called the Allen Motor Car Co., to locate in Fort Wayne, Ind., the citizens of that place already have secured \$35,000, and are taking active measures to obtain the remaining \$15,000 of the amount. A committee is working to that end.

**Old Company to Make Automobile Wheels.**

The Sarven Wheel Co., Indianapolis, Ind., the formation of which dates back to 1850, has installed the necessary machinery and commenced the production of automobile wheels. Heretofore the company has manufactured carriage and wagon wheels only.

**NEW JERSEY LOPS OFF "DEADWOOD"**

**Long List of Corporations Whose Charters are Annuled—Few Ever Got Beyond the Hopeful "Paper Stage."**

As usual, New Jersey's annual weeding out of corporations that have for the last two years failed, refused or neglected to pay the State taxes assessed against them for the year 1907, resulted in the rescinding of several hundred charters. Most of the delinquents never got beyond the "paper stage," the laws of New Jersey being of the sort that encourage the incorporation of mere schemes as well as hemillioned trusts. Among the charters that have been declared null and void are as follows:

Aitken Light Car Co., Allegheny Motor Vehicle Co., Atlantic Automobile and Machine Works, Auto Cushioned Hub Co., Automobile Press, Automobile Speedway Co. of New Jersey, Automobile Wheel and Rim Co., Belden Automobile Transmission Co., B. & L. Lubricant Co., Chicago Battery Co., CO2 Motor Co., Complete Combustion Co., Consumers' Tire and Rubber Co., Cook Kerosene Carburetter Co., Crimson Seal Lubricant Co., Cuba Motor Tally-Ho Co., Dealers' Automobile Exchange and Development Co., DeVoll Tire Co., E. A. Gantert Co., Eagle Automobile Co., Elberon Automobile Co., Empire Garage Co., Grieb Rubber Co., Guarantee Auto Supply Co., International Engineering Co., International Mfg. Co., Ivel Agricultural Motor Co. of America, Kerosene Carburetter Co., Lebanon Motor Works, McLean Automobile Co., Mobile Electric Co., Montclair Auto Station Co., Motorvehicle Co., National Flexible Shaft Co., Newark Motor Car Co., New Jersey Auto Car Co., New Jersey Touring Co., New York Broadway Rubber Tire Co., North Jersey Automobile and Engineering Co., Passaic Motor Car Co., Pneumatic Tire Shield Co., Pneumatic Tool Improvement Co., Rockaway Automobile Co., Touraine Motor Co., Trenton Auto Transit Co., Vandegrift Automobile Co., Victor Auto Tire Repair Co., White Motor Co. and Wilmot Motor and Cycle Mfg. Co.

**Fisher to Manage a Babcock Branch.**

John T. Fisher has been appointed manager of the Chicago branch of the Babcock Electric Carriage Co., which maintains in the Windy City one of the most elaborate electric garages and salesrooms in the country, at Thirty-ninth street and Grand boulevard. For the past two months Fisher has been a traveling representative of the Chicago branch, previous to which he was the Chicago manager of the Hendee Mfg. Co., of Springfield, Mass., makers of motorcycles; for some time previous to his handling of the "Indian," he was identified with the Mercedes interests in Chicago.

**THE WEEK'S INCORPORATIONS.**

Portland, Ore.—Auto Top Co., under Oregon laws, with \$5,000 capital.

Detroit, Mich.—Cromwell Motor Co., under Michigan laws, with \$1,000 capital.

Detroit, Mich.—Sterling Auto Top Co., under Michigan laws, with \$25,000 capital.

Muskogee, Okla.—Oklahoma Auto Supply Co., under Oklahoma laws, with \$25,000 capital.

Manchester, N. H.—Lebanon Automobile Co., under New Hampshire laws, with \$15,000 capital.

Kansas City, Mo.—Western Commercial Motor Car Co., under Missouri laws, with \$10,000 capital.

Manchester, N. H.—Bridge Street Auto Garage Co., The, under New Hampshire laws, with \$10,000 capital.

San Antonio, Tex.—Citizens Auto Co., under Texas laws, with \$35,000 capital; general automobile business.

Marietta, Ohio—Marietta Motor Car Co., under Ohio laws, with \$10,000 capital. Corporators—G. S. Ellis and others.

Cleveland, Ohio—Pullman Motor Car Co., under Ohio laws, with \$25,000 capital. Corporators—F. C. Thornton and others.

Philadelphia, Pa.—Bergdoll-Hall Motor Car Co., under Pennsylvania laws, with \$25,000 capital. Corporators—Albert Hall, J. Hall and C. A. Bergdoll.

Ogdensburg, N. Y.—Hannan & Henry Motor Car Co., under New York laws, with \$12,000 capital. Corporators—D. C. Henry, R. J. Henry and M. J. Coffey.

Hartford, Conn.—Hartford Automobile and Boat Supply Co., under Connecticut laws. Corporators—T. Edward Oakes, William J. Rabbitt and George J. Stoner.

Chicago, Ill.—Plymouth Garage Co., under Illinois laws, with \$2,500 capital; general garage business. Corporators—John H. McGay, John J. Downey and Isaac N. Walker.

Boston, Mass.—Motor Specialties Co., under Massachusetts laws, with \$100,000 capital; to deal in automobiles and machinery. Corporators—F. V. Stone, Newton Highlands; S. Shaw, Newton.

Peru, Ind.—Mais Motor Truck Co., The, under Indiana laws, with \$300,000 capital; manufacturers. Corporators—M. G. Cochran, E. W. Spencer, A. F. Mais, A. W. Markham and W. A. Wood.

Philadelphia, Pa.—Carlson Motor Vehicle Co., under Pennsylvania laws, with \$10,000 capital. Corporators—Philip S. Smith, Mt. Airy; Charles A. Carlson, Brooklyn, and E. U. Crosby, Germantown.

Rutherford, N. J.—Lumund Motor Car Co., under New Jersey laws, with \$150,000 capital; to manufacture automobiles. Corporators—J. Lumund, Y. Lumund, Rutherford; J. Delmonte, New York City.

Chicago, Ill.—Auto Sales Co., under Illinois laws, with \$10,000 capital; to deal in

automobiles, engines, machinery, etc. Corporators—Henry S. Hawley, E. H. Bell, C. P. Cogswell, Jr., and Victor Courtright.

Jersey City, N. J.—Ellis-Tonnele Co., under New Jersey laws, with \$50,000 capital; to deal in automobiles, etc. Corporators—A. L. Ellis, Metuchen; L. J. Tonnele, Newark, and L. E. Herrmann, Jersey City.

Syracuse, N. Y.—American Motor League, under New York laws, with \$25,000 capital; to manufacture and deal in engines, motors, motor vehicles, etc. Corporators—A. A. Schlachter, J. J. Barrett and S. G. Schlachter.

Amsterdam, N. Y.—Merriam & Howland Auto Co., under New York laws, with \$15,000 capital. Corporators—N. L. Finch, Gloversville; W. J. Merriam, L. T. Howland, L. H. Finch and C. H. Inman, Amsterdam.

Skowhegan, Me.—Skowhegan Garage Co., under Maine laws, with \$10,000 capital; to deal in automobiles and motorcycles. Corporators—William H. Norton, Skowhegan; Charles M. Hobbs and H. I. Spinney, Farmington.

Cornwall-on-Hudson, N. Y.—Hatfield Co., The, under New York laws, with \$125,000 capital; to deal in automobiles. Corporators—D. H. McConnell, A. S. Hoyt, G. W. Blanelord, C. B. Hatfield and G. G. Brown, of New York City.

Newark, N. J.—Markowsky Inventions Co., under New Jersey laws, with \$50,000 capital; to manufacture automobiles, mechanical devices, etc. Corporators—W. M. Brown, H. C. Beecher, Newark; A. Markowsky, Jersey City.

Syracuse, N. Y.—Brown-Lipe-Chapin Co., under New York laws, with \$1,500,000 capital; to manufacture differential gears. Corporators—Alexander T. Brown, W. C. Lipe, H. W. Chapin, Syracuse; C. S. Mott and H. J. Mallory, Flint, Mich.

Frederick, Okla.—Dixie Motor Car Co., The, under Oklahoma laws, with \$250,000 capital; to manufacture automobiles. Corporators—R. C. Benner, C. M. Fuller, Jr., E. I. Holt, T. H. Lindley, J. A. Piliam, Oscar M. Abt and W. E. Taylor, all of Oklahoma City.

**Increases of Capitalization.**

Muskegon, Mich.—Michigan Crank Shaft Co., increases capital from \$10,000 to \$20,000.

New York, N. Y.—Palmer & Singer Mfg. Co., increases capital from \$400,000 to \$1,000,000.

Chicopee Falls, Mass.—Fisk Rubber Co., a Delaware corporation, increases capital from \$600,000 to \$4,000,000.

Chicago, Ill.—City Motor Cab Co., increases capital from \$50,000 to \$200,000; Randolph Motor Car Co., increases capital from \$200,000 to \$500,000; Woods Motor Vehicle Co., increases capital from \$150,000 to \$300,000.

**GATHERED TO THEIR FATHERS.****George J. Bradley.**

George J. Bradley, manager of the Detroit and Cleveland branches of the Diamond Rubber Co., died at his home in Cleveland, on Thursday 27th ult., after a short illness of pneumonia. He contracted a cold in Detroit, and upon returning to Cleveland was obliged to take to his bed on Friday of the week preceding his death. After a consultation of physicians on Monday, pneumonia serum was administered, but without success. Mr. Bradley sank into unconsciousness Wednesday and remained in that condition to the end. The funeral services were held from Wade Memorial Chapel, in Cleveland, on Saturday 29th ult.

Although but 31 years old, Mr. Bradley was prominent among the men identified with the automobile business, and was one of the most valued men in the Diamond Rubber Co.'s sales organization. He had been with the company seven years, his initial experience having been that of salesman in the New York branch. Five years ago he was made manager of the Cleveland branch, and last year the Detroit branch also was placed under his management. Prior to his connection with the Diamond organization, Mr. Bradley was with the Marsh-Davis Co., of Chicago, in the cycle trade. In Cleveland he maintained a home for his mother, besides whom he leaves one sister residing in Chicago.

**Francis P. Prial.**

Francis P. Prial, editor and publisher of the Motorcycle Illustrated, and one of the best read and most gifted writers who ever penned a line for a class publication, died at his home in New York City on Monday last, January 31st. He contracted typhoid fever during the recent Madison Square Garden show and when it was believed that he would recover, he took a sudden turn for the worse, which he was unable to withstand. He was 46 years of age and unmarried. It was not because of his connection with motorcycling, however, that Mr. Prial was best known, but because of his ownership of The Wheel, which from a modest beginning became, during the heyday of the bicycle, one of the largest and most widely known and handsomest properties in the field of class journalism. Mr. Prial was personally and even intimately acquainted with practically all of the many former bicycle men who today are conspicuous in the automobile industry. During the babyhood of the latter and before it possessed a publication devoted to its interests, Mr. Prial made all arrangements to issue such a journal; he had the title selected, the drawings made and other details in hand, but finally abandoned his intention. Mr. Prial was in every sense a self-made man. The collapse of the bicycle craze cost him almost his last penny, but by industry he had regained a part of his loss.

## IN THE RETAIL WORLD.

K. Aycock, San Angelo, Tex., has embarked in the business; he has the agency for the Kisselkar.

W. G. Brown, of Triplett, Mo., has taken on automobiles and opened a salesroom. He will talk Ford cars.

W. L. Campbell, of Holden, Mo., has opened a repair shop in that bailiwick; he has the Buick agency.

R. L. Rhea, of Wichita, Kan., has opened salesrooms at 1515 Fairview avenue. He will handle the Mitchell line.

F. W. Force has "opened up" at 318 West Tenth street, Los Angeles, Cal. He is handling the Mercer car.

H. T. D. Wilson is remodeling the former Bijou Theatre building at San Jacinto street and Prairie avenue, Houston, Tex., for garage purposes.

Sam T. Hoff, of Lexington, Mo., has taken possession of his new brick garage. 30x78. He represents the Stoddard-Dayton, Mora, Crawford and Courier.

Willis C. Moore & Co., of Torrington, Conn., have embarked in the automobile business in that place; they have leased the garage which is being erected on Water street.

John T. Coffee, of Georgetown, and E. H. Von Boeckman, of Seguin, are recent additions to the Texas retail trade; the former handles the Jackson, the latter the Ford car.

V. O. Herman, of Garden City, Kan., has embarked in the automobile business in that place and is preparing to open a salesroom and garage. It will be ready for business about March 1.

Thomas Dolan, of Philadelphia, Pa., has had plans drawn for a garage to be erected at 1918-1920 Sansom street. The structure will be of brick with stone trimmings, 31½x80 dimensions.

Daniel Ripley is erecting what will be styled the Savoy Garage, at Main street and Pease avenue, Houston, Tex.; it will be a two-story structure in which modern equipment will be installed.

The Ellison Motor and Supply Co., of Haverhill, Mass., has been formed by J. O. Ellison, formerly local Ford agent, and R. F. Page, and has opened quarters in the Bradford district.

Carl L. Braun, Jr., of Lowell, Mass., has acquired an interest in the City Hall garage in Moody street, and the establishment henceforth will be operated by the firm of Smith & Braun as co-partners.

Harry Kerst, of Jersey City, N. J., has filed plans for a fireproof garage, 49.8x75, to be erected at 89 Crescent avenue. The establishment will be equipped with modern appliances and will cost \$6,500.

The Northwestern Stearns Co., which recently was formed in Minneapolis to handle the Stearns car in the Northwestern States, will act as distributing agent for

the Croxton-Keeton line also, in the same territory.

The Smith-Morgan Co., of Youngstown, Ohio, have taken possession of their new garage in East Boardman street, which is one of the largest in the city. The establishment is exclusively Buick in its trade connections.

The Overland Auto Co. has been organized in San Antonio, Tex., to handle the car of that name, and will locate in a new building on St. Mary's street. R. W. Aiken, W. H. Marsh and Walter P. Franz are the members of the company.

The Carroll Auto Co., of Houston, Tex., has leased the building at the corner of Travis street and Rusk avenue, and will occupy it as a salesroom when alterations are completed. They are Overland representatives for Houston and vicinity.

E. O. Thackson and T. J. Massey have formed the Overland Auto Sales Co., in Fort Worth, Tex., and will handle Overland and Marion cars in four counties of that State. They have opened a pretentious salesroom at 110 Eleventh street.

Garages are springing up like mushrooms, seemingly, on Farnam street, Omaha, Neb., the local "automobile row." The McIntyre Automobile Co. is the latest concern to locate on that thoroughfare; it is having built an establishment near the Smith garage.

Fifty-five electric vehicles were destroyed in a fire which consumed the garage of the Babcock Electric Carriage Co., at Rochester, N. Y., last week, which was one of the finest in the State. The blaze, which did \$200,000 damage, was caused by an explosion of gasoline.

The Field Automobile Co., of Lincoln, Neb., has opened a garage at Ninth and Q streets, which, among other things, will be devoted to the manufacture of a 30 horsepower car. It is claimed that the newcomer will have several features of more than ordinary merit.

Lapetina & Connor is the style of a new firm which has opened a garage at 1141 South Broad street, Philadelphia, Pa. They will devote considerable attention to the renting of both pleasure and commercial cars, both members having had a wide experience in this line.

J. T. Rice, of Los Angeles, Cal., who handles the Corbin, has taken possession of his new home on Olive street, adjoining the Stoddard-Dayton establishment. Since its introduction in the Angel City, the Corbin was stationed at 849 South Broadway until the recent removal.

The Monroe Motor Co., of Denver, Colo., a new firm in the Mile High City, has opened up at 1640 Broadway. Edward Monroe, of Boulder, and Peyton R. Hough are the powers that be in the concern, which will act as distributors for the Warren-Detroit and Krit cars in Colorado, Wyoming and Utah.

The Citizens Auto Co., of San Antonio, Tex., has staked a claim in the local field and is having built on Travis street a large and modern garage which will cost \$18,000, and soon will be ready for occupancy. The concern, which is organized on co-operative lines, will handle the Thomas, Apperson and Black Crow.

C. F. Roetzel, of Boonville, Ind., who conducts a foundry and machine shop, will erect a garage adjoining his present establishment. The structure will be 40x90, and will face on Third street. Equipment also is being installed in the foundry, preparatory to seeking a share of the automobile castings business.

The Mich-Stair Auto Co., of Minneapolis, Minn., has been appointed distributing agent for the Overland car for 24 counties in Minnesota and six in Wisconsin, and will have the distribution of Overland parts for the whole Northwest. The company, however, will continue to represent the Knox also as heretofore.

The West End Automobile Co., of Duluth, Minn., is to have a new home in the spring, which will be located on Superior street, between Seventeenth and Eighteenth avenues, and will cost \$15,000. It will be a brick and concrete structure, having two stories on Superior street and three on Michigan street, and will include a repair shop.

The Tidewater Automobile and Garage Co., of Norfolk, Va., has leased for a term of five years the plot at the corner of Tazewell and Boush streets, and has let the contract for the erection of a one-story brick garage, to cost \$6,000. The building will be 74x100, with its main entrance on Tazewell street; there will be a detached machine shop in the rear.

The Shelby Automobile Co., of Bristol, Tenn., is a new concern which has shied its castor in the ring from a new home erected for it at 515 Shelby street. The building, which will be occupied as a salesroom and garage, is two stories, 42x90, built of brick and concrete and cost \$6,000. The firm has the E-M-F. agency and contemplates taking on other cars.

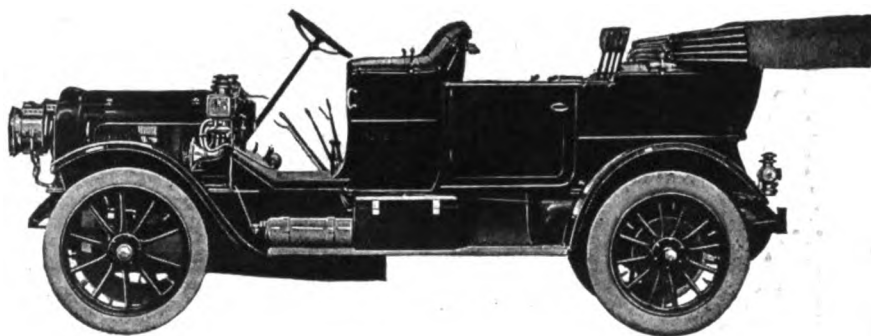
The Arnold Motor Co., of Wichita, Kan., which represents the Auburn, Inter-State and Regal locally, has taken possession of its new garage at 215-217 South Lawrence avenue. It is a two-story structure, 50x140, and cost approximately \$50,000. The equipment includes a well appointed repair shop and electric charging plant, in which latter field the company will specialize.

The Totten Auto Co., of Rock Island, Ill., has been formed to furnish more capital and take over the automobile business of W. C. Totten, at 1708 Third avenue. With the expansion of the business several new cars have been taken on, the line now consisting of the Maxwell, Buick, Regal and Welch and the Ideal electric; a livery service also shortly will be established.

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### Abandoning the Road Test.

Signs are not lacking that the pleasant days of the road tester are numbered. Already the announcement is being made by some of the car manufacturers that they are abandoning outdoor testing altogether, and testing on private test tracks at the factory was adopted some time ago by many of the makers. Deploable as the policy of having no more road testing may appear to the drivers who have been employed in the work, it has everything to recommend it to the manufacturer, and nothing to alarm the prospective purchaser of a machine.

Much of the road testing of the past has been nothing more or less than a modified form of joy riding. The drivers have betaken themselves off on long jaunts in a happy spirit of irresponsibility, have covered themselves in regard to missing hours by imaginative reports of road trouble, and have performed an actual degree of service greatly inadequate to their expense, despite the fact

that a certain proportion of them have been faithful and honest in the discharge of their duties as they saw them.

Testing on private tracks in the factory grounds has been a vast improvement for the manufacturer, tending to keep the cars and drivers under direct supervision, and indoor testing represents a still further advantage, except for the first few cars of a new and untried model. All the test that is necessary can be given on the rollers indoors, for speed and hill climbing, and if necessary the rollers may be fitted with bumps to give the effect of road jarring. One man can test several cars at the same time, and the cars can be tested complete with their bodies without damage to the latter.

As a matter of fact it is desirable for several reasons that cars be tested with their bodies on, and either road or track testing is calculated seriously to mar the bodies. In the fitting of the body and the preparing of the car for the showroom floor, there are many little mal-adjustments which may occur to the mechanism, particularly in the controlling devices, relating to ignition, gear change, brakes and the like, and if no test is given the car after the body is mounted they are not discovered before the car reaches the agent or the purchaser.

It is possible that in some cases a combination of a brief track test and an indoor test with the body on would be best. New models under trial by their designers or by experts should, of course, have their full measure of hard road work, but the more closely the testing of the general run of the cars can be kept within the factory confines, the more economical and satisfactory it is likely to be.

### Separate Contracts for Commercials.

Such big differences exist in the methods necessary for selling pleasure cars and for selling commercial vehicles that the dealer who is successful with the former may be almost useless to the manufacturer when it comes to disposing of the latter type. For this reason a certain degree of caution is being exercised by makers producing both types as to the granting of exclusive agencies for their whole lines, the inclination being to make reservations which limit the dealer to exclusive privileges on the pleasure cars alone.

Where a dealer has shown conspicuous success in pleasure cars and manifests a fair amount of promise as to the ability to place commercial vehicles he is undoubtedly entitled to the preference in getting the agency for the latter from the maker whose pleasure

cars he handles. In such cases, however, some of the more far-seeing makers divide the two classes of machines into separate contracts, so that if necessary one or the other type may be withdrawn to be put in other hands.

By their very nature the pleasure car and the commercial vehicle require a certain difference in sales methods, despite the fact that there are some customers who buy pleasure cars in a most coldly calculating spirit and an occasional commercial vehicle buyer who makes his purchase in an enthusiasm for the automobile as a progressive invention and is influenced in his choice by the glamorous reputation of the maker. In most instances the purely commercial cars or trucks are sold only as the result of marshalling logic and arithmetic in compelling array and supplementing this with the hardest kind of "plugging" and selling persistence. It is necessary to persuade the ledgers and the cost accounts that money would be saved, which is quite another matter than making a customer of a man who is itching to possess what he sees.

In the matter of temperament alone, the dealer who is an excellent medium for marketing pleasure cars may be wholly unsuited to the plodding task of canvassing prospects for motor trucks and the like, whereas a different type of man, with a capacity for figures and a determined selling method, may do well with commercials when he would be a dull bore for intending pleasure car purchasers.

Even the most experienced of the manufacturers of commercial automobiles admit that selling these vehicles is a field in which there is a comparatively limited experience to draw from and in which a great deal of trial and experiment as to methods is still necessary. It is for this reason that the makers who are building both types have reason to hold themselves as free as possible in the matter of marketing their commercial cars, avoiding the mistake of tying up their representation as the result of too inclusive contracts with their dealers.

### "Amateurs" and Motor Sport.

According to well-defined reports, the American Automobile Association intends to make the term "amateur" stand for more than a mere word in its regulations, which is in the nature of wholesome news.

Amateurism is the cornerstone of real sport, and is the only sort of sport that finally endures. Up to the present time automobiling chiefly has been distinguished by the "manufactured" article—the sort of sport that is bought and paid for and that

has money and commercialism for its beginning and its ending. It is the sort of sport that ceases when the "manufacturers" of it find it profitless or discover something that pays better. Automobile sport is but another word for such professionalism.

The amateur spirit, the love of sport for sport's sake, has been so long throttled and wet blanketed that it is rather late for the A. A. A. to set about breathing life into it; and the fault largely is the fault of the A. A. A. But it is better late than never. The success attained will be determined by the vigor of the effort and the result of the effort will determine whether a sport will remain when the present era of professionalism has run its course. The fact may not now be so apparent as it will be when that time arrives.

Proper methods of safeguarding garages against the dangers which may arise from the presence of inflammable vapors have been known for so long that it seems almost incomprehensible that such establishments should be permitted to continue when heated by ordinary coal stoves, set on the main floor in close proximity to the cars. Yet that such is the condition which exists in many garages outside the greater cities is a matter of observation to those who do much touring. The recent burning of a garage in Albany, N. Y., due to this admittedly unsafe arrangement of the heating apparatus, emphasizes the need of repeating the caution that all furnaces, forges and open-flame lights should be isolated from floors and rooms where cars are stored or repair work done. The fact that the fire in question was the second to occur in the same building and from a similar cause, points to egregious carelessness and absolute disregard of the commonest principles of fire protection. That such heedless arrangements should be permitted to continue, would seem to indicate that some traces of the old spirit of "taking chances" still remains in certain branches of the industry.

Perhaps the truth of the old proverb, "Give a dog a bad name, and it will stick to him," never was better exemplified than by the manner in which the chauffeur is made the chief target of all present-day legislation. The "gay young blade" with plenty of father's money, who is responsible for not a few "outrages," appears to be wholly overlooked.

## COMING EVENTS

January 28-February 5, Edinburgh, Scotland—Scottish Motor Trade Association's annual show in Waverly Market.

January 29-February 5, Grand Forks, N. D.—Northwestern Implement Dealers' first annual automobile show.

February 1-5, Grand Forks, N. D.—Grand Forks Automobile Dealers' first annual show.

February 5-6, New Orleans, La.—New Orleans Automobile Club's annual Mardi Gras speed carnival.

February 5-12, Chicago, Ill.—National Association of Automobile Manufacturers' ninth annual show in Coliseum.

February 8-14, Los Angeles, Cal.—Automobile Dealers' Association of Southern California's show in Grand avenue rink.

February 14-19, Buffalo, N. Y.—Automobile Club of Buffalo's eighth annual show in Convention Hall.

February 14-19, Hartford, Conn.—Hartford Automobile Dealers Association's third annual show in Foot Guard Armory.

February 14-19, St. Louis, Mo.—St. Louis Automobile Dealers Association's annual show in First Regiment Armory.

February 15-17, Washington, D. C.—American Automobile Association's national legislative convention.

February 17-19, Grand Rapids, Mich.—Grand Rapids Automobile Club's first annual show.

February 18-22, Fargo, N. D.—Fargo Automobile Dealers first annual show.

February 19-26, Los Angeles, Cal.—Licensed Association of Los Angeles' first annual show in Hamburger building.

February 19-26, Minneapolis, Minn.—Minneapolis Automobile Show Association's exhibition in National Guard Armory.

February 19-26, Newark, N. J.—Associated Automobile Clubs of New Jersey's show in Essex Armory.

February 19-26, Salt Lake City, Utah—Automobile show in Auditorium.

February 21-26, Binghamton, N. Y.—Automobile show in State Armory.

February 21-26, Cincinnati, O.—Automobile Club of Cincinnati's annual show in Music Hall.

February 21-27, Cleveland, O.—Cleveland Automobile Dealers Association's annual show in Central Armory.

February 22, Los Angeles, Cal.—Los Angeles Licensed Dealers' Association's Pasadena-Altadena hill climb.

February 22-27, Milwaukee, Wis.—Milwaukee Automobile Club's second annual show in Auditorium.

February 28-March 5, Omaha, Neb.—Omaha and Council Bluffs Automobile Dealers' show in Auditorium.

February 24-March 3, Toronto, Can.—Ontario Motor League's show in St. Lawrence Arena.

February 28-March 4, Omaha, Neb.—Omaha and Council Bluffs Automobile Dealers' show.

February 28-March 5, Kansas City, Mo.—Kansas City Automobile Dealers Association's fourth annual show in Convention Hall.

March 5-12, Boston, Mass.—Boston Automobile Dealers Association's eighth annual show in Mechanics Building.

March 5-12, Cleveland, O.—Cleveland Automobile Club's eighth annual show in Central Armory.

March 5-12, Des Moines, Ia.—Des Moines Automobile Dealers Association's first annual show in Coliseum.

March 12-19, Syracuse, N. Y.—Syracuse Automobile Dealers Association's annual show in State Armory.

March 20, San Francisco, Cal.—San Francisco Motor Club's hill climb on Nineteenth avenue hill.

March 21-28, Denver, Col.—Denver Motor Club's annual show, in Convention Hall.

March 26-April 2, Montreal, Can.—Fourth National Automobile and Sportsmen's show.

March 28-29, Savannah, Ga.—Savannah Automobile Club's 675 miles endurance run to Jacksonville, Fla.

March 26-April 2, Pittsburg, Pa.—Pittsburg Automobile Dealers' Association's annual show in Duquesne Gardens.

March 17-19, Louisville, Ky.—Louisville Automobile Dealers Association's annual show in Armory.

April 8-17, Los Angeles, Cal.—Inaugural meet on the new Los Angeles Motordrome.

April 23-29, Bangor, Me.—Eastern Maine automobile and motor boat show in Auditorium.

June 1, Berlin, Germany.—Start of Prince Henry tour, finishing at Homburg on 8th.

June 11, Wilkes-Barre, Pa.—Wilkes-Barre Automobile Club's annual hill climb on Giant's Despair, Wilkes-Barre Mountain.

July 2, Wildwood, N. J.—North Wildwood Automobile Club's roadability run from Philadelphia to Wildwood.

July 4, Wildwood, N. J.—North Wildwood Automobile Club's annual beach races meet on Ocean drive.

August 6, Wildwood, N. J.—North Wildwood Automobile Club's beach race meet on Ocean drive.

September 5, Wildwood, N. J.—North Wildwood Automobile Club's beach race meet on Ocean drive.

## RADICAL DEPARTURE IN ENGINES

Remarkable Features Contained in a Chicago Production—Fuel Injection and but One Valve Employed.

In certain classes of steam machinery, notably in boiler feed pumps, distribution of the steam is accomplished by means of valves controlled by fluid pressure. Hitherto, so far as is known, no attempt has been made to apply the principle to the internal combustion motor. The Shortt engine, which is an entirely new production, is therefore exceedingly radical. For the operation of its one valve, which controls both air and fuel inlets, is accomplished by varying the effective air pressure back of an auxiliary piston, the movement of which actuates the main valve which is attached to the same stem as the small piston. The Shortt engine, which is being produced and marketed by W. M. Ryan Co., Chicago, Ill., otherwise is of unusual construction in that it employs the principle of fuel injection, and operates upon a two-stroke, scavenging cycle.

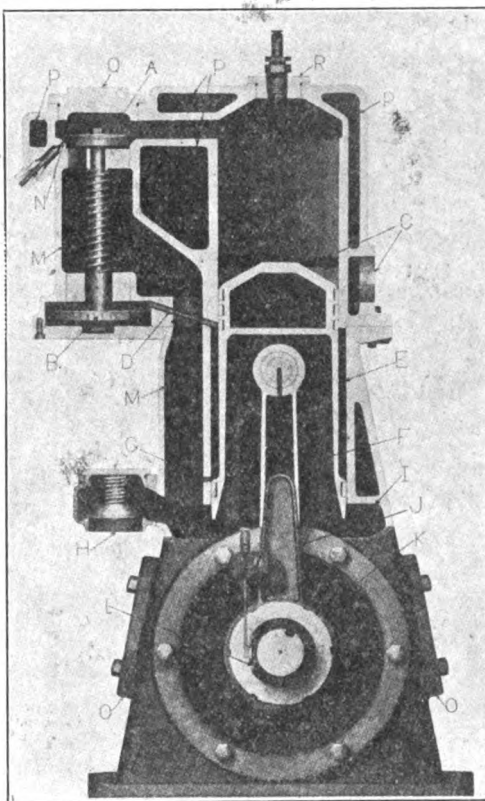
Although the design of the motor is radical in several respects, it is the method of valve actuation, which is most extraordinary and which is the key to the operation of the system. Purely for valve actuating purposes, a differential piston is employed, the counterbore of the cylinder in which the enlarged portion of the piston works, being only very slightly greater than the main or working bore. The main or trunk portion of the piston is protected from leakage by means of three packing rings of ordinary construction, while the enlarged diameter is protected by a single ring. The counterbore of the cylinder communicates by means of a single duct with the valve chest, while a small port leads from the lower part of the counterbore to the space outside the cylinder.

The valve chest, which leads from a transfer port to the cylinder, is fitted with a single poppet valve, which has an unusually long stem leading down to a supplementary cylinder in which is fitted the auxiliary piston. The lower part of the supplementary cylinder is sealed. But into the part above the auxiliary piston is led the duct from the counterbore of the main cylinder. A light spring holds the valve upon its seat.

It is evident that as the main piston performs its stroke, a partial vacuum must be created in the counterbore at each downward movement, which is broken as the piston uncovers the second and lower port in the counterbore. This alternate depression and raising of pressure is communicated through the duct of the supplementary cylinder, where it causes the auxiliary piston to rise and fall, following the cycle of the main piston, and thus causing the opening and closing of the valve. From this point

the action of the engine as a whole is readily comprehended.

The general arrangement of parts will be seen from the accompanying illustration, in which A is the main valve, B the auxiliary piston, C the exhaust ports in the cylinder wall, D the duct which leads from the counter bore of the main cylinder to the supplementary cylinder, E the counterbore portion of the main cylinder, G the open port of the lower part of the counterbore through which the vacuum in the supplementary cylinder is broken, H the automatic air valve to the crank case and the transfer port. The connecting rod F, crank case I,



DETAILS OF THE SHORTT ENGINE

timer lever and commutator J-L, water jacket P and spark plug R fulfil their usual functions. The remaining organ of importance is the fuel injection inlet N, which, during its inoperative intervals, is closed by the main valve A.

The cycle of operations is as follows: Pure air is drawn into the crank case during the up stroke of the piston through the valve H, and is compressed upon the subsequent down stroke of the piston. Coincident with this piston movement, a partial vacuum is created in the counterbored portion of the cylinder E, the depression being communicated through the duct D to the supplementary cylinder, where air pressure beneath it at once causes the auxiliary piston B to rise, lifting the main valve A from its seat and admitting the charge of compressed air to the cylinder.

Because of the greater pressure of the inflowing air than that back of the fuel, no gasolene or oil flows from the nozzle N,

although it is uncovered as soon as the main valve leaves its seat. The early portion of the induction period thus admits only a scavenging charge of pure air to the cylinder. As the pressure in the crank case and transfer port falls, as a result of expansion, however, it at length becomes less than the pressure which is maintained in the fuel line. In consequence, injection of fuel commences and lasts until the main valve is closed.

Obviously, the main valve is held open until the enlarged portion of the piston reaches the lower end of its travel, when the partial vacuum is broken by the uncovering of the release port G, which admits air from the transfer port. Rising pressure in the supplementary cylinder then permits the spring to force down the piston B and thus to close the main valve. The scavenging and induction period thus occupies a portion of one down stroke of the piston, the instant of opening of the main valve depending on the strength of the retaining spring.

The up stroke of the piston serves to compress the mixture, ignition occurring at the usual time. The down stroke, within the main cylinder, is taken up with the functions of expansion and exhaust, the latter occurring when the wall ports are uncovered. The action within the cylinder thus is of the regular two-cycle order, save that instead of introducing the gas above the piston, as with the ordinary three-port type of engine, it enters from the top of the cylinder, preceded by a charge of pure air which insulates the live gas from the exhaust products and thus provides for a clean firing charge.

In addition to the advantages derived from the scavenging of the cylinder and the injection of fuel directly into the combustion, these points are claimed in favor of the Shortt engine: It has no carburetter, no compressed gas in the crank case, no heavy and complicated valve gear and has "perfect" lubrication. The latter function is accomplished with the aid of a single oil cup which is placed alongside the cylinder just below the exhaust ports. From that point it is fed by gravity to other parts of the mechanism, the absence of fuel or gas in the crank case materially assisting in the process, since there is no tendency for the oil to be washed from the bearings, as sometimes is the case with the regular three-port engine. The Shortt engine is manufactured in various sizes, and in one and two cylinder units. With 3 by 3-inch cylinder dimensions, the rating given to 2½ to 3 horsepower, with 4 by 5-inch dimensions, the rating is given as 5 to 6 horsepower, and the speed range is stated as 200 to 1,000 revolutions per minute.

While the Ryan company states that the engine is the result of ten years experimentation and that it has been in actual service for three years, apparently it never has been applied to an automobile, although adaptable to such use.



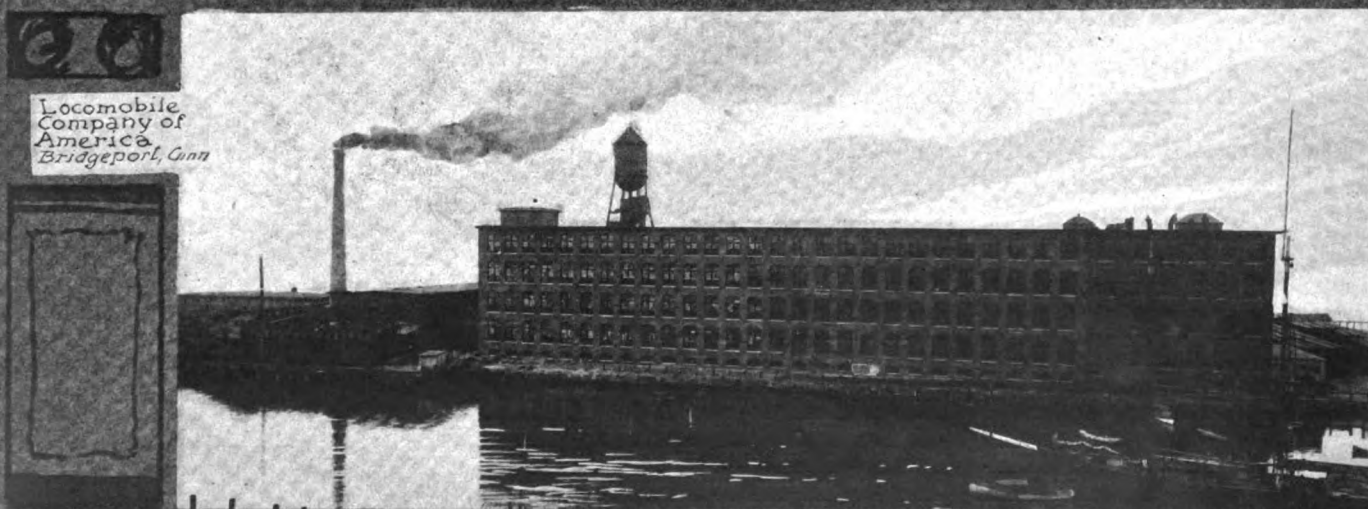
Willys  
Overland  
Co.  
Indianapolis  
and Toledo



Willys  
Overland  
Co.  
Indianapolis  
and Toledo



Willys  
Overland  
Co.  
Indianapolis  
and Toledo



Locomobile  
Company of  
America  
Bridgeport, Conn.

Representative American Automobile Factories.



# THE SHOW IN THE CHICAGO FOREST

**Most Picturesque of All Decorative Schemes Promised for the N. A. A. M. Exhibition  
—Both the Eye and the Nose Will be Appealed to—But Few Cars Will  
be Displayed That Were Not Seen at New York Shows.**

For the benefit of habitual showgoers who have been annoyed by that "polished smell" which commonly is associated with brand new carriage work, be it stated that the forthcoming exhibition in Chicago will be absolutely free from such offense. All shows popularly are supposed to possess something which is termed "atmosphere"; but the show which opens in the Coliseum on Saturday afternoon of this week, at half past two o'clock, is seriously forecasted as likely to outdo all others in this, as in respect to a number of other features of greater or less importance.

Having practically exhausted the possibilities of mural decoration in previous years, or so it seemed, Manager Samuel A. Miles, whose is the strong arm which will crank the show on Saturday afternoon, has sought on several occasions to charm the visitor by assailing other of the five senses. One time the strains of sweet music wafted from the throats of trained singers assailed the ears of the crowds in the aisles. Since that memorable occasion, however, the musical program has been confined to instrumental numbers. But this year, having discovered a brand new scheme of decoration, the resourceful management has hit upon an even more unusual method of reaching the hearts of the show's patrons through another of the five gateways to the soul.

With the rugged interior of the Coliseum transformed into a waving forest, with real trees swaying in the breeze and "real" bricks forming the ornamental walls upon which will be vine-clad iron fences, the show will be wholly novel and bewildering. But to make the illusion complete and leave nothing undone, it has been decided to "decorate the atmosphere," so to speak.

The reputation of the official press agent is staked upon it that all next week the air of the Coliseum will be pervaded by a "woody" smell. In the Coliseum Annex, which will be laid out in trellis garden style, the "perfuming of the rose" will be literal as well as figurative. The First Regiment Armory, too, will have an atmosphere all its own, and perfectly natural and in keeping with the pictorial effect.

Such elaborate measures would be out of the question were it not that the Chicago show is in many respects the most important of the annual and national functions to which the public is bidden. Indeed, it sometimes is called a two-in-one show be-

cause it follows so shortly after the two New York shows, and borrows a goodly portion of exhibits with equal impartiality from each. But it is more than that.

Not a few automobile manufacturers of the middle west finding it inexpedient to journey to New York, reserve their little annual surprises for the cold snap which usually ushers in the exhibition in the Coliseum, and thereby help to thaw out the chilled visitor from the East and South. Parts and accessory makers also are to be seen in Chicago, who seldom find their way to the other "big" shows, so that if the Chicago show is anything at all, it is a three-in-one show, as well as one of the most varied of all motor car displays; it partakes a little of each of the Palace and Garden shows in New York, and is a show in itself besides.

This will be the ninth show to be held under the auspices of the National Association of Automobile Manufacturers, and, incidentally, the twelfth which has been held in Chicago since the Windy City awoke to the importance of automobile transportation and finally made up its mind that the automobile had come to stay. In point of numbers of exhibitors, the show will be of about the same magnitude as it was last year—a trifle larger if anything. But even so, it will not be big enough to accommodate all who have knocked for admittance, for the waiting list is said to be the largest in the history of the show and to contain several not unimportant names.

Of motor car exhibitors there will be just 103; the accessory people will be 141 strong, while a baker's dozen of motorcycle displays will round out and complete the display. Among the automobile exhibitors, will be 19 who were not represented at either of the two recent New York shows, while the hitherto unexhibited accessories will be shown on some two score of stands. There also will be one new display of motor bicycles.

The layout of the show, and the decorative scheme which, of course, is purely incidental thereto, involves some rather bold and unusual planning. The main floor of the Coliseum will be divided into four sections, while on the northern and southern divisions, and midway of each, will be a playing fountain. North and South of each fountain will be a huge tree, 60 feet high and covered with "real" leaves, while on either side of each tree will be a brick pillar

bearing two lamps, and surmounted by vases of flowers. At the gallery end of each section will be another tree, while surrounding the trees and bounding the spaces between them will be fencing nine feet in height.

The end of each section running east and west will be marked out by a brick wall surmounted by iron fencing. The space divisions will be of picket fencing, ending in circular picket pillars. Midway between the pillars running north and south, the aisle will be marked by rows of small decorative trees of the formal order. Vases of flowers will surmount each of the numerous pillars, while the fencing will be covered with vines.

The forest effect will be extended to the gallery, where bay trees will be used extensively, while the entire ceiling will be formed by a huge canvas, constituting the world's largest single piece painting, so it is claimed, which will be 300 feet long and 210 feet in width. Stained glass panels and oil paintings will be employed in filling vacant spaces in the annex, which, in general will be given the rose garden effect already indicated. The Armory will have a stained glass roof, walls of trellis and foliage, and will be set off by the aid of a group of four pagodas in the center of the floor; rustic railings and vases of flowers completing the scheme.

The general order of decoration is supposed to suggest an English country estate and forest. In order to accomplish the illusion, it has been necessary to drag in from the country in their entirety the "big trees" which are to ornament the Coliseum, to import from Germany the leaves, which are fire-proofed, and to perform much magic in the construction of canvas skies, staff bricks and rustic fencing that will stand the test of closest inspection. Then, there will be the delicately flavored atmosphere itself—so delicate and realistic, it is declared, that a man with a cold will suffer almost as much of a handicap as one who is color blind or is unable to distinguish between various makes of spark plug merely by the sound of the engine exhaust.

As for the exhibits which are to be so elaborately surrounded, the very fact that so large a proportion of them have appeared in New York at the two national shows recently held, is sufficient guarantee of the variety and excellence of the show as a whole. The added increment of new things,

naturally increases the element of novelty and variety which it otherwise would have.

Among the new cars, are three which never have been displayed before, two of them being of very recent production, while the others, while products already known through two or more years of service, will be of interest by reason of additions and extensions to the respective lines, or changes in design and construction bringing out the effects of new thought on some of the more difficult problems which face the motor car builder.

The original list gave 96 car makers in all, 15 of them not having exhibited at New York. Late additions, however, have swollen the total to 106, as above stated, and increased the list of newcomers by four. The complete roster of machines which will make their initial appearance this year, therefore, is as follows: Auburn, Austin, Berliet, Clark, Diamond T, Dorris, Fuller, Great Western, Holsman, Lexington, Lion, Monitor, Rambler, Richmond, Ricketts, Rider-Lewis, Springfield, Sterling and Zimmerman. The Gaeth Automobile Co., and Pierce Motor Co., which also were added to the list too late for classification, exhibited at Grand Central Palace in New York.

The Lion, which is made by the Lion Motor Car Co., of Adrian, Mich., is a car of a little more than medium power and made to sell at a little less than medium price. Its rating is 40 horsepower, and it boasts a fully enclosed four cylinder unit power plant with 4½ by 5-inch cylinders, double ignition with Splitdorf magneto, electric lighting equipment and 36-inch wheels.

The name Sterling is intended for use as a selling slogan as well as a trademark. The Elkhart Motor Car Co., of Elkhart, Ind., makers of the car of that name, have produced a machine of 30-35 horsepower rating, with 4x5-inch cylinders, 118-inch wheel base and 34 by 3½-inch tires. The motor is of the conventional, four cylinder, water cooled type and is equipped with magneto ignition as a stock feature. An original "expanding wedge" form of enclosed clutch is employed, together with axle-mounted, selective change gear affording three forward speeds.

Lexington, Ky., is the home of the Lexington Motor Car Co., which produces the Lexington car. Although it has been on the market for some little time, the Lexington has not before appeared in Chicago, or, in fact, at any other of the National shows, and hence takes its place among the brand-new cars. It is a 40-45 horsepower machine built in touring and roadster forms upon generally standard lines. In both of the two chassis models produced it stands as a rather pretentious car selling at an unpretentious price.

Among the cars which have appeared at former shows, but which are to be exhibited at Chicago for the first time this year in a roster of National exhibitors, is the Auburn, named after the Indiana town

of its origin, which, from a modest beginning a number of years ago, has been developed to a point of most creditable style in appearance and quality in workmanship and material. It is now standardized in 40 horsepower size, and possesses a number of original mechanical characteristics.

The Rider-Lewis, which makes its second bow to the Chicago showgoer on Saturday afternoon, is a six cylinder machine of 40-45 horsepower rating and many points of original design. Its motor has overhead valves of unusually liberal proportions, thermo-syphon cooling and magneto ignition. It has a self-contained lubricating system which is minus pump and piping accessories, and in addition to the regular ignition system, has provision for a double equipment using dry cells as a standby. A special form of cone clutch with cork inserts is used, together with three-speed selective gearset mounted on the rear axle. Both touring and roadster types are produced. A lighter four cylinder model of 30 horsepower but embodying many of the characteristics of the larger machine is presented for the first time this year.

Great Western cars, though a product well known throughout the central and western sections of the country, never have appeared at any of the New York shows. At this time they are shown under a new firm name, the Model Automobile Co., as its makers formerly were known, having undergone a change in name only and now bearing a characteristic more easily identified with the car, being known as the Great Western Automobile Co. The machine itself, however, is much the same as heretofore, save for a few changes in engine design which are calculated to improve its performance and economy.

Originally introduced in motor buggy form, the Fuller, which is built by the Fuller Buggy Co., of Jackson, Mich., has undergone some little alteration until the most recent models, which are propelled by a 25-30 horsepower block motor, are of standard automobile form in every respect.

It is made for the low and medium price trade, and as intended for the eminently practical user, is equipped with planetary change gear. Utility and light commercial models still are made with twin opposed engines and solid tires, but the wheel diameters are only 36 inches, and the tire sizes two inches. The Zimmerman is another machine which was introduced to the public in high wheeled form, but which gradually has assumed more standard proportions.

Another of the newcomers will be the Dorris, a well-set and original machine of the four cylinder type, which is distinguished as being one of the first to carry the unit type of power plant in which the clutch and change gear housing is suspended from the engine bed casting. The way in which the power plant is mounted is particularly ingenious. The Richmond,

which is produced by the Wayne Works, in the Indiana town for which the vehicle is named, is an air-cooled product of long standing. The Ricketts, which comes from South Bend, Ind., and therefore possesses a near-local interest to Chicagoans, was brought out a couple of years ago in the form of a standard machine with a four-cylinder motor. Last year it was shown in six-cylinder form for the first time.

One of the four foreign products numbered in the exhibitors' list, the Berliet, and the only one of the quartet not exhibited at the Grand Central Palace in New York, occasionally has been confused by the uninitiated with the domestic product of the American Locomotive Co. This is due to the fact that the latter at one time was made under license from the French builder of the Berliet. Since the Alco superceded the American Berliet in mechanical features as well as in name, however, there is small chance of error in this respect.

First in its own particular class, the Holsman, which first made its appearance at an automobile show in its home city, and at one of the early Chicago exhibitions, has been a constant feature of these expositions ever since. Of the class of first-time-this-year exhibitors, it is the only one produced by a manufacturer himself exclusively devoted to the buggy type of vehicle.

Although exhibited in New York during the two shows at a private exhibition held by the local branch, Rambler cars will have their first airing in one of the big shows of the season in Chicago. They were displayed at Atlanta in November, however, where sundry of the new features which have been introduced since last year were offered for inspection to the local visitors and to such representatives of the trade as were on the ground. For the most part these are of a minor nature, but the new clutch, which is of the expanding shoe type, is a device worth studying, both for its mechanical simplicity and apparent success of design. The Austin is another car which was on view at Atlanta, but which was not at New York. Its massive construction and distinctive appearance are well known to showgoers in a general way, since its principal characteristics remain but little changed from year to year.

Among the accessory exhibits the official list includes less than the usual number of concerns which have not previously exhibited during the present show season. Owing to the practice in the past of admitting sundry latecomers through the courtesy of space holders, however, it is practically impossible to predict exactly how many newcomers will be on hand with novelties and practical additions of one sort and another to the already long list of accessories to the motor car.

Parts and accessory exhibits always form the liveliest and in many respects the most fascinating element of the typical show, at least from the standpoint of the seeker after clever bits of invention and for the visitor

who is of the eager and credulous type for which "side shows" originally were invented. Like the outposts of the old-time circus, the accessory people are the breeziest, most persistent and most tradewise element of the whole show. The holdovers from the earlier exhibitions of a national character, together with the addition of Chicago's own peculiar contingent, invariably cause

the galleries of the Coliseum and Armory fairly to overflow with varied displays.

Among the accessory exhibitors not at New York, will be the following: Auburn Auto Pump Co., S. Breakstone, Chicago Wind Shield Co., Continental Motor Mfg. Co., Detroit Motor Car Specialty Co., Fellwock Auto and Mfg. Co., Fulton-Zinke Co., Gates-Osborn Mfg. Co., Globe Machine &

Stamping Co., Holley Bros. Co., Imperial Brass Mfg. Co., Long Manufacturing Co., Motor Specialty Co., Never-Miss Spark Plug Co., Norton Co., Overland Sales Co., Point Spark Plug Co., Ross Gear and Tool Co., Standard Varnish Works, Triple Action Spring Co., Turner Brass Works, Twentieth Century Motor Car Supply Co. and Whiteley Steel Co.

## The Exhibitors, Their Wares and Where They will be Located.

\*Exhibited at New York.

### AUTOMOBILES.

#### Gasolene Pleasure Cars.

##### Coliseum—Main Floor.

\*American Locomotive Co., New York City (F1)—Alco.  
 \*Apperson Bros. Automobile Co., Kokomo, Ind. (E1)—Apperson.  
 \*Bartholomew Co., Peoria, Ill. (H1)—Glide.  
 \*Buick Motor Co., Flint, Mich. (D6)—Buick.  
 \*Cadillac Motor Car Co., Detroit, Mich. (D5)—Cadillac.  
 \*Chalmers-Detroit Motor Co., Detroit, Mich. (B4)—Chalmers-Detroit.  
 \*Columbia Motor Car Co., Hartford, Conn. (A5)—Columbia.  
 \*Corbin Motor Vehicle Corp., New Britain, Conn. (F4)—Corbin.  
 \*Dayton Motor Car Co., Dayton, Ohio (C2)—Stoddard-Dayton.  
 \*Elmore Mfg. Co., Clyde, Ohio (C6)—Elmore.  
 \*Everitt-Metzger-Flanders Co., Detroit, Mich. (A6)—E-M-F. "30" and Flanders "20."  
 \*Franklin Mfg. Co., H. H., Syracuse, N. Y. (B5)—Franklin.  
 \*Haynes Automobile Co., Kokomo, Ind. (C5)—Haynes.  
 \*Jeffery & Co., T. B., Kenosha, Wis. (D2)—Rambler.  
 \*Knox Automobile Co., Springfield, Mass. (E2)—Knox.  
 \*Locomobile Co. of America, Bridgeport, Conn. (A2)—Locomobile.  
 \*Matheson Motor Car Co., Wilkes-Barre, Pa. (F3)—Matheson.  
 \*Maxwell-Briscoe Motor Co., Tarrytown, N. Y. (C3)—Maxwell.  
 \*Mitchell Motor Car Co., Racine, Wis. (K1)—Mitchell.  
 \*National Motor Vehicle Co., Indianapolis, Ind. (H2)—National.  
 \*Nurdyke & Marmon Co., Indianapolis, Ind. (E4)—Marmon.  
 \*Olds Motor Works, Lansing Mich. (B6)—Oldsmobile.  
 \*Packard Motor Car Co., Detroit, Mich. (C1)—Packard.  
 \*Peerless Motor Car Co., Cleveland, Ohio (A3)—Peerless.  
 \*Pierce-Arrow Motor Car Co., Buffalo, N. Y. (D1)—Pierce-Arrow.  
 \*Pope Mfg. Co., Hartford, Conn. (C4)—Pope-Hartford.  
 \*Premier Motor Mfg. Co., Indianapolis, Ind. (B2)—Premier.  
 \*Reo Motor Car Co., Lansing, Mich. (B3)—Reo.  
 \*Ricketts Automobile Works, South Bend, Ind. (L1)—Ricketts.  
 \*Stevens-Duryea Co., Chicopee Falls, Mass. (D4)—Stevens-Duryea.  
 \*Studebaker Automobile Co., South Bend, Ind. (A4)—Studebaker-Garford.  
 \*Thomas Motor Co., E. R., Buffalo, N. Y. (D3)—Thomas.  
 \*White Co., The, Cleveland, Ohio (F2)—White; steam and gasolene.  
 \*Winton Motor Carriage Co., Cleveland, Ohio (A1)—Winton.

\*Hudson Motor Car Co., Detroit, Mich. (N1)—Hudson.  
 \*Lozier Motor Co., New York City (M1)—Lozier.  
 \*Metzger Motor Car Co., Detroit, Mich. (E3)—Everitt "30."  
 \*Midland Motor Co., Moline, Ill. (Q3)—Midland.  
 \*Oakland Motor Car Co., Pontiac, Mich. (P1)—Oakland.  
 \*Pennsylvania Auto Motor Co., Bryn Mawr, Pa. (Q1)—Pennsylvania.  
 \*Royal Tourist Car Co., Cleveland, Ohio (O1)—Royal Tourist.  
 \*Selden Motor Vehicle Co., Rochester, N. Y. (Q2)—Selden.  
 \*Stearns Co., F. B., Cleveland, Ohio (O2)—Stearns.

#### Basement.

\*Black Mfg. Co., Chicago, Ill. (14)—Black-Crow.  
 \*Cameron Car Co., Beverly, Mass. (27-30)—Cameron.  
 \*Elkhart Motor Car Co., Elkhart, Ind. (44-46)—Sterling.  
 \*Fal Motor Co., Chicago, Ill. (50-52)—Fal-car.  
 \*Fuller Buggy Co., Jackson, Mich. (58)—Fuller.  
 \*Great Western Automobile Co., Peru, Ind. (31-33)—Great Western.  
 \*Henderson Motor Sales Co., Indianapolis, Ind. (41-43)—Cole "30."  
 \*Inter-State Automobile Co., Muncie, Ind. (23-26)—Inter-State.  
 \*Kissel Motor Car Co., Hartford, Wis. (11-14)—Kisselkar.  
 \*Lexington Motor Car Co., Inc., Lexington, Ky. (53-54)—Lexington.  
 \*Lion Motor Car Co., Adrian, Mich. (57)—Lion.  
 \*Metz Co., Waltham, Mass. (55-56)—Metz.  
 \*Rider-Lewis Motor Car Co., Anderson, Ind. (15-18)—Rider-Lewis.  
 \*Wayne Works, Richmond, Ind. (5-7)—Richmond.  
 \*Zimmerman Mfg. Co., Auburn, Ind. (19-22)—Zimmerman.

#### First Regiment Armory —

##### Main Floor.

\*American Motor Car Co., Indianapolis, Ind. (A1)—American.  
 \*Atlas Motor Car Co., Springfield, Mass. (G4)—Atlas.  
 \*Auburn Automobile Co., Auburn, Ind. (A2)—Auburn.  
 \*Austin Automobile Co., Grand Rapids, Mich. (B3)—Austin.  
 \*Berliet Import Co., Chicago, Ill. (E1)—Berliet.  
 \*Brush Runabout Co., Detroit, Mich. (C3)—Brush.  
 \*Buckeye Mfg. Co., Anderson, Ind. (B1)—Lambert.  
 \*Cartercar Co., Pontiac, Mich. (E6)—Cartercar.  
 \*Chadwick Engineering Works, Pottstown, Pa. (A3)—Chadwick.  
 \*Dorris Motor Car Co., St. Louis, Mo. (C1)—Dorris.

\*Fiat Automobile Co., New York City (E3)—Fiat.  
 \*Holsman Automobile Co., Chicago, Ill. (G1)—Holsman.  
 \*Hupp Motor Car Co., Detroit, Mich. (F2)—Hupmobile.  
 \*Jackson Automobile Co., Jackson, Mich. (B2)—Jackson.  
 \*Kimball & Co., C. P., Chicago, Ill. (G6)—Bodies (mounted).  
 \*McIntyre Co., W. H., Auburn, Ind. (C4)—McIntyre.  
 \*Moline Automobile Co., East Moline, Ill. (D3)—Moline.  
 \*Moon Motor Car Co., St. Louis, Mo. (C2)—Moon.  
 \*Mora Motor Car Co., Newark, N. Y. (D1)—Mora.  
 \*Ohio Motor Car Co., South Cincinnati, Ohio (G3)—Ohio.  
 \*Palais de l'Automobile, New York City (E2)—Imported cars.  
 \*Pullman Motor Car Co., York, Pa. (D4)—Pullman.  
 \*Regal Motor Car Co., Detroit, Mich. (B4)—Regal.  
 \*Renault Freres Selling Branch, Inc., New York City (E4)—Renault.  
 \*Simplex Motor Car Co., Mishawaka, Ind. (D2)—American Simplex.  
 \*Speedwell Motor Car Co., Dayton, Ohio (G2)—Speedwell.  
 \*Staver Carriage Co., Chicago, Ill. (E1½)—Staver.  
 \*Streator Motor Car Co., Streator, Ill. (F1)—Halladay.  
 \*Willys-Overland Co., Toledo, Ohio (A4)—Overland and Marion.

#### Electric Cars.

\*Babcock Electric Carriage Co., Buffalo, N. Y. (G2; Coliseum, Main)—Babcock.  
 \*Baker Motor Vehicle Co., Cleveland, Ohio (G1; Coliseum, Main)—Baker.  
 \*Columbia Motor Car Co., Hartford, Conn. (A5; Coliseum, Main)—Columbia.  
 \*Waverley Co., The, Indianapolis, Ind. (J1; Coliseum, Main)—Waverley.  
 \*Woods Motor Vehicle Co., Chicago, Ill. (B1; Coliseum, Main)—Woods.  
 \*Anderson Carriage Co., Detroit, Mich. (34-36; Basement)—Detroit.  
 \*Rauch & Lang Carriage Co., Cleveland, Ohio (G5; Armory)—R. & L.

#### Commercial Vehicles.

\*Grabowsky Power Wagon Co., Detroit, Mich. (8-10; Coliseum, Basement)—Grabowsky.  
 \*Gramm-Logan Motor Car Co., Bowling Green, Ohio (37-40; Basement)—Gramm-Logan.  
 \*Rapid Motor Vehicle Co., Pontiac, Mich. (E5; Armory)—Rapid.

#### ACCESSORIES.

##### Coliseum Gallery.

\*American Electrical Novelty & Mfg. Co., New York City (15)—Ever Ready batteries, lamps and tire specialties.  
 \*Atwater-Kent Mfg. Works, Philadelphia, Pa. (17)—Igniters and timers.  
 \*Badger Brass Mfg. Co., Kenosha, Wis.

(40)—Solar lamps and acetylene generators.  
 \*Baldwin Chain & Mfg. Co., Worcester, Mass. (64)—Baldwin chains and recoil checks.  
 \*Bowser & Co., S. F., Fort Wayne, Ind. (72-73)—Gasolene and oil storage systems.  
 \*Brown-Lipe Gear Co., Syracuse, N. Y. (36)—Transmissions, differential and steering gears.  
 \*Byrne, Kingston & Co., Kokomo, Ind. (76)—Kingston carburettors, mufflers and pumps.  
 \*Cook's Standard Tool Co., Kalamazoo, Mich. (5)—Standard jacks.  
 \*Cramp & Sons, Wm., Ship & Engine Building Co., Philadelphia, Pa. (58)—Bronze and bearing metal castings.  
 \*Diamond Rubber Co., Akron, Ohio (34-35)—Diamond tires.  
 \*Dietz Co., R. E., New York City (28)—Lamps.  
 \*Duff Mfg. Co., Pittsburg, Pa. (66)—Barrett jacks.  
 \*Edmunds & Jones Mfg. Co., Detroit Mich. (74)—Lamps and specialties.  
 \*Electric Storage Battery Co., Philadelphia, Pa. (61)—Accumulators.  
 \*Firestone Tire & Rubber Co., Akron, Ohio (67-68)—Firestone pneumatic and solid tires.  
 \*Fisk Rubber Co., Chicopee Falls, Mass. (38-39)—Fisk tires.  
 \*G & J Tire Co., Indianapolis, Ind. (44-45)—G & J tires.  
 \*Gabriel Horn Mfg. Co., Cleveland, Ohio (50)—Gabriel exhaust horns and Foster shock absorbers.  
 \*Globe Machine and Stamping Co., Cleveland, Ohio (22)—Pressed metal work.  
 \*Goodrich Co., B. F., Akron, Ohio (47-48)—Goodrich tires.  
 \*Goodyear Tire and Rubber Co., Akron, Ohio (51-52)—Goodyear tires and compressed air inflators.  
 \*Gray & Davis, Amesbury, Mass. (43)—Lamps.  
 \*Ham Mfg. Co., C. T., Rochester, N. Y. (59)—Lamps.  
 \*Hancock Mfg. Co., Charlotte, Mich. (16)—Lubricators.  
 \*Hardy Co., R. E., Chicago, Ill. (56)—Starite spark plugs.  
 \*Harris Oil Co., A. W., Providence, R. I. (41)—Lubricants.  
 \*Hartford Rubber Works Co., Hartford, Conn. (30-31)—Hartford tires.  
 \*Hartford Suspension Co., Jersey City, N. J. (20)—Truffault-Hartford shock absorbers.  
 \*Heinze Electric Co., Lowell, Mass. (63)—Magnetos, coils and ignition equipment.  
 \*Imperial Brass Mfg. Co., Chicago, Ill. (77)—Brass fittings.  
 \*Kokomo Electric Co., Kokomo, Ind. (75)—Kingston spark coils, plugs and timers.  
 \*Long Mfg. Co., Chicago, Ill. (53)—Radiators.  
 \*McCord Mfg. Co., Detroit, Mich. (60)—Radiators, lubricators and fans.  
 \*Morgan & Wright, Detroit, Mich. (26-27)—Morgan & Wright tires.  
 \*Motor and Accessory Mfrs., New York City (69)—Office.  
 \*Motsinger Device Mfg. Co., Pendleton, Ind. (24)—Ignition systems.  
 \*National Carbon Co., Cleveland, Ohio (46)—Dry cells and battery cases.  
 \*Never-Miss Spark Plug Co., Lansing, Mich. (70)—Spark plugs.  
 \*Oliver Mfg. Co., Chicago, Ill. (71)—Peerless jacks.  
 \*Pantasote Co., New York City (78-79)—Tops and upholstery materials.  
 \*Pennsylvania Rubber Co., Jeannette, Pa. (62)—Pennsylvania tires.  
 \*Rands Mfg. Co., Detroit, Mich. (10)—Tops.  
 \*Remy Electric Co., Anderson, Ind. (65)—Magnetos.

\*Republic Rubber Co., Youngstown, Ohio (12-13)—Republic tires.  
 \*Smith Co., A. O., Milwaukee, Wis. (55)—Gears and parts.  
 \*Spicer Universal Joint Mfg. Co., Plainfield, N. J. (37)—Universal joints.  
 \*Splitdorf, Inc., C. F., New York City (49)—Magnetos, coils and plugs.  
 \*Sprague Umbrella Co., Norwalk, Ohio (23)—Tops and wind shields.  
 \*Standard Roller Bearing Co., Philadelphia, Pa. (4)—Roller bearings.  
 \*Standard Welding Co., Cleveland, Ohio (29)—Tubing and electrically welded parts.  
 \*Swinehart Clincher Tire and Rubber Co., Akron, Ohio (54)—Swinehart tires.  
 \*Timken-Detroit Axle Co., Detroit, Mich. (33)—Axles.  
 \*Timken Roller Bearing Co., Canton, Ohio (32)—Roller bearings.  
 \*United Manufacturers, New York City (6-9)—Jones speedometers, horns and live maps; Connecticut coils, magnetos and switches. Sootproof spark plugs and automatic wind shields; Non-Fluid oils and grease and Weed non-skid chains.  
 \*Valentine & Co., New York City (11)—Varnishes.  
 \*Veeder Mfg. Co., Hartford, Conn. (42)—Tachometers and odometers.  
 \*Vesta Accumulator Co., Chicago, Ill. (25)—Accumulators.  
 \*Warner Gear Co., Muncie, Ind. (57)—Gears and parts.  
 \*Warner Instrument Co., Beloit, Wis. (18)—Warner Auto-Meters and clocks.  
 \*Whitney Mfg. Co., Hartford, Conn. (23)—Whitney chains and Woodruff keying systems.  
 \*Wheeler & Schebler, Indianapolis, Ind. (19)—Carburettors and magnetos.

#### Coliseum Annex—Second Floor

\*Ajax-Grieb Rubber Co., New York City (85-86)—Ajax tires.  
 \*Auburn Auto Pump Co., Auburn, N. Y. (148)—Tire pumps.  
 \*Auto Improvement Co., New York City (14)—Self-starting devices and motor specialties.  
 \*Auto Parts Mfg. Co., Muncie, Ind. (95)—Parts.  
 \*Batavia Rubber Co., Batavia, N. Y. (148)—Batavia tires.  
 \*Breeze Carburetter Co., Newark, N. J. (97)—Carburettors.  
 \*Briggs & Stratton, Milwaukee, Wis. (93)—B & S. igniters.  
 \*Consolidated Rubber Tire Co., New York City (115)—Tires.  
 \*Continental Caoutchouc Co., New York City (104-121)—Continental tires and demountable rims.  
 \*Continental Motor Mfg. Co., Muskegon, Mich. (144)—Continental motors.  
 \*Cook's Sons, Adam, New York City (99)—Lubricants and lubricators.  
 \*Cowles & Co., C., New Haven, Conn. (81)—Monograms.  
 \*Dayton Rubber Mfg. Co., Dayton, Ohio (117)—Airless tires.  
 \*Diamond Chain and Mfg. Co., Indianapolis, Ind. (21)—Chains and sprockets.  
 \*Dixon Crucible Co., Joseph, Jersey City, N. J. (87)—Graphite and lubricants.  
 \*Empire Tire Co., Trenton, N. J. (142-143)—Empire tires, brake lining and steering wheel grips.  
 \*Excelsior Motor and Mfg. Co., Chicago, Ill. (105)—Motors.  
 \*Federal Rubber Co., Milwaukee, Wis. (119)—Federal tires.  
 \*Fox Metallic Tire Belt Co., Brooklyn, N. Y. (94)—Non-skid chains.  
 \*Gemmer Mfg. Co., Detroit, Mich. (106)—Steering gears and parts.  
 \*Gilbert Mfg. Co., New Haven, Conn. (88A)—Tire jackets, lamp covers and rubber cloth specialties.

\*Havoline Oil Co., New York City (96)—Lubricants.  
 \*Hayes Mfg. Co., Detroit, Mich. (146)—Radiators, hoods and fenders.  
 \*Herz & Co., New York City (100)—Magnetos and ignition devices.  
 \*Holley Bros., Detroit, Mich. (92)—Carburettors and magnetos.  
 \*Leather Tire Goods Co., Niagara Falls, N. Y., (83)—Adjustable tire treads and non-skid bands.  
 \*Link-Belt Co., Philadelphia, Pa. (147)—Renold chains.  
 \*Lovell-McConnell Mfg. Co., Newark, N. J. (88B)—Klaxon horns.  
 \*Michelin Tire Co., Milltown, N. J. (112-113)—Michelin tires and accessories.  
 \*Mosler & Co., A. R., New York City (82)—Spark plugs.  
 \*Motz Clincher Tire and Rubber Co., Akron, Ohio (109)—Tires.  
 \*Muncie Gear Works, Muncie, Ind. (103)—Motor buggy parts.  
 \*National Coil Co., Lansing, Mich. (120)—Spark coils.  
 \*Norton Co., Worcester, Mass. (90)—Abrasive wheels.  
 \*Randall-Faichney Co., Boston, Mass. (118)—Jericho exhaust horns, B-Line grease guns and Bing spark plugs.  
 \*Ross Gear and Tool Co., Lafayette, Ind. (111)—Steering and differential gears.  
 \*Royal Equipment Co., Bridgeport, Conn. (89)—Brakes and brake lining.  
 \*Sager, J. H., Rochester, N. Y. (84)—Supplementary springs.  
 \*Shaler Co., C. A., Waupun, Wis. (116)—Electric vulcanizers.  
 \*Stewart & Clark Mfg. Co., Chicago, Ill. (80)—Speedometers.  
 \*Stromberg Motor Devices Co., Chicago, Ill. (145)—Carburettors.  
 \*Thermoid Rubber Co., Trenton, N. J. (91)—Tires, tubes and brake lining.  
 \*Turner Brass Works, Sycamore, Ill. (101)—Brass fittings and parts.  
 \*U. S. Light and Heating Co., New York City (110)—National storage batteries.  
 \*Warner Mfg. Co., Toledo, Ohio (102)—Transmission gears.  
 \*Whiteley Steel Co., Muncie, Ind. (108)—Steel castings.  
 \*Witherbee Igniter Co., Springfield, Mass. (107)—Magnetos, storage batteries and spark plugs.

#### First Regiment Armory—Gallery

\*Ajax Trunk and Sample Case Co., New York City (3)—Leather trunks and tire cases.  
 \*Apple Electric Co., Dayton, Ohio (16)—Ignition equipment.  
 \*Benford, E. M., Mount Vernon, N. Y. (30)—Spark plugs.  
 \*Breakstone, S., Chicago, Ill. (14)—Hand soap.  
 \*Chicago Wind Shield Co., Chicago, Ill. (10)—Tops and wind shields.  
 \*Detroit Motor Car Supply Co., Detroit, Mich. (2)—Bodies and tops.  
 \*Driggs-Seabury Ordnance Corp., Sharon, Pa. (33-34)—Crank shafts and frames.  
 \*Elite Mfg. Co., Ashland, Ohio (11)—Jacks and pumps.  
 \*Excelsior Supply Co., Chicago, Ill. (25-28)—Supplies and accessories.  
 \*Fellwock Auto and Mfg. Co., Evansville, Ind. (5)—Bodies, wind shields and tops.  
 \*Flentie, Ernst, Cambridge, Mass. (4)—Shock absorbers.  
 \*Franklin Mfg. Co., H. H., Syracuse, N. Y. (37)—Die castings.  
 \*Fulton-Zinke Co., Chicago, Ill. (9)—Gasolene motors.  
 \*Garage Equipment Co., Milwaukee, Wis. (8)—Wind shields, vulcanizers and bumpers.  
 \*Gasolene Motor Efficiency Co., Jersey City, N. J. (32)—Carburetter attachment.



Gates-Osborn Mfg. Co., Marshalltown, Ia. (7)—

\*High Frequency Ignition Co., Los Angeles, Cal. (36)—Ignition systems.

\*Lavalette & Co., New York City (19)—Magneto and ignition specialties.

\*Mesinger Mfg. Co., H. & F., New York City (17)—Rebound checks and magneto covers.

\*Morrison-Ricker Mfg. Co., Grinnell, Ia. (23)—Gloves and gauntlets.

\*Motor Parts Co., Plainfield, N. J. (29)—Parts.

Motor Specialty Co., Detroit, Mich. (31)—Overland Sales Co., Chicago, Ill. (15)—

\*Perfection Spring Co., Cleveland, Ohio (35)—Springs.

Point-Spark Plug Co., Aberdeen, S. D. (13)—Spark plugs.

Standard Auto Supply Co., Chicago, Ill. (36½)—Accessories.

Standard Varnish Works, Chicago, Ill. (18)—Varnishes.

\*Triple Action Spring Co., Chicago, Ill. (20)—Spring leaves and Supplementary springs.

\*Troy Carriage Sunshade Co., Troy, Ohio (21)—Tops.

Twentieth Century Motor Car Supply Co., South Bend, Ind. (12)—Wind shields.

\*Universal Tire Protector Co., Angola, Ind. (38)—Non-skid bands.

\*Vanguard Mfg. Co., Joliet, Ill. (6)—Wind shields and spark plugs.

\*Vehicle Top and Supply Co., St. Louis, Mo. (22)—Tops.

#### MOTORCYCLES.

##### Coliseum Gallery and Annex —Second Floor.

\*American Motor Co., Brockton, Mass. (132-133)—M-M.

\*Aurora Automatic Machinery Co., Aurora, Ill. (114)—Thor.

\*Consolidated Mfg. Co., Toledo, Ohio (140-141)—Yale.

\*Excelsior Supply Co., Chicago, Ill. (129-131)—Excelsior.

\*Greyhound Motor Works, Buffalo, N. Y. (125)—Greyhound.

\*Harley-Davidson Motor Co., Milwaukee, Wis. (127-128)—Harley-Davidson.

\*Hendee Mfg. Co., Springfield, Mass. (122-124)—Indian.

Hornecker Motor Mfg. Co., Geneseo, Ill. (126)—Torpedo.

\*Merkel-Light Motor Co., Pottstown, Pa. (134-135)—Merkel and Light.

\*New Era Auto-Cycle Co., Dayton, Ohio (98)—New Era.

\*Pierce Cycle Co., Buffalo, N. Y. (136)—Pierce.

\*Reading Standard Co., Reading, Pa. (137-139)—R. S.

\*Reliance Motorcycle Co., Owego, N. Y. (1)—Reliance.

#### Meetings Scheduled for Show Week.

Business meetings which will be held during the Chicago show are as follows: Annual banquet of the Chicago Automobile Trade Association, Friday (tomorrow) night, at the Chicago Athletic Club; regular February meeting of the directors of the National Association of Automobile Manufacturers, meeting of the directors of the Motor and Accessory Manufacturers, Inc.; annual meeting of the Detail Dealers Automobile Association; meeting of the committee of management of the American Motor Car Manufacturers Association, Wednesday, 10th inst. Several meetings of the American Automobile Association will also be held during the week.

## PORTLAND MAKES PROUD DISPLAY

### Motor Show Far Excels Last Year's Exhibition—"Pushmobile" Parade Assists in the Opening Ceremonies.

With more than double the number of exhibitors that graced the initial exposition last year, the second annual automobile show of the Portland (Ore.) Automobile Club, which was opened in the Armory on the 24th ult., and continued until the 29th, easily was entitled to the palm for the best motor show that ever has been staged in the Far West. In the splendor of decorations and arrangement of exhibits the promoters surprised themselves, while the makeup of the exhibits was of an equally high order, several of the cars on view having been shipped from the New York shows.

Owing to the freight congestion because of the recent switchmen's strike, it seemed that a majority of the exhibits would not arrive in time, but the dealers kept hot on the trail of the transportation companies and succeeded in getting most of their show cars on the scene in time for the opening, while those whose cars were delayed, solved the situation by exhibiting their demonstrating machines or borrowing customers' cars.

There were some 90 cars on exhibition, and a total of 43 exhibitors, of whom 23 showed cars. One of the cars that attracted unusual attention was the Winton Torpedo which proved such a sensation at Madison Square Garden. Another, and perhaps the most unusual exhibit in the hall was the Chalmers' stand, where was shown a pyramid composed of all the parts entering into the construction of the Chalmers "30," excepting the body. This innovation proved a powerful attraction, and served its purpose well. Strange to say, electric and commercial vehicles were conspicuous by their paucity, only one of each being displayed.

While the main hall of the Armory was sufficient last year, the assembly hall and the ballroom were impressed in addition for this year's show, and even then not all requests for space could be granted. In the main hall the decorative scheme was on the outdoor plan, which has proved so popular with show promoters this season. The floor and walls were carpeted with green burlap, while the unsightly roof girders were concealed behind a bank of blue and gold streamer bunting, the club colors. Real trees and palms were also used to further carry out the effect. On the dividing line between the exhibits were ornamental columns 16 feet high, surmounted by winged Mercury statues, while smaller posts at the entrance to each exhibit were crowned with urns of flowers. The balcony was hidden by strips of canvas represent-

ing a wooded bank, while at the crest of the bank a road wound itself between fir trees with an occasional bridge to heighten the effect.

On the opening night about 2,500 people visited the show, and there was much interest shown, and the attendance increased with each succeeding day, the fair weather contributing to this.

Perhaps no show of the season was ushered in with such novel ceremony as occurred on the Saturday night preceding the opening, when a "Pushmobile Tour," as it was officially called, was held, with boys' push wagons having imitation hoods in front. This attracted much attention, and some strenuous efforts were put forth by the various teams to land the cash prizes which were offered. An automobile parade of various types of machines from the early models to the recent luxurious creations also was held that night. Another departure was the giving by the management of number tickets with each paid admission, to be drawn after the close of the show and the winning number to entitle the holder to his choice of any \$1,000 car at the show or its equivalent in cash towards a higher price machine if desired. In order to bar all "curbstone" dealers from the show, it was stipulated that only cars maintaining agencies in Portland for a period of not less than 60 days prior to the show would be entitled to representation. The proceeds of the show will be used to purchase and erect road signs throughout the State, work having already been begun in this direction.

The list of exhibitors follows:

Automobiles—R. H. Thompson, Speedwell; Karl McCroskey, Regal; O. C. Lewis, Chadwick; Rambler Automobile Co., Rambler; Metropolitan Motor Car Co., Pullman and Acme; Barnes Auto Co., Mitchell; H. L. Keats Auto Co., Peerless, Pope-Hartford, Chalmers and Hudson; Studebaker Bros., Studebaker; Portland Motor Car Co., Stoddard-Dayton, Reo and Rapid; Robert Simpson, Auburn; Frank C. Riggs, Packard; Neate & McCarthy, Locomobile and Everitt "30"; Lloyd Automobile Co., Firestone and Columbus electric; Standard Automobile Co., Ford; Stearns Automobile Co., Stearns; White Motor Car Co., White, steam and gasoline; Western Auto Co., Knox and Moline; Charles M. Menzies, Franklin; E. E. Cohen, Maxwell; Northwestern Buick Co., Buick; Graham Motor Car Co., Stevens-Duryea and Selden; Crowe Automobile Co., Oldsmobile, Thomas, Marmon, Overland and Velje; Covey Motor Car Co., Pierce-Arrow and Cadillac, and Jackson Motor Car Co., Jackson.

Accessories—Ballou & Wright, Harry Funk, Keenan & Co., William C. McClure & Co., McCargar, Bates & Lively Co., Rogers Hub Co., Belmore, Macdougall & Moores, Pacific Coast Rubber Co., Archer, Combs & Co., R. E. Blodgett, O'Gorman & Younie, A. J. Winters and the Wallace Auto Top Co.

## PUTTING THE MOTOR TO MISUSE

**"Smart" Driving that Does Much Damage—  
Strains that It Sets up and How They  
Work Injury.**

Despite the fact that engine "flexibility" is the most desirable feature of the modern motor it is frequently misused to an astonishing degree. There are times, of course, when it is permissible to run a particular car at a mile a minute speed one moment, then slow down to two miles per hour—all this on the high gear, merely by opening and closing the throttle—but such "stunts" should be confined to salesman-demonstrators who desire to show the possibilities of the car. The wear and tear on the engine occasioned by such excessive demands on its flexibility is enormous, and enough to ruin a motor in a few months.

Going up an incline, says the Autocar, the engine of a car of 14 to 18 horsepower and average gear ratio, will, if driven on the high gear, be pulling so hard when nearing the top of the rise, that its r.p.m. are down as low as 200 to 300.

Admittedly the engine is not developing its full power, but that is not the point. The torque is very irregular, and all the working parts of engine and transmission are being subjected to a series of separate and distinct hammer-like blows. The occupants of the car can feel each impulse due to the individual explosions in the engine, though unaware of the real cause of the vibration.

It is highly probable that the driver, in order to obtain the maximum power available, will have so adjusted his ignition that the combustion of the gases commences as early as possible on the firing stroke, without actually causing that distinct series of "knocks" which arises from the ignition being too far advanced. But even granting that a knock is not apparent, there is a likelihood of damage arising or excessive wear occurring other than that emanating from the uneven torque, and a very fleeting consideration will confirm this state of affairs.

The average driver does not manipulate his ignition lever by finely graded movements; therefore when he finds, as he probably will when the engine begins to pull hard, that with the lever at a certain point—represented, for instance, by the position of six o'clock on a clock face—the engine does not pull so well as when the lever is at another point more advanced—say at seven o'clock—he will, more often than not, have allowed the lever to remain at the latter position until the ascent is completed. A knock probably did not occur. No; but when the engine was pulling at its very slowest and hardest at one spot on the hill—just at that time when the driver thought that after all he would have to change down

—there may have been, and probably was, a portion of the charge fired on the dead center, or even earlier. This amount of premature combustion did not cause a knock, but it was sufficient to transmit a comparatively violent reactionary blow to the piston, wrist pin and big end bearing and crankshaft. In effect it increased the unevenness of the torque in a similar manner to that in which an excessively high compression in one cylinder would do, and thus causes injury.

Besides this undue wear upon the machinery there is another factor to be taken into account: the ease and speed of climbing the hill. A gasoline engine develops its power in proportion to the speed—within certain limits—at which it is run, and when it is forced to thrash up a hill at a low number of revolutions per minute, full power cannot be obtained from it. The ascent could be made in shorter time, with less fuss and more comfort, if a lower gear were used. Winners of hill climbing contests admit that a great deal of time may often be saved by changing to a lower gear earlier than the average driver is in the habit of doing. This may explain, in some degree at least, why certain cars are such successful "climbers." It is probably due superiority of engine design.

Aside from possessing hill climbing abilities on "high gear," the flexible engine is intended for driving at a snail's pace through crowded streets, but here the same arguments against the misuse or abuse of the practice apply. There is again the excessively uneven torque, an increased likelihood of pre-ignition—for one cannot hear knocks caused therefrom in the thick of traffic—and, in addition, a comparatively slow acceleration, for although an engine may be flexible and pick up from 300 to 350 r.p.m. with readiness, the flexibility is only comparative, for the feature obtains still more and in an increasing ratio at higher speeds.

Another point bearing on this subject is in connection with the difficulty of changing gear down when such a movement suddenly becomes necessary at a time when the engine is pulling hard at low and decreasing speeds. On hill work the chances are that a gear will be lost, and that the change from top to low gear on a three-speed car will be necessary; momentum falls so suddenly that by the time the middle gear be engaged the car will be almost at a standstill. In traffic, if a gear be not actually lost, a fuss and noise will probably occur anyhow. Therefore, it is advisable to look upon extreme flexibility as a convenience, a stand-by, not as a feature to be habitually made use of at every opportunity. It should be understood that it is not suggested that flexibility is undesirable—indeed, it is in many ways the most important quality for an engine to possess—but an engine which possesses it should not be abused in the manner stated if good service and long life are desired.

## REVIVAL OF THE RUSSIAN SHOW

**Great Increase of Interest and Royal Approval Assures Its Success—Good Opening for American Cars.**

The automobile club of Russia has decided definitely to hold its "Third International Exposition of Automobiles and Aeroplanes" in May next in the Manege Michel, which is in the very center of the city of St. Petersburg.

The first show of this kind to be held in Russia took place in 1907 in St. Petersburg, and the second in 1908 in Moscow. No show was held last year, and meanwhile there has developed a marked increase in automobile interest and demand, not only in Moscow and St. Petersburg, but in the other larger cities of Russia.

The Automobile Club of Russia, which is behind the exposition, is at present the most powerful club in the Czar's domain. Its president is Prince Obolensky, member of the council of State; one of its vice-presidents is Captain Svetchine, aide-de-camp of the Czar, and among its members are practically all the higher officials of the army and the Empire. The exposition committee is presided over by the Grand Duke Nicolaievitch, uncle of the Czar, and thus official support, both socially and financially, is assured.

The few years of peace have had an extraordinary effect upon general prosperity in Russia. Money is more plentiful than ever before, and automobiles to the number of 3,000 roll over the improved streets of St. Petersburg. Russia, because of its poverty in great industrial plants and skilled mechanics, at present is still compelled to import practically all its motor cars it needs from other countries. George Lefevre, Delegate Generale, 10 Faubourg-Montmartre, Paris, France, will supply all information concerning exhibit on request.

The exposition will open on May 28 (March 15 in Russian calendar), and will close on June 9 (March 27 in Russian calendar).

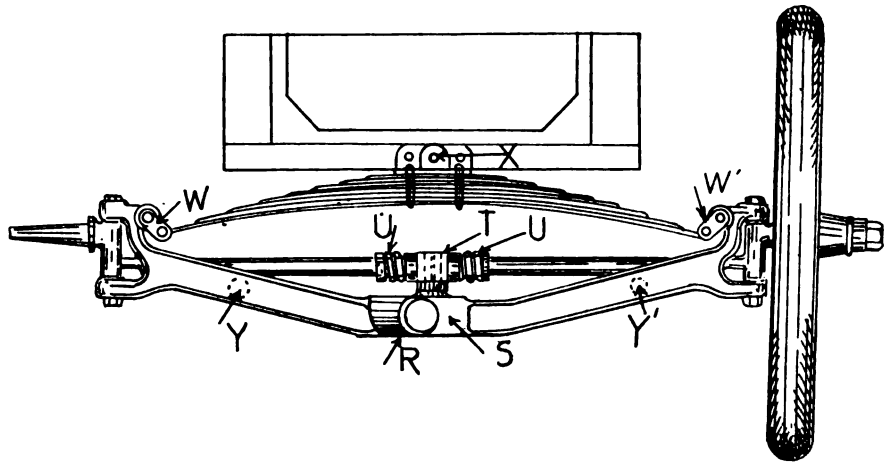
### Los Angeles to Have Rival Shows.

Because of the organization of a licensed dealers' association composed of members who handle licensed cars, and whose action now is being followed in several other cities, Los Angeles, Cal., is to have two automobile shows this winter. The first show which is known as the "independent exhibition," will be held in Grand Avenue Rink from the 7th to the 14th, under the auspices of the Automobile Dealers Association of Southern California, which has had charge of all previous shows. It will include practically all of the dealers in unlicensed cars, and, strange to say, also a few firms whose machines are in the Selden fold, and several accessory concerns.

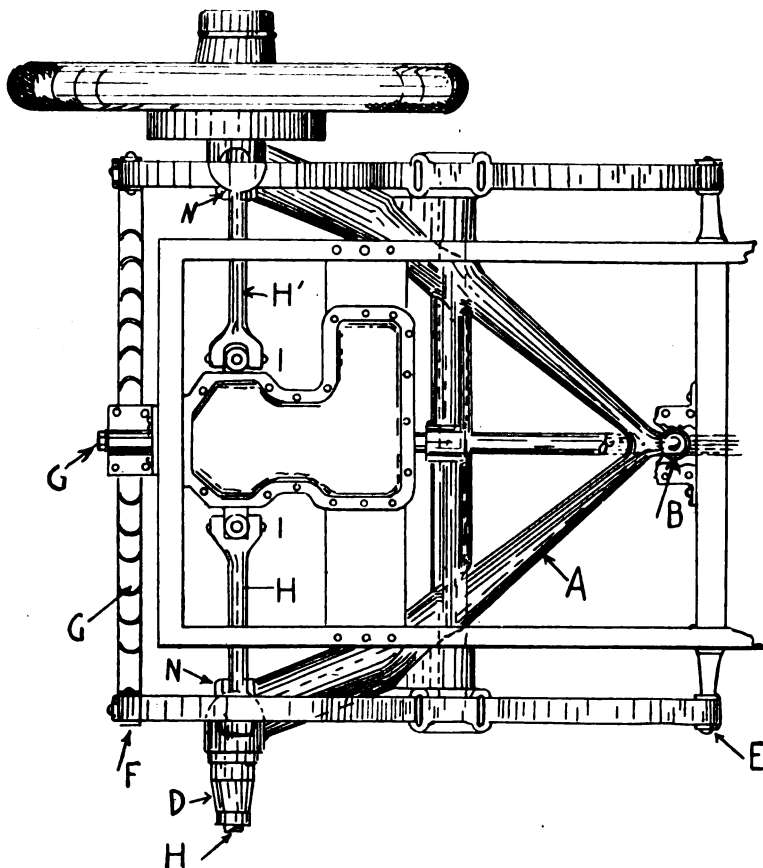
## LEVER SUSPENSION IN NEW FORM

Ingenious Adaptation of Old Idea and How It is Applied—Purposes Which It is Sought to Serve.

Lever suspension systems for automobile use, in which the load is indirectly applied to the springs with the idea of reducing their travel, have been applied to automobiles at various times, but without striking success, up to this time. In the Koeb-Thompson system, however, which is an entirely new adaptation of the principle, the idea has been developed in a far more elaborate way than has been attempted hitherto,



FRONT AXLE AND STEERING GEAR OF KOEB-THOMPSON CAR



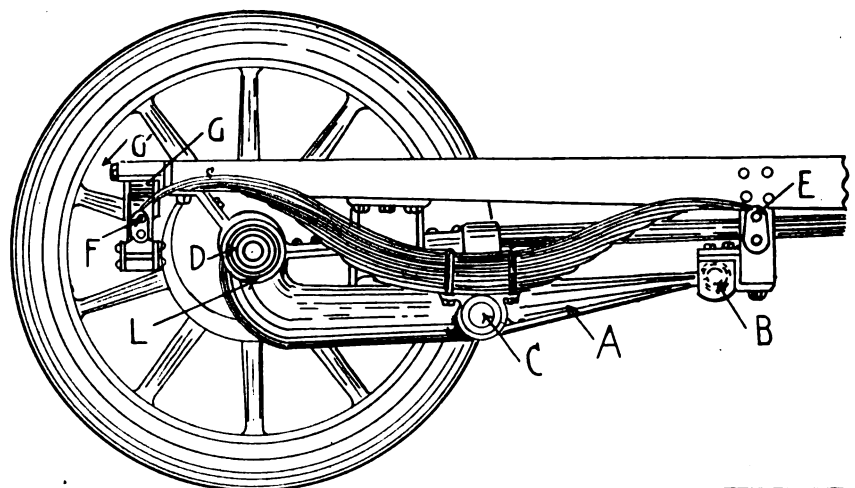
NOVEL TRIANGULAR FORMATION OF KOEB-THOMPSON REAR AXLE

and with rather promising, if somewhat complicated, results. The Koeb-Thompson vehicle embodying the suspension, has just been brought out by the American Foundry Co., Leipsic, O., builders of the "American" gas and oil engines, who are preparing to manufacture it.

The most remarkable portion of the system is the rear axle and its mounting, which employs the three-quarter platform style of spring in connection with a universal method of frame mounting which is unique. Instead of the usual transverse axle member, the axle body is made in V shape, with the apex attached to a cross member of the main frame by means of a universal joint, while the wheels are carried on short stubs

protruding from either arm of the side extensions. A crossbar formed integrally with the axle body midway between the wheels and the point of attachment to the frame, forms the perch upon which the side springs are swiveled. The front end of each side spring is shackled to the frame in front, and to one end of the cross spring in the rear, as in the standard form of platform spring. The cross member, however, is swiveled instead of being rigidly perched, in the center. The result of this is that the raising of one of the side springs tends to compress both the rear spring and the side member on the opposite side of the chassis, thus the rear end of the side member on the affected side is permitted to yield slightly, this, in turn, reducing the total lift of the forward end.

Apart from the flexible nature of the suspension itself, the method of mounting imparts the peculiar quality which is claimed to give to the system the extraordinary merit it is supposed to possess. As the point of support of the side springs is approximately half way between the axle and the point of attachment of the axle member to the frame, it follows that the lift of the axle is reduced by nearly one-half when the spring supports are reached. In other words, spring deflections are just about half as great under similar circumstances as they would be with the ordinary



REAR OF CHASSIS WITH WHEEL REMOVED TO SHOW SUSPENSION

method of mounting the springs directly on the axles.

This arrangement of the axle and suspension system permits the propeller shaft, bevel driving gears and differential of the transmission system to be carried rigidly on the frame instead of being mounted on the axle. The final drive to the wheels is accomplished by means of short cardan shafts, driving directly into the wheels, much as in the Pilain and De Dion systems, which are familiar in foreign practice. In the construction of the rear axle member provision is made for ample shaft clearance, so

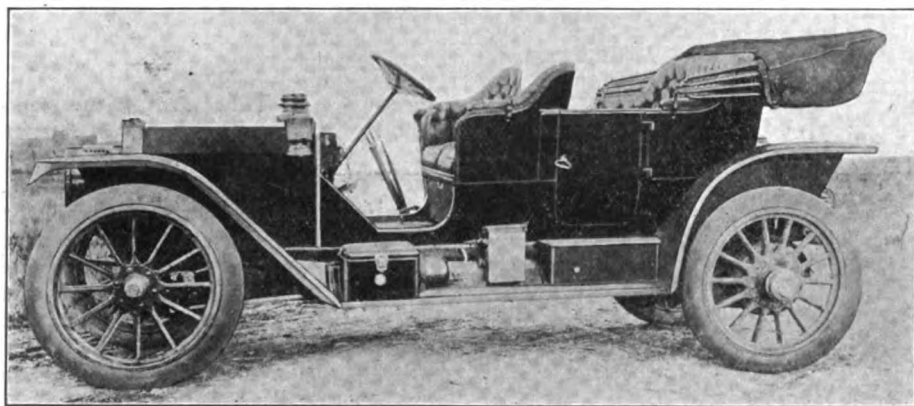
the accompanying pictures. The axle member or lever A, is triangular in plan, and is anchored in front by means of the ball and socket joint B on the frame. The wheels are carried on the hollow spindles D, are held in place by the nuts L, and driven by the short cardan shafts H-H1, which are jointed at I-I1. The details of the hub M, second universal J, hollow spindles and slotted opening N-N1, which permit ample play of the shafts, are apparent.

The straight frame construction is brought about by making the necessary drop in the axle member itself, instead of in

mounting. The worm R, wheel S, and springs U, U1, which relieve the shocks of steering from the arm, and the rod V, are indicated in their proper relation. From the parallelism of the steering arms, and the arrangement of the steering gear itself directly upon the axle, it is claimed that unusual freedom and ease of steering control results. This is further assisted by the flexibility of the running gear. Still another point in favor of the system, which is claimed by its makers, is that the mounting of all transmission mechanism on the frame, where it is protected from road shocks and all unnecessary vibration, greatly tends to prolong its life and so to increase its efficiency.

#### Simplicity in a Pressed Frame.

Although the art of forming automobile parts from pressed steel is pretty thoroughly understood in America, the system of frame construction employed by one of the well-known French makers would seem to be a little in advance of anything produced on this side of the water thus far, from the standpoint of the manufacturing economy. For the side members of the frame the sills are stamped into inverted U section, with side flanges turning outwardly from each of the arms of the U. The other flange is only sufficiently wide to allow room for a single row of rivets to hold the horizontal gusset plates. The inner flange however, is considerably wider, and is spread out from the waist of the chassis to the front to form a stay for the gearbox, and a complete underpan for the engine.



THE NEW KOEB-THOMPSON TOURING CAR

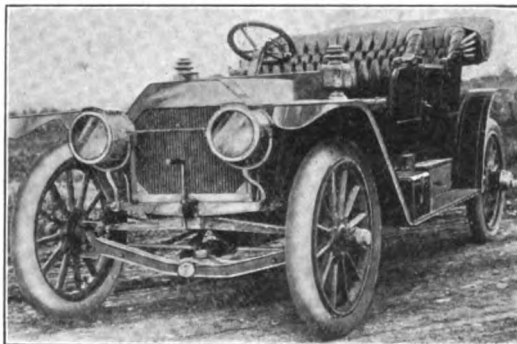
that the driving stubs will not strike the axle under extreme deflection, while the compensating effect of the flexible cross connection of the side and rear springs permits a perfectly straight frame to be used, in connection with ample room for spring deflection.

Further unusual characteristics are developed in the mounting of the fore part of the vehicle. The front end of the chassis is carried on a single cross spring, which is linked to the steering pivots at either end, and pivoted to the frame in the center. The alignment of the axle is maintained by means of radius rods, which are connected through ball and socket joints at both ends; the rear mounting being sufficiently below the frame when the car is standing on level ground.

As this arrangement allows unusual latitude of movement for the axle, it has been deemed necessary to alter the steering gear in order to provide corresponding flexibility. On this account the worm and nut arrangement is mounted dead in the center of the axle, and is actuated from the steering column by means of a short cardan shaft. The steering gear is of the worm and wheel type and actuates directly an arm which moves parallel to the steering arms themselves and therefore is not subject to cramping or change of effective radius in extreme lock positions. The reach rod is mounted behind the axle and is arranged with shock absorbing springs to relieve the gearing from severe stresses.

The precise details of the suspension and co-ordinate mechanism are illustrated by

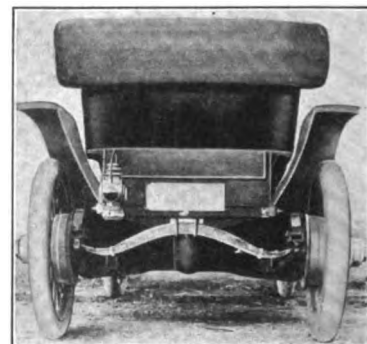
the frame, as is necessary with the more ordinary forms of construction. The side spring members are attached to the axle member at the point G, the transverse bar of the axle structure at that point being



FRONT AXLE AND SPRING DESIGN

formed into a trunnion bar upon which the spring supports are clamped. This supporting point being midway between the wheels and the point of anchorage to the frame, the spring movement is reduced to half that developed at the wheels. The side springs and the rear cross member G, are shackled at E and F, and the cross member itself is pivoted to the frame at G1.

The forward mounting of the chassis involves the linking of the cross spring to the steering pivots at W, W1, and to the frame by means of the pivot X. This arrangement, together with the arrangement of radius rods back of the axle, and not shown, permits the axle to rock under the car without interference on the part of the



REAR SPRING SYSTEM

With the two cross members, one in the waist and the other at the rear, it forms perhaps as close an approximation to the one-piece unwelded frame, which so long has been sought, as anything which as yet has been produced.

#### Rigid Mounting for Oil Lamps.

Dash and tail lamps which refuse to burn properly even after submitting to a deal of careful persuasion sometimes can be cured of their stubbornness if pains are taken to see that they are relieved of all possible vibration. A loose set screw, or even a bracket which is no longer perfectly rigid, may be the cause of otherwise inexplicable shortcomings.



**"PARTS CHASERS" HELP MAKERS**

**Big Production Has Created a New Class of Field Men—Actual Experiences in "Chasing" Parts.**

On the payrolls of practically all of the automobile manufacturers making a large number of cars are men known technically as "parts chasers," but it is doubtful if the average man in the trade, let alone the public, has any idea what a "parts chaser" is or how important a personage he is in helping the manufacturer's production. When it is realized that the makers who are producing 5,000 cars or more per year each employ a corps of from ten to thirty-five "parts chasers," it is calculated to pique curiosity as to the interesting duties that members of the corps are called upon to perform.

A hint as to the parts chaser's functions is given in the name itself, as, broadly speaking, he must "chase" the parts which the automobile manufacturer is having made at outside factories, and must endeavor to see that they are delivered according to contract, or, what sometimes is more important, according to sudden changes not provided for in the contract.

"Yes, I am a parts chaser," said a man in an Eastern hotel lobby, representing one of the most prominent of the Detroit automobile manufacturers, "and a good lively job it is, too. I make this city my headquarters for the territory to which I am assigned, but I travel considerably to the smaller towns where we are having stuff made for us. There are some thirty parts chasers in our corps, five of them being located in the Pittsburg steel district alone, while the others are located in Chicago, Cleveland, Buffalo, Syracuse, Hartford, New York, Philadelphia, Rochester, Milwaukee and other producing centers for automobile parts.

"Of course the men in the steel district are steel experts, who are making constant tests of the steel products that are being made up for us, to see that they conform all along to the specifications. They act in much the same capacity as the government inspectors at a steel mill where government armor plate is being made. But in addition to their work as test experts they are required to have the ability to see to it that the factory gets the stuff it wants at the time it wants it. Some of the other members of our corps are also experts in their respective lines, being stationed at points where they are under the necessity of using their technical knowledge as well as their business sense, but the majority of us have as our chief qualifications a complete knowledge of the parts used in our car and the ability to locate the cause of a stoppage in the regular flow of their production and to make things come through.

"We are in touch with the factory every day by means of letters, telegrams and occa-

sionally by the long distance telephone, so that we know at all times just what is wanted from our respective territories. Every day when there is no special mission on hand I go around to the various plants where our parts are being made and check up just how fast they are coming along. But my work does not consist merely in having the factories tell me what they are doing and what they hope to do. With the permission of the people with whom we do business I go right out in their shops and see for myself and talk with the foremen and workmen. If there is a delay I have got to know the reason for it.

"Just a few days ago I found that there was a hold-up on some of the rods that one plant was making for us, because their stock of dies for threading the rod ends was shy, a number of the dies having been broken. I found that they had ordered new dies for the work but that the company which was to supply them had not filled the order. So I at once took the train and went to see the die makers. I landed in their office with such a jump that they were aroused to immediate activity, and in half an hour I had the dies packed up in a satchel and was on my way back with them. With the new dies the rods were finished up in short order, and there was no more difficulty on that score.

"Similarly in the case of another part requiring special clevis pins, I discovered that the people from whom the parts makers were getting the pins were not making sufficiently prompt delivery, so I took the train and went to investigate. They got busy at once and I actually saw the work of making the pins started before I left, the pins themselves arriving as promised a few days later.

At one of the plants where we are having lamps made there was a serious lagging in the deliveries, so I was called upon by the factory to remedy things. I found the lamp people ready to assist me in every possible way, and they even invited my advice and suggestions as to how they could expedite deliveries. So, taking them at their word, I roamed around their place and saw some things which I thought could be improved if the best results were to be obtained. Among other suggestions I recommended a routing of the processes so that instead of the lamps being carted from one end of the place to another, back and forth about a dozen times, for the various operations, they would move along step by step, without so much useless free riding. Changes were made in the factory arrangement accordingly and it was found to help considerably. However, it is very rare that I go so far as to suggest rearrangements of factory layouts or that I encounter factory managers who are so willing to accept suggestions.

"It sometimes happens that where we are having several parts made at one place our factory at Detroit wants the parts makers to slow down on one part and take up a more vigorous production of another. I get a letter or a telegram telling what is needed and I have got to go around and explain things to the parts maker so that he will shift the pro-

portions of his production of the various parts to suit the requirements. Sometimes these shifts are very sudden, and their necessity could not be impressed adequately on the parts maker without a man on the ground to take up the matter personally.

"With a factory making only a comparatively few cars, it is possible for the purchasing agent himself to take a little run out in case there is any delay on some part, and the plant where the part is being made will be able to drop its other work for the short time necessary to clean up the job. But in big quantity of work the case is entirely different, both from the standpoint of the car manufacturer and the parts maker, because the whole thing is a continuous high speed performance.

"Where a factory is working on the big production basis all the various parts must flow in without interruption in the proportions necessary for the full completion of the cars. If there is a delay in even the smallest part it upsets the whole system and there is figurative hell to pay, with other parts piling up in the inundating flood. That is why the parts chasers are so vital a part of the production end of the business, as through them those responsible for the manufacture and assembly of the cars can keep the parts coming in exactly the proper proportions all the time.

"Because the parts chaser is the direct representative of his factory he generally is accorded every courtesy and assistance that the parts maker can give him, though here and there his presence is apparently somewhat resented as an intrusion on sacred precincts. There are some places where it is never necessary to go further than the office, as all matters of deliveries and rush orders are taken care of satisfactorily through the office alone, but in other places it sometimes is necessary to butt right by the office into the factory to accomplish anything.

"Not a few parts plants plainly show that the factory end holds itself mightily independent of what the office says or desires, and where this situation exists there is likely to be plenty of trouble unless the matter is handled diplomatically. Cases have arisen where with the permission of the office I have gone out and seen the workmen and foremen personally and by a judicious placing of a box of cigars here and a twenty dollar bill there have succeeded in getting things through on time when the situation had seemed almost hopeless.

"Freight is not fast enough to meet some of the emergencies of the parts requirements at our Detroit factory and I am constantly sending shipments by express. Our express bills from one town alone amount to over \$7,000 per month and about \$100 per month for telegrams."

In some of the Middle West cities where parts are produced, the parts chasers are so numerous that they have little colonies or clubs of their own. Where their interests do not conflict they occasionally help each other out by following up routine matters for others who temporarily are absent on special mis-

sions. This is done by calls on the telephone, one parts chaser simulating the voice and telephone manner of the absent one as nearly as he can. On the other hand, two or more parts chasers not infrequently find themselves pitted against each other in trying to make a parts maker give their respective work the rush preference, in which situation they are given a high test of their individual ability to "put things through." Comparatively new as the parts chaser is as a fully developed and established part of the automobile industry he has proved himself so valuable that the large producer has become dependent on him as a means of direct and immediate contact with the parts and materials trade

#### Premium System at Franklin Factory.

As a means of keeping its employees up to better than "concert pitch," the H. H. Franklin Manufacturing Co. has adopted a premium system for those who do work of more than average efficiency which profits both the workmen and the company. The system affects the men of the machine shop, running gear room, final assembly room, blacksmith shop, case hardening plant, wood shop and metal body room of the factory in Syracuse, N. Y. The total number employed in these departments is about 500. When an automobile season begins and the new models are being manufactured, the average time for work on every operation is taken for a month. For each blue print there is a card bearing the same number and showing the operations necessary for the making of the part designated. The average time for each operation is put on these cards.

Every time an employe begins an operation, he is given a "premium claim" card. This shows the order number, drawing number and his machine number. On it are shown also the number of pieces started, the number completed and the time taken to complete them. Two punches of a small time register show the start and finish. If a man completes ten pieces of a certain operation in fourteen hours, when the average on the cards in the accounting department shows that two hours for each piece, or twenty hours were allowed, the saving of six hours is credited to the employe, and besides his regular pay, he receives 50 per cent. of his wage per hour for the amount of time saved. In this case, if he was earning 25 cents per hour, his premium would amount to 75 cents.

#### Enlargement of Two B. C. K. Plants.

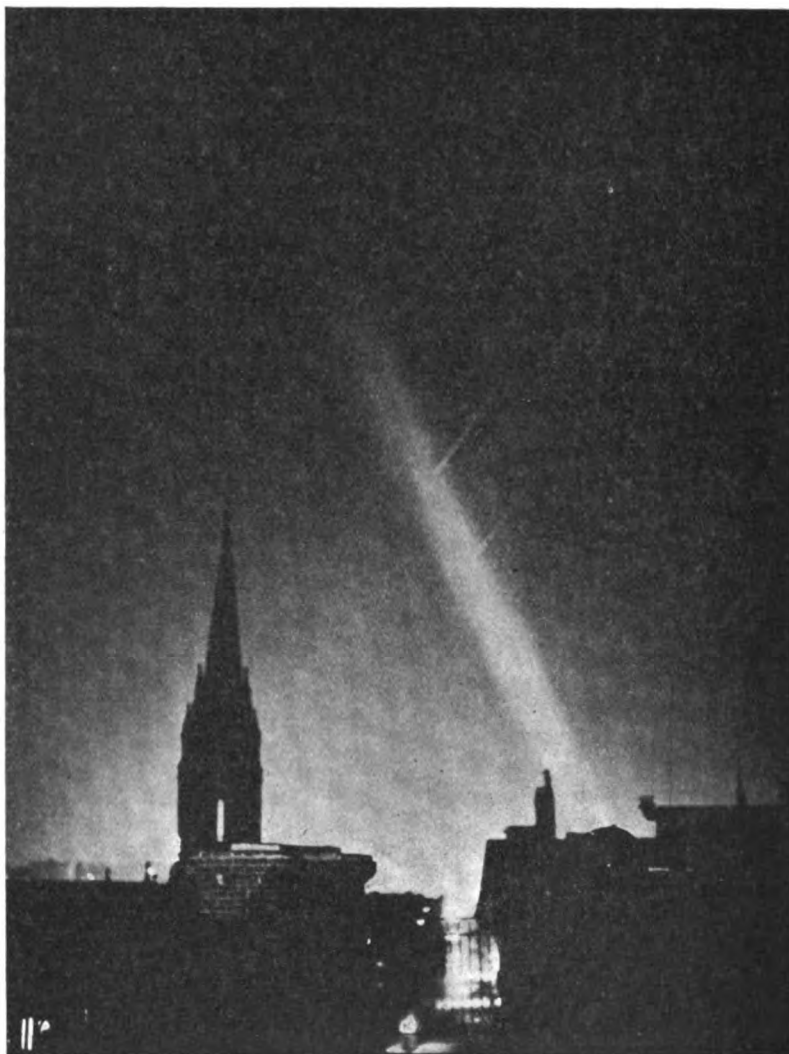
The B. C. K. Motor Car Co., of York, Pa., which some months ago purchased a plant at Bath, N. Y., for the manufacture of its engines, has decided to enlarge the buildings at Bath by the addition of a two-story wing, 90x60, to the two-story main building, 210x60. The company also has made an appropriation of \$44,000 for new machinery, of which \$32,000 goes to the Bath plant and \$12,000 to the original plant at York.

## SHOWS AN ELECTRIC LAMP'S POWER

Automobile Lighting System Illuminates a Steeple—Result of a Night Test is Recorded by the Camera.

Such rapid development has been made within a comparatively brief period in the manufacture of incandescent electric bulbs of great brilliancy and high illuminating power that it is not generally recognized to

of Technology, Boston. A church 1,000 feet away was selected as the object on which the light should be cast, and the result is disclosed by the accompanying reproduction of the photograph that was taken. The lamp was the 10-inch diameter type, fitted with a Gray & Davis 6 v. 20 c.p. "incandescent arc" bulb and the new parabolic reflector. The bright lights behind are from the State House and the lights of the city, and the two light streaks cutting into the lamp ray were caused by stars that moved during



VIEW SHOWING ELECTRIC HEADLIGHT TEST AT BOSTON

what capacity electric lamps for automobile service have attained, and the makers of such lamps consequently have been impelled to devise striking demonstrations calculated to awaken appreciation of the merits of the more advanced types of electric lighting systems. A demonstration of this order recently was made by Gray & Davis, the veteran lamp manufacturers of Amesbury, Mass., to show the power of the new "incandescent arc light" which is incorporated in the Gray and Davis constant speed unit dynamo system for the electric lighting of motor cars. The test was conducted by Prof. Louis Derr, on the top of the Walker building, Massachusetts Institute

of Technology, Boston. The exposure of the plate, which was from half to three-quarters of an hour in duration.

#### Freezing the Tires to the Road.

When there is occasion to leave a car standing in the open for any length of time while a cold snap is coming on, it is well to do more than merely to cover the radiator with a blanket. Unless the machine is moved a few inches occasionally, there is some danger that the tires may freeze to the road. Under such circumstances, an attempt to start again, probably will result in stripping good sized chunks of tread from the several casings.

**LEGISLATURE WILL BEGIN TO GRIND**

**Only Five New Bills Now Clog It—Counselor Terry Attends Hearing and Pleads for Fairness.**

The chin music which annually is heard in the State House at Albany and which is caused by the burning desire of the lawmakers to tinker with the automobile law, was restarted on Tuesday, 1st inst., when the Assembly Committee on Internal Affairs held a hearing on the five automobile bills that already have been introduced. The principal factor at the hearing was Charles Thaddeus Terry, representing the American Automobile Association and National Association of Automobile Manufacturers, who asked the committee to exert a little common sense on behalf of the thousands of automobile owners and users in the state who annually are made a target for adverse and burdensome legislation.

Although the present New York legislature scarcely has begun its routine business, five assemblymen already have introduced automobile bills. Assemblyman Callan, of Columbia, would thrust the Massachusetts license and commission system upon the automobilists, vesting full power for the regulation of motor vehicle use with a commission of three persons. Another measure is the Dana bill, which would double the present license fees, extend the speed limit to 30 miles an hour, require the examination of chauffeurs and provide for the revocation of their licenses. The Bates bill would exact a tax on automobiles for state revenue, and the Haines measure would tax all non-residents who used the state highways. The fifth measure, known as the Joseph bill, is designed to have the license numbers made larger and displayed upon the rear of the car not less than 36 inches from the ground.

Mr. Terry spoke at length upon the features embodied in all the new measures and ventured an opinion that the present state law is entirely adequate for the protection of all those who make use of the highways.

"The trouble is that it is not enforced," said Mr. Terry. "The magistrates of New York admit it. Really the only additional legislation needed is to make better the means of identification. The license numbers should be larger, with more space between them, and they should be illuminated at night so that they may be seen at a reasonable distance."

Referring to the wear and tear of the highways by automobiles, which was suggested, Mr. Terry said that the state conceded the right of automobiles on the roads, and that it was the duty of the state to see that the highways were built in a manner to withstand new traffic conditions. He argued against a fixed speed limit if the state

sought to fix the liability for motor vehicle accidents. The examination feature of the various bills also was opposed by Mr. Terry, who said that 95 per cent. of the accidents were caused by professional chauffeurs who were well qualified to operate motor vehicles. He did suggest, however, that a provision be made to compel chauffeurs to have licenses bearing their photographs in order to make easier the work of identification.

Assemblyman Dana, Bates, Callan and Howard, naturally spoke in favor of their respective measures, while Edward J. McGoldrick, of the New York Corporation Counsel's office, opposed Mr. Bates's attempt to relieve automobiles in New York City from local taxation as personal property.

Later in the day the subject of the Allds-Hamn bills of last year was broached and it provoked a wordy discussion. Mr. Terry claimed that the measure last year was in the nature of a compromise, the main points of which were satisfactory to nearly all concerned, and finally he filed with the committee an amendment to the Allds-Hamn bill providing that cities of the first and second class shall not be deprived of the power to adopt ordinances regulating local traffic, which was the chief objection to the measure last year.

It will be recalled that the failure of the Allds-Hamn measure last year concluded a most remarkable double-barrelled campaign of automobile legislation in which the main issue was the question of speed regulation. Under the propaganda of the New York State Automobile Association two bills were introduced at opposite ends of the legislature, which differed only in respect to the speed regulations. The Allds bill provided for a sliding scale of taxation, as follows: \$4 license fee per year for cars under 20 horsepower; \$6 per year for those above 20 horsepower, and not exceeding 30 horsepower, and \$10 per year for all cars above 30 horsepower. Chauffeurs' licenses were to cost \$10 for the first year, and \$5 per year for renewals. The offense of taking another's car and using it without permission was made punishable by a fine of \$100 or imprisonment not exceeding six months. Commercial vehicles were to be taxed \$2 per year, regardless of horsepower. The most remarkable feature of the bill, however, was the total abolition of speed limits, putting it up to the operator to drive in a reasonable and not reckless manner. The work of licensing was to be transferred from the Secretary of State's office to the highway department, and all revenues to be applied by it directly to the maintenance of the state highways.

The only radical difference in the Hamn bill was that while it wiped out specific speed limits, it provided that a rate of 30 miles an hour should be considered "presumptive evidence" of reckless driving; for violation of this provision the penalties were less stringent than those obtaining

under the present law. The Allds bill finally was passed by both branches of the legislature on the strength of an emergency message from Governor Hughes. Strong opposition developed at a hearing May 11th, held by the Governor, however, at which a forcible attack was made upon it by the National Highway Protective Association and others. Later the protests from New York City officials were brought to bear, because the bill took from municipalities the power to regulate traffic by the city, and for this reason, on May 27th, after four weeks' consideration, Governor Hughes vetoed the measure.

**Edge Trying to Open New Jersey.**

Stirred by the retaliative measures of other states the motorists of New Jersey are making another effort to amend the pernicious non-resident clause of the automobile law of that state, which exacts a fee from motorists of other states who may wish to enter the state for short periods. Assemblyman W. E. Edge, of Atlantic City, and a prominent motorist of that place, has introduced a bill providing that motorists of other states who have complied with the automobile laws of their respective states, may use the roads of New Jersey for not more than three periods of ten days each in any one year, without registering their cars in that state. It is further provided that the last day of the first period and the first day of the second period, and so on, must be thirty days apart and that cars must bear their own state numbers only. The bill has the support of all the automobile clubs of the state, but it is expected that Senator Freylinghuysen, author of the present law, will arise and block the measure, as he has done on past occasions when similar amendments were offered as he believes that everyone should "pay something."

**Wilkes-Barre Saves Its Hill Climb.**

Despite the opposition of a strong faction of the club, who were opposed to the organization holding any more hill climbs, the Wilkes-Barre (Pa.) Automobile Club, after consulting with the business men of the town, has applied for a sanction for another running of what has come to be recognized as the national hill climb on Giant's Despair. Instead of being held on Decoration Day, as in former years, and on which day Wilkes-Barre has been the Mecca for Eastern tourists, this year's climb has been set for Saturday, June 11. This change of date is in the nature of a surprise, as also is the club's decision to again hold the climb this year, as it was thought that the internal opposition would carry their point. When Wilkes-Barre relinquished its claim to the national climb last year, the Worcester (Mass.) Automobile Club made a bid for it to take place on May 30 on Dead Horse hill, where in years past several climbs have been held. The Worcester contest will occur on June 4.

**A. A. A. ARRANGES CONTEST DATES**

**Tentative Schedule that will Prevent Much  
Confliction—Earlier Dates for Several  
of the National Events.**

Announcement was made late last week by the contest board of the American Automobile Association of a tentative schedule of sanctioned contests of various sorts throughout the country for the coming season, which it is planned to make the greatest season of competition in the history of the sport in this country. Applications were filed for nearly 100 events of various kinds, and of these 76 were from clubs or promoters east of the Rocky Mountains, while 22 were requisitions from the Pacific Coast. It is likely that several more will be granted later. According to the schedule as at present constituted, the East will have 32 track races, 22 reliability contests, 13 hill climbs and and nine road races, while the portion allotted to the Pacific district comprises of 13 track events, six road races and two hill climbs.

All of the old classics have been retained, but several of them will be held earlier than ever before, among which is the National A. A. A. tour, the new name for the Glidden trophy contest, which will get under way June 15 and finish on the 30th; the Vanderbilt race on October 1, and the Riverhead, L. I., road race on June 1. The headliners, which will be repeated, are the Cobe Cup race on June 25; Lowell races on September 5, and the Fairmount Park race, Philadelphia, on October 8. Savannah, Ga., also has applied for a sanction for a road race late in October, presumably another Grand Prize contest, but no definite date yet has been assigned.

It is possible that there will be but one twice-around-the-clock race at Brighton Beach, N. Y., this year, May 30 being the only date assigned to this track. The racing clans will gather at the Atlanta, Ga., Motordrome on May 5, 6 and 7. Indianapolis is booked for a choice string of dates—May 29, 30 and 31; July 1, 2 and 4; August 12 and 13; September 2, 3 and 5, and the windup on October 7 and 8. Atlanta's curtain will fall one week later, on the 15th.

On the Pacific slope all the big events are booked again, including the Santa Rosa Roadrace on May 9; the Portland, Ore., Rose Festival road event on June 11; the Mount Baldy event on September 10, and the notable Portola race at San Francisco on October 23. The new board Motordrome at Los Angeles also is well provided for, with 10 meets carded. The complete list of sanctioned contests is as follows:

**Road Races.**

Denver, Denver Motor Club, May 30.  
Riverhead, Motor Contest Association, June 1.  
Cobe, Chicago Auto Club, June 25.

Grand Rapids, Grand Rapids Auto Club, middle of July.

Denver, Denver Motor Club, September 5.  
Lowell, Lowell Auto Club, September 5.  
Vanderbilt, Motor Cups Holding Co., October 1.  
Fairmount Park, Quaker City Motor Club, October 8.  
Savannah, Savannah Auto Club, ———

**Hill Climbs.**

Atlanta, Atlanta Journal, February 22.  
Kansas City, Auto Club of Kansas City, April.  
Bridgeport, Auto Club of Bridgeport, May 30.  
Wilkes-Barre, Wilkes-Barre Auto Club, June 11.  
Worcester, Worcester Auto Club, June 4.  
Cleveland, Cleveland Auto Club, June.  
Ossining, Upper Westchester Auto Club, June 18.  
Plainfield, Plainfield Auto Club, July 11.  
Richfield, Richfield Springs Auto Club, middle of July.  
Algonquin-Chicago, Chicago Motor Club, middle of August.  
Denver, Denver Motor Club, November.  
Minneapolis, Minneapolis Auto Club, ———  
St. Paul, Auto Club of St. Paul, ———

**Track Races.**

New Orleans, New Orleans Auto Club, February 5 and 6.  
Montgomery (Ala.) Auto Association, February 12 or April 20.  
Birmingham, Birmingham Police Relief Association, April 27.  
Indianapolis Motor Speedway, May 20, 30 and 31.  
Boston, Bay State Auto Association, May 30.  
Brighton Beach, Motor Racing Association, May 30.  
Philadelphia, Quaker City Motor Club, June 4.  
Columbus, Columbus Auto Club, June 14.  
Indianapolis Motor Speedway, July 1, 2 and 4.  
Dallas, Dallas Auto Club, July 4.  
Cheyenne (Wyo.) Motor Club, July 4.  
St. Paul (Minn.), State Automobile Association, July 4.  
Wildwood, Motor Club of Wildwood, July 4.  
Wildwood, North Wildwood Auto Club, July 6.  
Wildwood, North Wildwood Auto Club, August 6.  
Cheyenne (Wyo.) Motor Club, August 17.  
Cheyenne (Wyo.) Motor Club, September 5.  
Wildwood, Motor Club of Wildwood, September 5.  
Wildwood, North Wildwood Auto Club, September 5.  
Galveston, Galveston Cotton Carnival, July 23.  
Kansas City, Auto Club of Kansas City, July.  
Philadelphia, Quaker City Motor Club, August 6.  
Indianapolis Motor Speedway, August 12 and 13.  
Indianapolis Motor Speedway, September 2, 3 and 5.  
Minneapolis State Fair, Auto Clubs of Minneapolis and St. Paul, September 5 and 10.  
Providence, Rhode Island Auto Club, September 9 and 10.  
Indianapolis Motor Speedway, October 7 and 8.  
Dallas, Dallas Auto Club, October 25.  
Atlanta, Atlanta Auto Association, November 15.  
New Orleans, New Orleans Auto Club, November 5 and 6.

San Antonio, San Antonio Auto Club, November 6, 9 and 13.

**Reliability Contests.**

Philadelphia, Century Motor Club—Philadelphia, Quaker City Motor Club, April 15.  
Denver to Mexico—Flag to Flag; G. A. Wahlgreen, May 1.  
Hartford, Auto Club of Hartford, May 1.  
Harrisburg, Motor Club of Harrisburg, May 2 to 7.  
Norristown, Norristown Auto Club, May 18.  
Fort Worth, Fort Worth Star-Telegram, May 22.  
Detroit, Detroit Auto Dealers' Association, May 25.  
National (Glidden) Tour, A. A. A., June 15-30.  
Denver, Denver Motor Club, June.  
New York to Seattle, M. R. Guggenheim, July 4.  
Philadelphia to Wildwood, North Wildwood Auto Club, July 2.  
Minneapolis-Tribune, Minneapolis Auto Club, August 1.  
Munsey Tour, Frank A. Munsey Co., August 15.  
Minneapolis, Minnesota State Auto Association, August 31.  
Philadelphia to Wildwood, North Wildwood Auto Club, September 3.  
Cleveland, Cleveland Auto Club, September.  
Kansas City, Auto Club of Kansas City, September.  
Louisville, Louisville Auto Club, October 8.  
Chicago, Chicago Motor Club, October 15.  
Denver, Denver Motor Club, October.  
Worcester, Worcester Auto Club, October.

**PACIFIC COAST.****Road Races.**

Santa Rosa, May 9.  
Portland Rose Carnival, Portland Auto Club, June 11.  
Santa Monica, Licensed Motor Car Dealers' Association of Los Angeles, July 4.  
Mount Baldy, September 10.  
San Francisco-Portola, Auto Club of California, October 23.  
Los Angeles-Phoenix, Maricopa Auto Club, November 24.

**Hill Climbs.**

Altadena, Licensed Motor Car Dealers' Association, Los Angeles, February 22.  
Mile High Hill Climb, Redlands Mile High Hill Climb Association, November 24.

**Track Races.**

Los Angeles (Cal.) Motor Racing Association, January 9.  
Los Angeles (Cal.) Motor Racing Association, February 12 and 13.  
Los Angeles (Cal.) Motor Racing Association, March 12 and 13.  
Los Angeles (Cal.) Motordrome Co., April 8, 9 and 10.  
Los Angeles (Cal.) Motordrome Co., April 13.  
Los Angeles (Cal.) Motordrome Co., April 15, 16 and 17.  
Los Angeles (Cal.) Motordrome Co., 24-hour, April 30, May 1.  
Santa Rosa, Santa Rosa Auto Association May 15 (16).  
Los Angeles (Cal.) Motordrome Co., May 29, 30 and 31.  
Los Angeles (Cal.) Motordrome Co., July 2, 3 and 4.  
Seattle, M.R. Guggenheim, September 10, 11 and 12.  
Spokane, Spokane Inter-State Fair, ———



## RIVAL TYPES OF SPRING SUSPENSION

Views of the Spring Makers Themselves as to the Respective Merits of the Various Systems—Growing Use of the Three-Quarters Form—Why Experts Favor the Full Elliptic—The Battle of Theories—Special Designing for the Car Manufacturers—The Absence of Decided "Trend."

Just how the springs are fabricated and mounted between the frame and axles seldom concerns the occupant of the average well-made car. A jolt is a jolt, to be sure, and much touring, even at the present day, tends to develop hitherto unsuspected tender spots about certain much jiggled portions of the body. But as a rule it is the peaceful road mender who is blamed for the unpleasant sensations, rather than the builder of the car. To dodge behind the automobile manufacturer himself and deliver a few well-chosen anathemas at the specialist who constructed the springs is far too complicated a method of mental revenge to occur to the ordinary every-day motorist.

Happily, persons of analytical mind, as well as sensitive anatomy, early began tinkering with the problem of automobile spring design. In consequence of their cogitations and subsequent labors, the world has been blessed with countless shock absorbers, sundry and intricate systems of suspension and as many more methods of shackling the more or less generally approved forms of springs at present recognized as available for the desired purpose.

Nor has the united effort of many busy brains been wholly in vain. The net result is that car mechanisms as a whole and car bodies in particular now last a great deal longer than formerly was the case, which result is due partly to better application for the principles of design in other respects, but very largely to the easing of shocks from vital parts. Furthermore, it is now possible to discover an occasional complacent individual who believes that American roads are better on the whole than they used to be. This latter conclusion may be justified in some measure. But at all events it is certain that the springs are better than they used to be—which is a polite way of begging a delicate question.

But while the springs of the modern car cause the passenger no discomfiture, but rather alleviate much of the suffering which he has reason to expect under certain circumstances, it is a fact perhaps not generally appreciated that they are a source of considerable perplexity to the thoroughgoing and painstaking engineer. The proof of this is not far to seek, when attention is called to the frequent alteration in spring design, undertaken by even some of the most thoroughly established automobile manufacturers in the industry, as well as

to the wide variety exhibited in existing practice at the present time.

In connection with the recent automobile show in Grand Central Palace, the Motor World called attention to some apparent tendencies of the time, and more especially to the rapidly increasing application of the three-quarter elliptic rear suspension on cars of widely divergent sizes and types. At the same time some of the more pertinent characteristics of the system in question were presented in a cursory way.

A more extended consideration of the subject, which was made possible by the second show in New York City, together with sundry statistics gathered in connection with the exhibits at the Palace and Garden, affords the somewhat surprising information that spring design at present is in quite as unsettled a state as ever it has been since the early period when the word "trend" was rooted out of the dictionary and translated by the ubiquitous press agent to the columns of the trade-wise and technical press.

That this is due in part to the generally recognized theory that spring suspensions are not subject to standardization in the same way as other parts, may be the case, though there is insufficient evidence to warrant the assumption. The design of each individual make and type of car warrants the production of a special spring equipment to fit it, is the belief held by many engineers. But while this is true to a large extent, it also is true that each recognized type of suspension may be found on practically all types of cars, large and small. This indisputable fact leads to the conclusion that a more or less significant battle of theories is in the air, or else that there is an equality about the various systems which none of their respective supporters are likely to be ready to admit.

Without regard to the type of vehicle upon which they were mounted, and considering the various models of practically all the makers exhibiting at the two New York shows this winter, it was found that a full 25 per cent. of the suspensions were of the semi-elliptical pattern, both front and rear. Adherents to the semi-elliptical spring in front and the full elliptic in the rear, produced about 20 per cent. of the vehicles at the two shows. The cars mounted on full elliptic springs, both front and rear, amounted to only 9 per cent. of the total, while the semi-elliptical front and three-quarter platform rear system was used on 15 per cent. of the cars; unclassi-

fied types making up only about 4 per cent. of the total. The latter include such well-known and successful systems as the double cross spring mounting of the Ford, the rear cross and semi-elliptical front arrangement of the Hupmobile, the helical suspension of the Brush runabout and several unusual combinations of otherwise familiar forms of spring. The remaining 27 per cent. of the total list of cars considered, reveals the present strength of the three-quarter elliptic rear suspension when used in connection with the semi-elliptic front spring. As before indicated, this form of spring, like each of the others specified, is to be found on cars of practically all types from the medium powered machine of say 25 actual horsepower or thereabouts upward, and without apparent limits as to power or weight; though it is most popular with the builders of cars ranging around 30 horsepower.

Noting the apparent concerted movement among a large number of makers—more than one-third of the number actually exhibiting, as a matter of fact—the Motor World instituted a canvas among the spring manufacturers themselves, in an effort to discover, if possible, whether a decided leaning to the three-quarter elliptic form, or, indeed, to any form at all, existed in that quarter. Somewhat unexpectedly, in view of the extent to which the car makers draw upon the spring makers for their equipments, as upon specialists of recognized ability, a majority of the replies received expressed a decided preference for the full elliptic type.

Standing as they do in the light of expert consultants, it was not surprising to find some inclination to professional reticence upon the subject. As one well-known spring maker expressed the situation: "We practically design the car as far as the suspension goes, and we practically relieve the designer of that disagreeable duty; we go to his office and do it." And in explanation of his disinclination to state his preference for any one form of spring, he said: "Different cars require different types of suspension, according to the use they are designed for. That is our stock in trade; to go to the designer's or engineer's office and discuss it with him." Just as a cautious medical practitioner may hesitate to commit himself publicly in regard to the symptoms of some peculiar physical ailment, this man-behind-the-man-behind-the-car was unwilling to have his name appear over a criticism of any one

type of spring, lest his guarded assertions be subject to too broad a construction.

And it is noteworthy in passing, that this sheds some light on the peculiar confidential relation existing with other parts specialists in many factories today. The parts people of the better class are more than mere builders of components; they exercise a sort of paternalism over the nominal car manufacturers, of which the average motorist never dreams, but for which he should be devoutly thankful.

As requested, the replies to the Motor World's inquiry concerning the spring situation are non-technical in form, dealing in a rather more direct way with the results which are to be expected from one type of suspension or another. The extracts printed below reveal as concisely as possible the present attitude of the spring makers themselves in regard to spring design:

Harvey Spring Company, Racine Junction, Wis.—"It is certain that springs for wagons and carriages never set the spring-making fraternity thinking so hard as springs for automobiles. This, of course, is due to the greater strain put upon the springs as a result of the smaller wheels and the greater speed of the automobiles. However, a great many things have been learned the last few years that are overcoming a great deal of the trouble. A definite amount of work must be done by the spring in absorbing the shocks of the road and the proper distribution of this work along the full length of the spring. If this work is concentrated in only part of the spring, it is almost sure to break the spring at that point.

"The recent tendency has been to use longer springs and straighter springs and wider springs with less leaves. Of course, the longer spring must be heavier to carry the load, and this provides more steel to do the work of the spring. This relieves the center of the spring from the excessive strain. The tendency to use springs with less arch or curvature also tends to distribute the action along the length of the spring rather than concentrate it at the center.

"As to the style of springs, we think the elliptic spring is the best, as one half relieves the other half. The scroll end elliptic is even better than the regular elliptic spring, particularly as an easy riding spring for light roads. Next to the elliptic spring we would take the three-quarter elliptic or the platform suspension which is about the same thing.

"To sum the whole matter up, we would say that our experience has taught us that it is desirable to put plenty of material in the spring to properly do its work. This material must be properly arranged so as to distribute the stress throughout the entire length of the spring.

"Few people appreciate how many fine points must be considered in designing a spring for a car. The length, the breadth,

the grading of the leaves, the shape, the quality of the steel and the temper all influence the ultimate result."

Hess-Pontiac Spring and Axle Co., Pontiac, Mich.—"In regard to the tendency of automobile manufacturers to adopt three-quarter elliptic springs in the place of semi-elliptic, we would say that our experience with manufacturers seems to indicate that the demand must be for a car with the three-quarter scroll elliptic construction in the rear, as quite a number of those who are changing their construction this year are changing to this style of suspension.

"It is our opinion that for medium heavy and heavy cars the three-quarter scroll elliptic spring for the rear suspension is one that is capable of filling the requirements as well as anything that we know. The design of the chassis can be so arranged as to make the lower or bottom half of the spring of extra good length, which insures good riding qualities; and the upper half of the spring, while taking the place of the drop frame end, helps also in reducing the shocks and gives it better riding qualities.

"For a light and cheap car, we think that the best and cheapest construction is the half elliptic, a plain spring which can be made to accommodate itself for length of wheel base, and if designed for length, will give excellent riding qualities. Some consider the full elliptic of better design for cheap cars, and for some reasons we recommend it in place of the half elliptic, but in our estimation it does not make as neat a finished car."

Kalamazoo Spring and Axle Co., Kalamazoo, Mich.—"We regard the regular full elliptic spring as the best form of spring for use on motor driven vehicles, and wherever this form can be utilized, we make our recommendation accordingly. In certain types, of course, this spring cannot be used, and the three-quarter type is then to our minds the next best. Both the full elliptic and three-quarter elliptic are now being called for with scroll ends similar to our Nos. 202½ and 204. This type spring is considerably harder to make than the regular elliptic, and we, as spring makers, naturally lean to the regular type on this account. The scroll pattern, however, when properly made gives very satisfactory riding results, and thus far has proven reliable as to durability: The semi-elliptic style does not give nearly as much flexibility as the elliptic type, and for this reason we do not regard the semi-elliptic type as quite as desirable either in the matter of riding qualities or durability."

The Hess Spring and Axle Co., Carthage, Ohio—"The style of spring which survives the test of time is the best, the same as in all other things. The semi-elliptic spring lends itself better for front spring suspension on the modern constructed automobile, and for the same reason the full elliptic, with scroll ends, or the three-quarter ellip-

tic, with scroll ends lends itself favorably to the present construction as a rear spring.

"We consider the three-quarter or full elliptic scroll spring as being superior to the half elliptic as a rear spring suspension, because it is easier to get length of elasticity sufficient to give an easy riding spring and to stand the shocks. Nothing but length gives satisfaction in difficult work such as an automobile requires.

"So in a general way we would advise: First, make the springs as long as possible; second, make the springs as wide as possible; third, make the spring leaves as thin as practical; fourth, so space and multiply the leaves as would give the action and carrying capacity required."

Detroit Steel Products Co., Detroit, Mich.—"We have always questioned the wisdom of using the three-quarter elliptic spring for rear suspension for heavy vehicles. The use of this upper scroll adds to the volume of the spring maker, and, to that extent, is desirable to him, but we believe the automobile manufacturer is adopting it too generally. For heavy and high-duty cars, we do not advocate its use. For light cars, the question of high efficiency and lateral motion is not of so much consequence.

"Our idea is that the semi-elliptic pattern, properly designed, and where the collateral construction is fitted to such proper design, instead of the reverse, as is usually the case, is the safest and best for general practice. Automobile manufacturers are beginning to realize that, in order to secure the highest efficiency and excellence, they must give the spring maker plenty of latitude, and not limit him to the previously adopted collateral construction."

The Lewis Spring and Axle Co., Jackson, Mich.—"Owing to the fact of the low wheels causing such a constant and severe strain on the springs, the only proper mode of construction is a full elliptic front and rear. Semi-elliptic and especially a three-quarter elliptic are more subject to crystallization than the full elliptic.

"The best way of hanging is under the axle, thus doing away with the constant hammering which is inevitable when it is on top. Another advantage of this method of hanging is the natural tendency all the while of drawing the top and the bottom together, making the car ride easier, adding to the elasticity of the spring and lessening the danger of breakage."

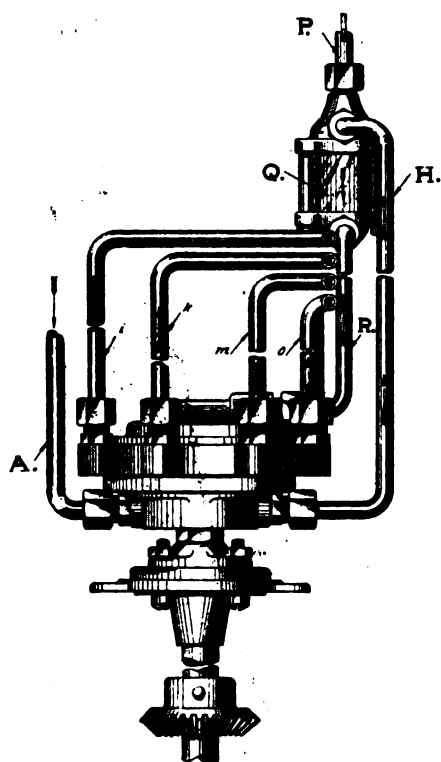
#### When Washers May Cause Trouble.

In reassembling an engine after roadside repairs have been performed, it is important to see that all washers and gaskets are wiped free of dust and grease before being put back into place. Failure to carry out this precaution may involve considerable and annoying delays through leakages, which, if in the intake side of the engine, may prevent it from running properly, even though the improper union may be practically impossible to locate.

## NOVELTY IN LUBRICATING SYSTEM

### How Maxwell Obtains Fixed Regulation for Individual Feeds—Details of the Ingenious Device.

Lubricating systems have come to assume such importance in the estimation of a considerable number of automobile manufacturers that they are producing their oiling devices in their own plants along with other vital parts of the mechanism. In general where this practice prevails, the lubricator supplies only the engine, and is incorporated directly in it. The Maxwell-Briscoe Motor Co., Tarrytown, N. Y. however, is one of those companies building a pressure feed oiler of the external type. It is of original construction and is applied to all models of the line as produced at this time.

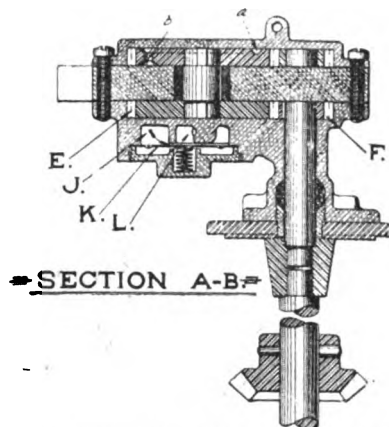


NEW MAXWELL OILER

Besides being of very compact and altogether unusual construction the new Maxwell lubricators possess the merit of having fixed regulation for the individual feeds, so that the supply to each of the feeding points is retained in fixed proportion to each of the other feeds regardless of the speed of the engine or the adjustment of the main regulating screw.

The system comprises what may be called a double pump arrangement, one of the two sections, which is a complete gear pump in itself, feeding to the sight glass which is mounted on the dash. From that point a regulated amount of oil flows back to the pump, whence it is delivered to the other sections of the device, which in addition to

its function as a pump also acts as a distributor. Because the distributing section

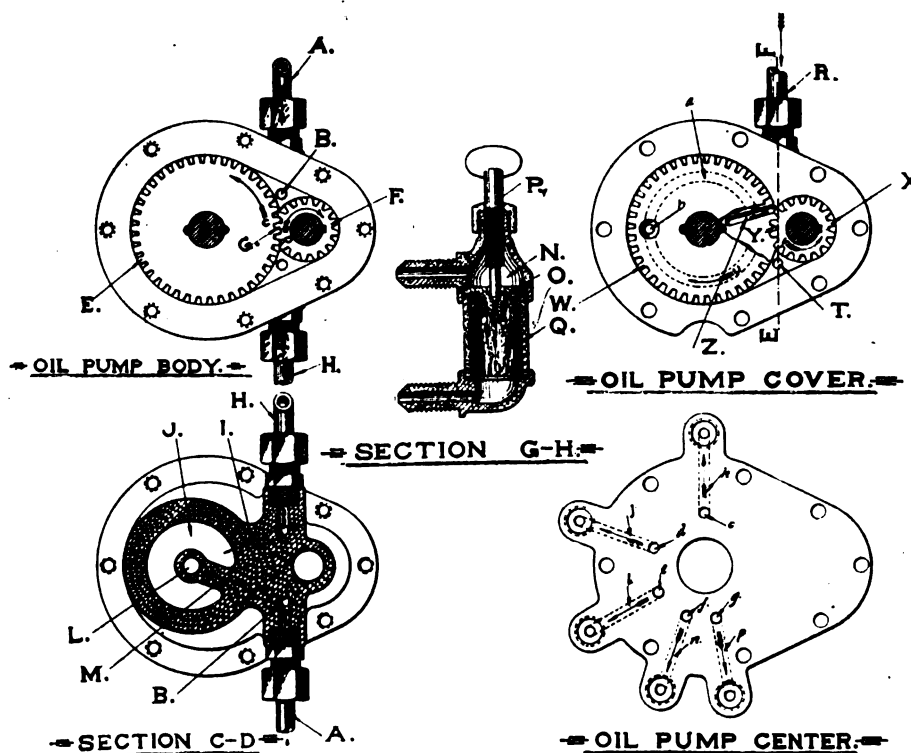


VIEW SHOWING DIAPHRAGM VALVE

of the pump is arranged to deliver only measured quantities of oil to each of the feeding points, it follows that in the event

tube A, as shown in the illustration of the oil pump body, the meshing of the teeth of the gears E and F preventing the progress of the lubricant beyond the point G, so that the teeth of gear E are made to carry it around in the direction of the arrow. An automatic by-pass arrangement causes the pump to deliver through the tube B, leading to the sight feed glass only sufficient oil to satisfy the adjustment of the valve P. The pumping capacity of the gears is considerably in excess of the normal requirement for lubricant. The surplus is taken care of by the diaphragm valve passing into the hole I, from which it is discharged into the chamber J. Ordinarily the diaphragm K closes this chamber, but when the pressure rises above the normal the diaphragm yields and allows the overflow to escape into the opening M, from which point it is returned to its original starting point at B.

From the sight feed the oil is returned

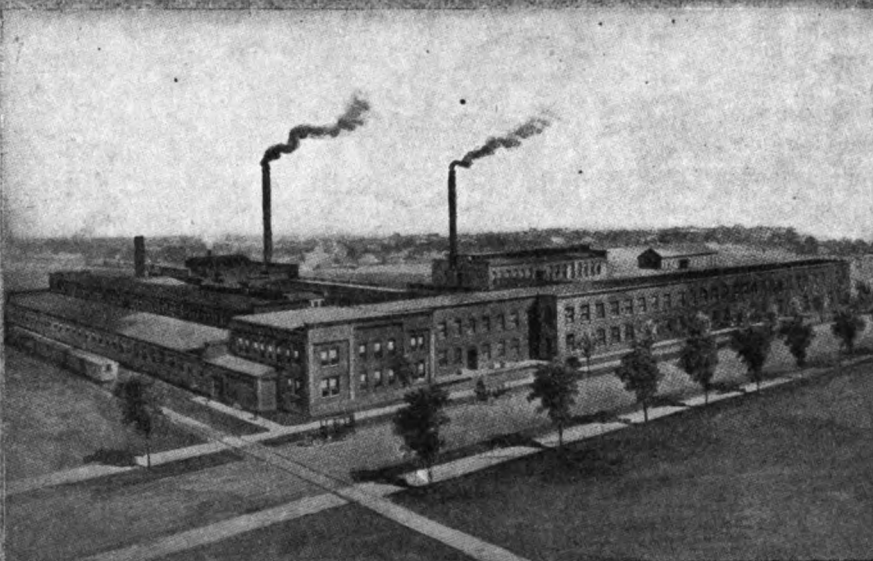


SECTIONAL VIEWS SHOWING STRUCTURAL AND OPERATING DETAILS.

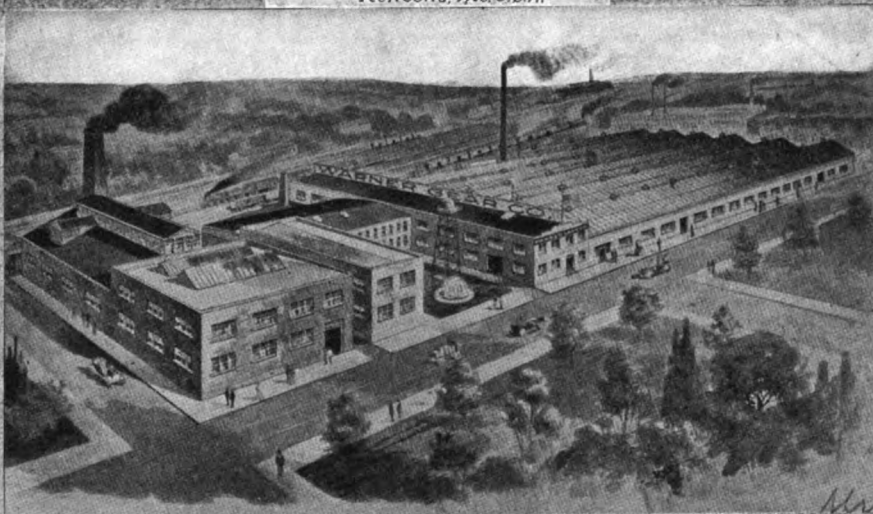
of a stoppage in either of the delivery outlets, the oil at once will "back up" into the sight feed glass where its presence will furnish an immediate indication of trouble. Similarly, of course, any failure in the supply of oil, clogging of the feeding section of the pump, or failure of the driving mechanism, at once will be revealed by the cessation of flow through the glass. This trouble indicating property of the sight feed as well as the ease with which adjustments to the entire system may be made without opening the bonnet are the more important merits of the system.

Its mechanical features are revealed by the accompanying illustrations. The oil enters the sight feed gears, so-called, from the

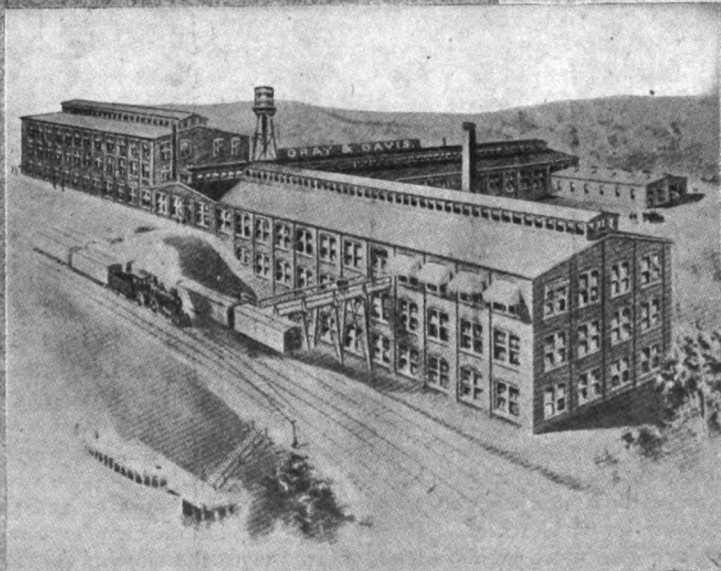
to the pump at T, where it is distributed by the aid of the gear W, around which it is carried in the direction of the arrow U, and forced into the channel Z. It passes out at the opposite side of the gear, W, and is led through the channel A to the hole b. By the movement of the pump actuating mechanism, the hole b is carried around and registers successively with the feeding orifices c, d, e, f, g. Through the corresponding passages, i, j-k, l-m, n-o, and p-q, the oil is fed to the four cylinders, taken in this order, and to the clutch. As the holes in the pump body are unequally spaced, it follows that the quantities fed to the respective bearing surfaces are graduated in proportion to their absolute requirements.



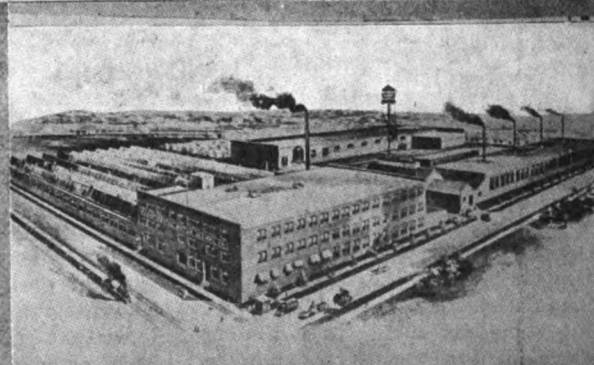
Badger Brass Mfg. Co.  
*Kenosha Wis. U.S.A.*



Warner Gear Co.  
*Muncie Ind.*



Gray & Davis  
*Amesbury Mass.*



Continental Motor Mfg. Co.  
*Muskegon, Mich.*

Representative American Parts and Accessory Factories.



## VARIATION OF MULTIPLE JET IDEA

How It is Employed in a Foreign Carburettor—Clear Exposition of the Principles and Operations Involved.

Despite the many improvements and devices introduced during the past few years, the effort to obtain more perfect carburetters continues. Of these efforts the most promising appears to be the introduction of an auxiliary jet to at least reasonably proportion the quantity of "gas" admitted to that actually needed. Such adjustment, to be of real value, ought to be perfectly automatic, and it is the problem of reliable automatic control that offers the greatest difficulties to the designer. Several good multiple jet carburetters are on the market, but even their designers are not resting content.

A device of this class which has undergone severe tests and which is declared to be highly effective and growing in favor, is the Zenith carburetter.

It is of the float feed spray-jet type, such as is practically universal on all modern cars. It has, however, two concentric jets instead of a single jet; these jets are shown side by side for convenience in the accompanying diagrammatic sketch.

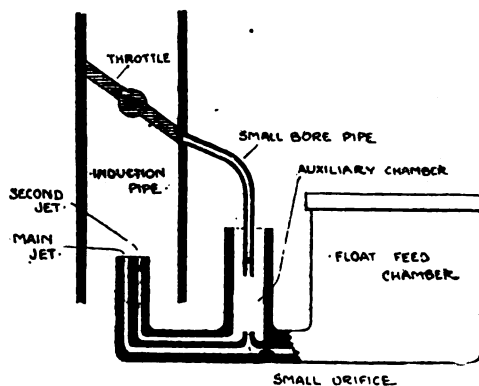
Gasoline from the float feed chamber flows to both jets simultaneously, but there is a peculiarity in the arrangement of the passages to the jets that must be very carefully studied, for it constitutes the basic feature in construction. The passage between the float feed chamber and the main jet communicates through a small orifice with an auxiliary chamber, from which the second jet draws its supply of fuel. This auxiliary chamber has a very small capacity, relatively smaller, in fact, than could conveniently be shown in the diagram, and is open to atmosphere; both points are of great importance.

When in action, a suction effect is being exercised on the orifice of each jet simultaneously and equally, due to the rush of air from the induction pipe to the engine. There is an equal suction on each jet, but it does not follow that the discharge from the jets is equal, because, while the main jet is drawing its supply from the large float feed chamber that is maintained at a constant level, the second jet is drawing its supply from the relatively small auxiliary chamber, the level in which depends on the relative rates of discharge from the jet and inflow from the small orifice.

The rate of inflow to the auxiliary chamber is itself determined by the difference in level of the fuel in the auxiliary chamber and in the float feed chamber; there is an absolute maximum rate of inflow limited by the area of the small orifice. This only occurs when the gasoline is ejected from the second jet as fast as it can flow

into the auxiliary chamber. Under these latter conditions the suction on the second jet is working against a resistance represented by the height of the jet itself, whereas the suction on the main jet is working against no resistance at all since there is never any measurable difference in level between the fuel in the float feed chamber and in the stem of the main jet.

If the rate of inflow through the small orifice to the auxiliary chamber is greater than that of the discharge from the second jet, the auxiliary chamber will fill up, and if the suction on the second jet is very slight, it is assumed that the level in the auxiliary chamber is appreciably the same as that in the float feed chamber. Under these conditions the auxiliary chamber is no more than a part of the float feed cham-



ZENITH CARBURETTER CONSTRUCTION

ber, so that the main jet and the second jet discharge equal quantities of fuel in a given time, assuming that they are equal in size. As has been stated, a slight suction on the jet is an essential condition to this state of affairs, and such suction implies a low velocity of air through the mixing chamber, and this in turn indicates that the engine is either running very slowly indeed with an open throttle or that the throttle is almost closed if the engine is running fast. In any case the conditions imply that the power developed is slight.

The important feature of the carburettor action in this connection is that the second jet has come to the aid of the main jet at a time when the main jet by itself might have failed to afford adequate carburation of the air. The change that has taken place is somewhat analogous to enlarging the bore of the main jet.

The suction of the second jet must be sufficient to work against the difference of level represented by the height of the jet stem. This implies a suction of very considerable magnitude, such as could only be obtained by a high velocity of the air through the mixing chamber. A high velocity through the mixing chamber will be produced by high engine speed, but also may be produced at low engine speed if the throttle is fully open to allow the cylinders to receive a full charge.

For ordinary touring car work it may be assumed that high engine speed is intend-

ed to be accompanied by a partially closed throttle, because it is not usual for a touring car engine to be driven "all out" on the level. When, therefore, an engine is running slowly on an open throttle, and fast on a partially closed throttle, it may be developing the same amount of power although in a different way. In the first case, torque or "pull" predominates, in the second case speed is the more in evidence.

Whatever may be the feature of the power developed, it indicates the consumption of the fuel at the same rate per minute. In the first case the fuel is consumed in a few strokes of the piston, in the second case it is divided up among many strokes, each stroke contributing, of course, proportionately less work.

There are two compensations that must essentially be provided by any carburettor that claims to be automatic. One is a compensation for variation in engine speed accompanying constant power, and the other is a compensation for variation in load accompanying constant engine speed.

The exact proportioning of the parts so that the compensation is accurate is a matter requiring some considerable experiment, but that after all is no more than is required in the case of any carburettor, and it is claimed as the great feature of the Zenith that the compensation once attained does not involve the introduction of a single mechanical moving part.

The small-bore pipe shown in the accompanying diagram is a clever device to facilitate starting the engine. Its lower orifice is submerged below the level of the gasoline in the auxiliary chamber when the engine is at rest, and its upper orifice occurs in the induction pipe on the seating of the throttle valve. At this point there is sure to be an appreciable suction even when the engine is at rest, and its upper orifice occurs sequentially carburation takes place under conditions that would hardly be adequate to set the jets in action. It is essential to the successful operation of this device that the engine be started with the throttle nearly closed.

### "Reclaimed Rubber" Gets in Free.

In consequence of a protest filed by the Michelin Tire Co., of Milltown, N. J., the Board of General Appraisers, at New York City, has decided that "reclaimed" or "recovered" rubber is to be admitted from other countries free of duty. The Michelin company's protest was made concerning a shipment where the Collector had assessed some of the merchandise at 30 per cent. ad valorem as "manufactures of rubber" and the remainder at 20 per cent. as a "non-enumerated manufactured article."

"If crude rubber cleansed and purified," the Board declares, "is entitled to free entry we think on the same basis of reasoning that reclaimed or recovered rubber which by various processes, chemical or otherwise, has been reduced from old scrap to the crude state, is also entitled to free entry."

## SNOW DELAYS GRAND FORKS SHOW

Opening Takes Place a Day Later than Scheduled—Northwest Dealers Make a Brave Display.

With dealers from all parts of the state and from other states, as well, exhibiting cars, the first recognized automobile show in North Dakota worthy of the name is occupying the boards at the Auditorium in Grand Forks this week, being held in connection with the Northwestern Implement Dealers' convention. Although scheduled to open on Monday of this week the show was a day behind time on account of a heavy snowstorm which tied up the railroads, postponing the arrival of several show cars and their exhibitors, so that the show did not get under way until Tuesday. However, there is no doubt but that it will be an annual fixture, for the city is crowded with more people than ever before, a great number of the visitors being out of town agents. It is practically an agents' show, very few of the manufacturers being represented directly.

While nothing elaborate has been attempted in the decorative line, the hall is made ornate with red, white and blue bunting used in profusion, while ferns and evergreen are scattered throughout the building, the whole making a very pretty effect. There are 26 makes of cars shown, of which two, the Billy Four and the Deal, are shown for the first time this season. The former is a Southerner, hailing from Atlanta, Ga., and is a small reproduction of the advanced type of large car. It has a four cylinder block motor rated at 20 horsepower, thermo-syphon cooling and self-contained oiling system. The clutch is of the cone type and the transmission, which is of the selective sliding pattern, has two forward speeds with the usual reverse. Final drive is by shaft with semi-floating rear axle. There are three brakes, a service brake mounted on the drive shaft back of the transmission and a pair of expanding brakes on the rear axle.

While the implement dealers' annual gathering always attracts large crowds to the city, the addition of an automobile show has this year attracted more people than ever. The show closes on Saturday, 5th.

The exhibitors are as follows:

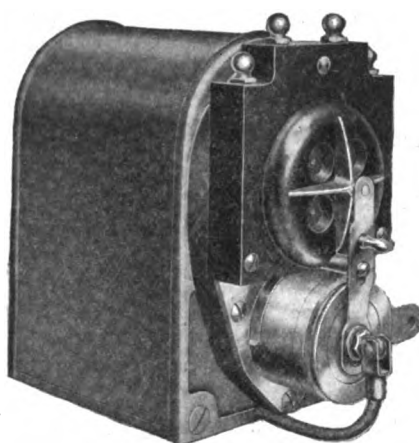
Automobiles: Grand Forks Motor Car Co., Kisselcar; Dakota Auto Co., Reo, E-M-F, Chalmers, Velie and Stearns; A. A. Anderson, Mitchell; L. Stimson, Overland; Lyons & Co., Franklin, Hupmobile, Maxwell and Excelsior motor cycles; Sims Auto Co., Buick; Northern Auto Co., Jamestown, Brush; Horton Motor Co., Devils Lake, Oakland; Baird & Sandlie, Lakota, Billy Four; Inter-State Auto Co., Lakota, Inter-State; Spoonhein Bros., Northwood, Halladay; Robert J. Moore, Grafton, Studebaker; J. A. Scott, Rugby, Winton. From Minneapolis, Minn., the Northland Motor Co., Stoddard-Dayton; Jackson Motor Co., Jackson; Col-

umbus Buggy Co., Columbus electric; Haynes Auto Co., Haynes; P. J. Downes, Rambler; La Crosse Implement Co., Deal, and Sullivan Bros., E. Grand Forks, Minn., Mason.

Accessories: Monley & Smith, Grand Forks; Fargo Auto Supply Co., Fargo; C. J. Smith, St. Paul, Minn., and Hudson & Thurber, and Hollis Electric Co., Minneapolis.

### Radical Details in Magneto Design.

Taking principles and methods of magneto construction which are essentially conventional and conservative, but adding design features which are unusual and radically advanced, the Connecticut Telephone & Electric Co., of Meriden, Conn., is presenting, through its sales representatives, the United Manufacturers, a new type of high tension magneto. Instead of a double wound armature or the use of a single winding and a separate coil on the



dash, the Connecticut magneto, a view of which is shown in the accompanying illustration, has its transforming or secondary coil placed in the bow of the magnets. This coil is in cartridge form, so that in case of a burn out or "breakdown" immediate repairs can be made by inserting a new coil, in the same way as substituting a new unit in a spark coil.

An unique feature is the provision of four safety gap windows. In case one of the cylinders is missing, the spark immediately will begin to jump across the window corresponding with the missing cylinder, so that the operator of the car can see at a glance in which cylinder there is trouble. Simplification in construction and the reduction of the number of parts has been accomplished at many points. Ball bearings are used throughout, and the magneto cannot be short-circuited by too much oil as there is a special drain which carries off all excess. The whole device is fully enclosed so that it is water and dustproof, and it may be changed from right to left hand running by the simple change of three screws.

Special emphasis is placed on the fact that the magneto produces a satisfying spark at an exceedingly low engine speed. For city driving in traffic this quality is particularly valuable, as it avoids the necessity for frequent gear change or for switching over to the batteries.

## AIDS TO EASY ENGINE STARTING

Methods of Properly Priming the Motor—Difficulties that Result from Flooding—Effects of Fuel Excess.

If there is any one thing the inexperienced motorist is bound to overdo, it is in flooding the engine when it refuses to start promptly, under the misguided impression that flooding and priming are the same thing. Concerning this subject, the Co-Operator has a few useful words of advice to impart, which not a few "novices" of maturer development, well might take to heart. For it is to be observed, that not infrequently, even a motorist of experience, when "flustered" is prone to have recourse to priming, as a general remedy for all ailments to which the gasoline engine falls heir.

"Priming a gasoline engine effectively is one thing, and flooding it another," observes the print in question. "Priming is injecting a rational charge of gasoline into the cylinder to assist starting; flooding is to supply more than is needed. The first operation generally makes starting easier, especially in cold weather, or when a poor grade of fuel is used. Flooding makes starting extremely difficult and often impossible.

"Many motorists, especially the inexpert, often inject considerable fuel in the cylinders, and then find it practically impossible to get a good explosion from the motor. In such an event one may think not enough fuel has been supplied, so another dose is put in through the pet cocks, or spark plug openings. Again the crank is turned with poor results and finally, after considerable expenditure of labor, the engine may give one or two explosions. Encouraged by this more gasoline is injected, and again the motor cannot be made to run.

"The proper remedy if the motor will not start after a reasonable amount of fuel (it need not be more than a thimble full, or the amount contained in the usual ball end of the priming cock), has been supplied, is to open the pet cocks and turn the engine over briskly for a few turns with the compression taps open. This allows the engine to draw enough air to form an explosive mixture. When the sharp hiss that denotes an explosion is heard, the pet cocks should be closed and the engine turned over against compression. No priming will start an engine with dirty spark plugs, weak batteries, or other ignition troubles. Flooding the cylinder with gasoline is worse than not supplying enough. It is advised to saturate a bundle of cloth or a sponge with gasoline and place it over the air intake of the carburetter when there is any difficulty in starting, this being even better than priming. Under no consideration should waste be used for this purpose as particles may become detached and be drawn into the manifold or carburetter."

## CONCERNING THE WEAR OF TIRES

**Braden Points Out the Sort of Care and Use that Reduces Upkeep—Remarkable Instance of Equal Wear.**

"Automobile owners who are interested in the up-keep cost of their cars—and there are very few who are not—sometimes fail to take everything into consideration in figuring the cost of their tire service," says J. A. Braden, of the Diamond Rubber Co. "If one tire should happen to blow out for one cause or another after, say 2,500 miles of service, the user is likely to think of that fact only. Probably he doesn't recall that one of the other tires gave 6,000 miles, the third 7,000 miles and the fourth 8,000 miles. Failing to take this into consideration, he may get a mild grouch and want to 'do things' to the company that furnished the tires.

"It is obviously impossible for all tires to meet the same road conditions. All tires will not hit the same stones; all will not run in the same rut; all will not skid in the same car track. There are countless obstructions in every mile of road, paved or otherwise, and it's plain that one tire will hit some and another tire hit others, injury resulting to one and not to the other. Bearing this point in mind, it seems a fair conclusion that tire experience should be based on the average service of all four tires and not on the service of any one tire, be it good or bad.

"In the illustration cited the user, whose tire blew out at 2,500 miles, had an average service of 5,875 miles when the work of his other three tires is considered.

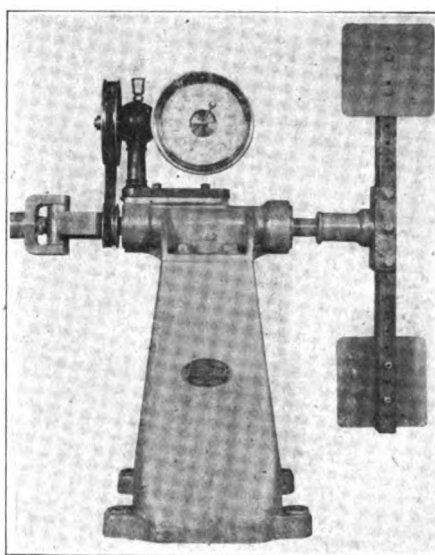
"Rear tires get much more severe work than front wheels, and the wear and tear on them is such that they cannot be expected to last as long as the front casings, but they sometimes do. An instance of this sort recently was reported to us by F. W. Conrad, of the Pacific Garage, Montesano, Wash., who used a six cylinder, seven passenger Franklin car last year, with one set of Diamond tires, and by actual odometer record obtained this mileage: Left front tire, 9,420 miles; right front tire, 9,348 miles; right rear tire, 9,188 miles, and left rear tire, 9,179 miles.

"It is not often that such authenticated records are obtainable, and for that reason they are of real value. It will be noted that the mileage of the poorest tire was only 241 miles lower than that of the highest, and the average for all tires was 9,281¼ miles. Mr. Conrad did not volunteer the conditions under which he was able to get an average service so nearly the same on our different tires, and the Diamond Rubber Co. does not know. It may have been due to any one or all of several reasons. Undoubtedly Mr. Conrad drove his car carefully and conservatively—no sudden throw-

ing on of brakes, no skidding round corners. He may have, as many do, shifted the back and front pairs at the proper time and thus have gotten extended service. In this connection care must be exercised not to make the change after either set is too much worn. And he also probably saw to it that all of his tires were kept pumped up hard all of the time; pumped up hard enough to stand full and round under a maximum load—a point very essential in getting maximum mileage."

### Dynamometers Within the Reach of All.

At one time regarded almost in the light of a luxury even for an automobile manufacturer, the dynamometer is undergoing a popularization which is bringing it not only into



the factories where cars are made, but into garages and other establishments where motors and cars undergo repairs, alterations or tests. Among the latest of the types especially suitable where both cost and space limitations are involved, is a fan dynamometer which is being placed on the market by Joseph Tracy, of New York City, who in the past has been better known as a race driver than as a consulting engineer. As shown by the accompanying illustration it is essentially a metal standard carrying a horizontal steel shaft with an overhung two-bladed fan at one end and a universal joint connection for the motor at the other. The shaft is carried in heavy ball bearings and has a belt pulley for driving a special tachometer mounted on the top of the shaft housing.

Direct readings in horsepower are given on the tachometer, from a minimum of 1 horsepower at 480 r. p. m. to 70 horsepower at 1,980 r. p. m. An inner scale, concentric with the horsepower scale, gives the r. p. m., so that simultaneous horsepower and r. p. m. readings are obtained without the necessity for computation. While the device as ordinarily supplied is designed for the testing of motors and cars of medium power, its capacity may be changed by the use of different fan blades and suitable tachometer scales.

## THE PEOPLE WHO PURCHASE CARS

**Statistics that Bear on Interesting and Much Mooted Points—The Many Cars that Change Owners.**

"Where do all the cars go?" is a question that is asked frequently by not only the man in the street, but, rather more interestedly, by the motor car manufacturer. It is an easy matter for his shipping or sales department to tell the latter into what territory the cars have gone, but unless he makes a more thorough study of the situation than that he will be at a loss to know just who buys the cars.

At least one company can answer the question and answer it down to the fraction of a per cent. Not long ago the Pierce-Arrow Motor Car Co., of Buffalo, began a systematic inquiry along this line among the dealers. Their sales of new models by January 1st, 1910, were such that practically the whole of the present year's output, including the cars not yet manufactured, could be used in the statistics.

One result was the bringing out of the remarkable fact that for this year exactly 47.5 per cent., or practically half of the output, goes into the hands of former Pierce-Arrow owners. Of the remainder 35.6 per cent. are bought by those who had owned cars of other makes, and 16.9 per cent. to those who had never owned a motor car before. The sales of the year before were as follows: to former owners of Pierce-Arrow cars, 43.0 per cent.; to former owners of other cars, 34.6 per cent.; to those who had never owned a car before, 22.4 per cent.

As the output of cars by the Pierce-Arrow Motor Car Co. has increased steadily and probably will continue to do so as long as the present high standard of efficiency is maintained, it would appear that the company can depend almost absolutely every year on half its output being taken by owners who had already had experience with cars of this make.

To analyze the matter still further, it is evident that Pierce-Arrow owners buy a new car on an average of a little over two years, and that there is not a great deal of merit in the notion that a man usually first purchases a low priced car and, as he gains experience, buys one of a higher grade. The Pierce percentages show that 16.9 and 22.4 per cent. of the two years' outputs were taken by people who had never owned cars before.

To assist in mixing the ingredients of the gas, one foreign expert has hit upon the simple expedient of inserting a spiral spring made of plain wire in the intake pipe. The coils of the spring act as baffle plates by causing the gas to be thoroughly agitated in passing over them.



A. O. Smith Co.  
Milwaukee, Wis.



The Hess-Bright  
Manufacturing  
Co., Philadelphia, Pa.



S. F. Bowser and Co.,  
Fort Wayne, Ind.



The Crosby Co., Buffalo, N.Y.

Representative American Parts Factories.



## BALL BEARINGS VS. PLAIN ONES

Experiments that Developed Some Interesting Figures—How the Tests Were Conducted and the Deductions.

While it is comparatively easy to show the advantages of ball bearings as compared with the plain type of bushed bearings, from the standpoint of theory alone, it is sometimes difficult to convince the "rule o' thumb" man that the theoretical advantage will work out in practice. Perhaps as a result of some such difficulty, a British investigator recently undertook a demonstration on the road of the difference in resistance to vehicular movement offered by wheel bearings of the two types in question.

The experiment was purely a coasting one; that is to say, the same vehicle, equipped with first one type of bearing and then with the other, was permitted to coast down an incline and onto a rise, the distance of its travel in the various tests being compared, as well as the times occupied in transit. As would be expected, the ball bearing equipment carried the car the greatest distance in each instance. But for the average of all the tests, it is somewhat surprising to find that the advantage of the more approved form of mounting was only 3.5 per cent. in the time required to cover the first 20 feet of travel, and only 3.1 per cent. for the total run. In regard to the method of conducting the trials, which was of the simplest form, the experimenter himself says:

"It was eventually decided to use a motor lorry which was available. This was a petrol-driven car with side chains of a type suitable for loads up to three tons. The wheels were fitted with ball bearings of the standard type of a well-known firm of ball bearing manufacturers. On the inner side of the hub was a large journal bearing, in the centre a double thrust bearing, and on the outer side another journal of somewhat smaller size than the first-mentioned. The plain bearings used in the test, which were specially made for the purpose, were of that type in which a loose floating bronze cage is interposed between the hub and the axle. In this case, however, the axle being designed for ball bearings and tapering towards the outer end, it was necessary to make two special sleeves, one fitting tightly inside the hub shell and the other on the axle, in order to form a parallel bearing—this by way of explanation of the method employed to convert the same set of wheels from one type of bearing to the other.

"As a venue for the tests a spot was selected on a quiet road where a slight 'dip' occurs, with a down grade of approximately 1 in 20 to begin with, this leading to a piece of level ground, and thence to a rising gradient."

A starting point, designated as "A," was chosen on the first rise, and at a second point,

B, a line was drawn across the road and this point was 20 feet from A. The distance from A to D, on the second rise, was carefully measured, and from a third point, C to D, a number of small stakes were driven into the side of the road with a spacing of 3 feet between them, and each one was marked its distance in feet from the starting point, A.

"The lorry, loaded with 2½ tons of pig-iron, was made to 'toe the line' at A, and held at that spot by the foot brake until, with the gear lever in the neutral position, the word to go was given," continues the investigator. "By gravity alone the vehicle immediately ran forward, and was allowed to 'coast' as far as it would do so towards point D, the time occupied in traveling the first 20 feet (as far as point B) being taken by means of a stopwatch.

"The records obtained were: (1) Time in seconds running first 20 feet, and (2) total length of run in feet.

"Twelve runs were first made with ball bearings fitted; the wheels were then removed and plain bearings substituted. Then twelve more runs were made with the latter type.

"The road was in good condition and dry, and there was practically an entire absence of wind. Both series of tests being made on the same day and immediately succeeding one another, the prevailing conditions were identical. Castor oil was used as a lubricant for the plain bearings, this having been found previously to be more suitable and to give better results than either ordinary lubricating oil, grease, or a mixture of both.

"The tabulated results under these conditions were as below:

Run No.	Ball Bearings		Plain Bearings	
	Time First 20ft. Sec.	Total Run Feet.	Time First 20ft. Sec.	Total Run Feet.
1	10¾	575	11	558
2	10¾	578	10	561
3	9¾	575	10¾	556
4	10	570	10	555
5	10¾	578	10¾	565
6	9¾	579	10¾	561
7	9¾	577	10	562
8	10	578	10¾	558
9	10	577	10	557
10	10¾	577	10	555
11	9¾	580	10¾	556
12	10	578	10	564

Average time first 20 feet—Ball bearings, 9.9s.; plain bearings, 10.25s.

Average length of run—Ball bearings 576 feet 10 inches; plain bearings, 559 feet.

"The advantage shown by the above is, as might be expected, with the ball bearings, but the writer was very surprised to find that the percentage in their favor but 3.5 per cent. in the time for first 20 feet and only 3.1 per cent. in the length of run. It should be mentioned, however, that in the back wheels only were the plain bearings fitted, the ball bearings being in position in the front wheels during both series. But even if the percentages are doubled for this reason they still show but a small advantage in favor of the ball bearings compared with what one would expect.

"It will be noticed that the greatest advantage is in, what may be termed, the 'acceleration test, viz., time covering first twenty yards. The writer would have imagined that the reverse would have been the case, that the ball bearings would have scored to a greater extent on the total distance, in covering which the speed for a period was comparatively high, say fifteen or sixteen miles per hour."

### Why New Tires Need Frequent Inflation.

Arguments in favor of the practice of testing tires for pressure, and inflating them to the correct degree at frequent intervals are numerous, but perhaps the most important is this: It is claimed that after inflation, the oxygen in the air tends to separate from the other components of the atmosphere, and as oxygen is diffused through rubber much more rapidly than nitrogen, the principal remaining constituent, it follows that after repeated inflations, the gas within the tire is relatively of a much more stable nature than when the inflation is first completed. With a new tire, it is especially important to re-inflate at frequent intervals because the pressure of the air tends to stretch the casing, thus increasing its capacity very materially. Therefore, with new tires or newly inflated ones, it is by no means safe to assume that a tube properly inflated one day will be sufficiently hard the next.

### Drip Pans that Interfere with Drainage.

No criticism can be offered against the prevailing practice of automobile manufacturers of protecting the under parts of the car by means of substantial drip pans. Indeed, it is only within a very short time that the construction of such protecting arrangements has been brought to a point of really commendable utility. At the same time, from the standpoint of the operation, it is well to point out that in many machines this very provision renders it more or less difficult to drain the crank case, and incidentally tempts the careless chauffeur to postpone the periodic cleaning of the engine, which is an essential to good running results. To provide means for running the drip cocks below the under pan, or to insert hand-hole openings in the bottom of the pan itself, would be expedients entailing slight expense but materially expediting attendance upon the car.

### "Caravan" that Suggests a Hotel.

The most interesting and unique car shown at the recent Brussels show, was a Pipe caravan, with a six cylinder motor of 4 inch bore by 5 inch stroke. It is chain driven and has twin pneumatic tires on the rear wheels. The front part is very similar to a wagonette, but the rear portion looks more like a hotel 'bus. The back body lets down to a horizontal position forming a platform on which a table and chairs can be arranged, meals served, or couches placed for sleeping.

### To Keep Show Windows Clear.

A Western man, who has charge of his firm's show windows and who declares that he tried all known remedies, and despaired of keeping the windows clear during cold weather, says he accidentally found the solution in the form of an electric fan. "I had become wearied with using glycerine, alcohol and other things, and one day discovered that a current of air circulating through the windows would keep the frost down," he writes. "You see the constant opening and shutting of the door to the street always chilled the warm air in the show window, and as we did not have double windows, frost always hid our goods from the passerby. I start the fan when I come down in the morning, and inside of an hour the window is as clear as in the summertime. The circulating air keeps the chill air from striking the pane, and in order to always keep the air moving, I keep one door to the windows partly open all the time, which also aids in preventing all the hot air from being pushed against the cold window. I tried my fan treatment when the mercury was five below zero and it works beautifully. Besides, there is an advantage, for the pedestrian, seeing the fan operating at this time of year, wonders what is up, and stops to look and frequently to ask questions."

### To Repeat Climb in San Francisco.

Arrangements are being made by the San Francisco (Cal.) Motor Club to hold a hill climb on the Nineteenth avenue grade on Sunday, March 20. The club held a climb on this course last spring which brought out a large field and good time was made and it is planned to make the coming affair more of a success if possible. The hill is not particularly severe, but was selected as the most desirable one in the vicinity because of the excellent vantage points which spectators are afforded, it being possible to see the start and finish from the sand hillocks which line the course on either side. These also afford a natural grandstand being sufficiently high to assure spectators immunity from injury should a car leave the course.

### Where Travel is Treacherous.

Country travel during the winter and spring months is rendered especially unpleasant by reason of the treacherous condition of the ditches and turf by the roadside. Experienced drivers have learned to resist the temptation of leaving a muddy road for an inviting stretch of smooth grass in a neighboring field. But the novice in many instances has yet to learn that they are pitfalls for the unwary and liable to prove far more dangerous when the frost is leaving the ground than the more forbidding highway itself.

### Why Cleveland's Cars are Yellow.

The municipal authorities of Cleveland, Ohio, have adopted a color scheme for all

the motor vehicles owned by the city, orders having been issued that all of the city's cars be painted bright yellow with blue trimmings. While the prevention of "joy riding" was supposed to be the object of this move, it is naively explained that the main reason for adopting these colors is that the city officials expect the city cars will have the right of way after they have been painted in the official colors, and the department heads who use the cars will thus be able to save considerable time; in other words, the colors will assist the officials to break the speed law.

### France a Poor Automobile Country.

Official records recently compiled by the fiscal authorities of France sharply accentuate how slow has been the growth of automobiling in that country and how relatively small is the number of cars in use at the end of ten years; it is less than half the number in use in New York State alone, and this, despite its grand roads and the fact that the population of France is some 40,000,000. The most remarkable feature of the statistics is the growth of the commercial vehicle, which is, so to speak, now on the heels of the pleasure car. The official figures disclosing this state of affairs are as follows:

Year.	Industrial Vehicles.	Private Cars.
1899.....	234	1,438
1900.....	543	2,354
1901.....	939	4,427
1902.....	1,849	7,358
1903.....	3,062	9,207
1904.....	4,588	12,519
1905.....	6,532	15,911
1906.....	8,904	17,358
1907.....	11,685	19,601
1908.....	15,338	22,252

In 1908 the average horsepower was 13.25; in 1901 it was but 5.06.

### Why a New Anti-Smoke Ordinance.

Drivers of cars in Washington, D. C., whose machines emit smoke and pungent fumes anywhere within the city limits, now are liable to arrest under the provisions of a new police regulation. Although a somewhat similar ordinance was in force before the present ruling was made the old ordinance applied only to certain streets in the downtown section, and when a motorist was arrested for allowing his car to emit smoke he was discharged in court, the judge ruling that the ordinance was invalid because it discriminated in favor of certain streets. With this loophole in the law revealed the authorities got busy on a new ordinance which was made effective, throughout the city.

### Endurance, Not Speed, for Savannah.

The Savannah Automobile Club, Savannah, Ga., will endeavor to console itself over the demise of the Grand Prize race, with a two days endurance run in the early spring, March 28-29 being the dates selected. Jacksonville, Fla., will be the finishing point of the contest, which will be 675 miles in length.

### To Help Sale of Good Wines.

A hundred years ago good wines were plentiful in rural France, and the country innkeeper served as fine a Burgundy as could be obtained at the best hotel in Paris. But the advent of the railroad, and particularly of the "express trains-de-luxe," which rush by all places having under 100,000 inhabitants, killed good wines all over France. The advent of the automobile promised to re-establish the old conditions in country inns, but cellars cannot be improvised, and tourists soon became disgusted at having newly bottled wine passed on them as old stuff. They started to drink mineral waters. Now the Touring Club of France has taken the matter under its paternal care and is endeavoring to help the pendulum swing back once more to better wines and better inns, by offering prizes to the landlord for good wines and hygienic bedrooms. It is hoped that the good old days when one could sit at the big tavern fire with a bottle of fifteen-year-old Burgundy will soon return—thanks to the efforts of the Touring Club.

### Hartford to Hold Two Shows.

For the first time since it has attained the importance of having an automobile show, Hartford, Conn., is to have two shows this year, both running at the same time, February 14-19, but in different places, under different management, and not as rival exhibitions. The third annual show of the Hartford Automobile Dealers' Association will be held in Foot Guard Hall, as in former years, but there were a greater number of prospective exhibitors than ever who were unable to obtain space. It was to take care of these unfortunates that the Connecticut Automobile Show Association was organized to provide a building in which they might exhibit their products. One of the members of the new association, James H. Clarkin, recently bought the old First Regiment Armory, on Elm street, from the State, and it is here that the auxiliary show will be held.

### Glassless Goggles for Spectacled Motorists.

Glassless goggles for spectacled drivers, to keep rain from blurring the glasses, constitute a recent English invention. They are devoid of lenses and consist simply of two short tubes with open ends set in a frame, fitting tightly against the face. The air entering at the open outer ends forces a compressed air cushion against the eyes, which neither cold wind nor rain seems to penetrate. The eyes are kept warm and the spectacles dry.

### Lakewood Re-dreams Its Dream.

Lakewood, N. J., for the 107th time, more or less, has resurrected its speedway proposition and again threatens to construct a motordrome on a plot of ground on the outskirts of the town. Capt. A. M. Bradshaw one of the pillars of the town, is said to be the father of this "novel" project.

## RECENT PATENTS.

939,391. Ball Bearing. William E. Cane, Toronto, Ontario, Canada, assignor to William John Murray, Toronto, Canada. Filed Nov. 9, 1908. Serial No. 461,773.

1. In a double ball bearing, the combination with an outer ring having an annular groove and an inner ring having an external annular groove, of the minor and major balls and a floating cage comprising the sides having concave recesses held against the major balls where the surface speed of the balls is the slowest, blocks adapted to hold the contacting points of the minor balls adjacent to the contacting points of the major balls and extending between the sides of the cage and having rectangular projecting ends so held and fastened in the side rings of the cage, so as to hold the rings together and each minor ball and its contacting point with the major balls on a line passing through the center thereof and of the major balls adjacent thereto as and for the purpose specified.

939,856. Carburetter. Ralph Papanti, Springfield, Mass. Filed Sept. 25, 1908. Serial No. 454,673.

1 A carburetter comprising a casing, a valve support connected to the casing, a skeleton cap fitted to the valve support, a nipple formed on said cap and provided with a feed duct, a valve adjustably mounted in the cap, a spray nozzle removably fitted in said cap, a partition formed in the cap and provided with a central opening, a valve seat ring disposed between said partition and a shoulder on the valve support, a needle valve for the spray nozzle, a disc valve secured to the shank of the needle valve, a convolute spring interposed between said partition and said valve seat ring, a spring for seating the disc valve, and an air valve connected to the casing.

939,910. Magneto Generator. Robert H. Hassler, Indianapolis, Ind. Filed March 23, 1908. Serial No. 422,840.

1. In a device of the class described, a cylindrical support providing a lubricating reservoir, a series of magnets arranged about the axis of the support and projecting at one end to form a multipolar magnetic field, a shaft in the reservoir and carrying an armature in the said field, and means whereby the shaft may be revolved.

939,914. Transmission Gear. William S. Hovey, Three Rivers, Mich., assignor to The Sheffield Car Company, Three Rivers, Mich. Original application filed Jan. 14, 1907, Serial No. 352,222. Divided and this application filed Nov. 2, 1908. Serial No. 460,691.

1. The combination of a driving shaft; a chambered fly wheel open at one side; a revolubly mounted longitudinally adjustable member having a hub projecting into and rotatably and slidably mounted on the hub of said fly wheel; a plurality of friction discs arranged within said fly wheel and connected to revolve therewith; a plurality of friction discs connected to said hub and of

said adjustable member to revolve therewith, interposed between said discs connected to said fly wheel; a clamping disc revolubly mounted on the hub of said adjustable member and adapted to bear against the outer friction disc; a plurality of coiled springs arranged to hold said adjustable member normally outward; a thrust ring for the inner ends of said springs arranged in

said fly wheel; projecting pins on said thrust ring arranged to engage the hub of said adjustable member; an annular plate projecting inwardly from the rim of said fly wheel between said clamping disc and said adjustable member; and means for shifting said adjustable member.

942,082. Sleigh Attachment for Auto-

**Rainier**

MOTOR COMPANY

BROADWAY CORNER 84TH STREET  
NEW YORK

TRADE MARK "RAINIER" NEW YORK  
W U AND LIEBER CODES

January 12th, 1910

J. S. Bretz Company

Times Building,

New York City,

Gentlemen:-

I want to congratulate you most heartily upon the efficiency of the F. and S. ball bearings, which I believe contributed in no small degree to the wonderful success of the Rainier stock car in its racing engagements during the year 1909.

At the Riverhead, L. I. tournament I drove the Rainier car a total of more than 1000 miles including preliminary practice, and on the Brighton Beach Race Track the same car surpassed the previous 24 hour race record by traveling 1115 miles in the run "twice around the clock".

At the Atlanta, Ga. tournament I drove this car a total of 625 miles in race events, exclusive of almost as great a distance in practice, and won the \$10,000. Atlanta Gold Trophy with a world's record of 200 miles in 173 minutes, an average of 70 miles an hour, without a stop.

The Rainier car is fitted throughout with F. and S. ball bearings, and in the entire racing season no change was made in bearings, and no trouble was had from any mechanical cause.

Yours truly

*Louis A. Disbrow*

L.A.D.

**Federal Tires**

THE TIRE THAT  
WON'T BLOW OUT

**FEDERAL  
RUBBER CO.**

Milwaukee, Wis.

biles. Peder M. Knutson, Clifford, N. D., assignor of one-half to Henry Kram, Clifford, N. D. Filed March 12, 1909. Serial No. 482,976.

1. The combination with a vehicle body, of a frame supporting said body, wheels mounted on axles at the front and rear of said frame, runners attached to the front wheels, runners secured to the rear axle, plates arranged on either side of the rear wheels, one of said plates being obliquely disposed beyond the periphery of the wheel, blades extending outwardly at right angles to the oblique portions of said plates and secured thereto, and means for securing said plates together, substantially as and for the purpose set forth.

942,217. Mechanism for Vehicle Lamps or Headlights. Alois P. Prendergast, Baltimore, Md. Filed May 15, 1907. Serial No. 373,747.

1. In an automobile or similar vehicle, a steering rod, a gear connected thereto and constituting part of the mechanism for steering the vehicle, a lamp, a rotatable up-right on which said lamp is mounted, an arm fixed to said upright, a second gear connected to said steering rod, a crank arm secured thereto, and connections between said arms whereby said lamp is moved concurrently with the angular movement of the wheels.

942,232. Valve for Automobile Drip Pans. Thomas A. Yapp, Buffalo, N. Y., assignor to E. R. Thomas Motor Company, Buffalo, N. Y., a Corporation of New York. Filed May 24, 1909. Serial No. 497,960.

1. A valve for the drain openings of automobile drip pans comprising a valve ring adapted to be secured to the underside of said pan around its drain opening, a guide bar secured to the upper side of said pan across said opening, a valve disc movable toward and from the underside of said ring, a valve stem connected at its lower end with the disc and guided with its central part in said bar, a head arranged on the upper end of said stem and a spring interposed between said bar and head and operating to hold the disc yieldingly in its closed position.

## LASCO FOLDING GLASS FRONT

Simple, effective, correctly designed mahogany finish wood frame—trimmed in brass—3-16 crystal plates—steel stay rods—bottom of frame shaped to dash of any standard automobile—can be attached easily and quickly. We make the London Tops. Write for details and prices.

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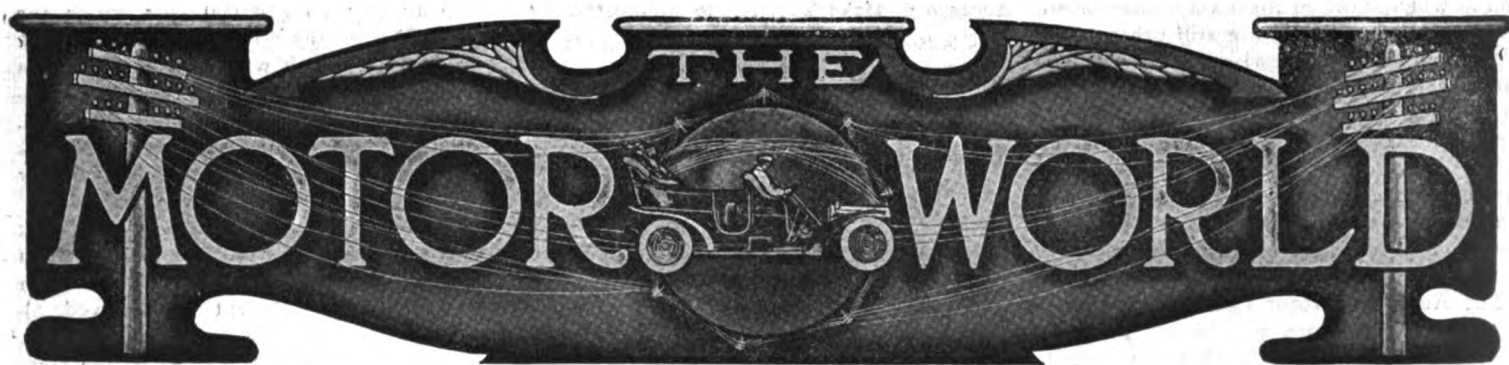
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Volume XXII.

New York, U. S. A., Thursday, February 10, 1910.

No. 6

### NO INJUNCTION AGAINST E-M-F.

**Judge Swan Terminates the Matter by Denying the Studebaker Petition—Result Relieves Some Uneasiness.**

Refusing to grant the injunction against the E-M-F. Co., of Detroit, Mich., which the Studebaker interests have sought, Judge Swan, in the United States Circuit Court at Detroit, dismissed the Studebaker petition yesterday (Wednesday), his action resulting in an entire clearing away of the clouds of injunction possibility which have been floating over the controversy between the contending sides. Although the likelihood that an injunction would be granted in the circumstances was not seriously considered in some quarters, the actual court decision is of a kind greatly to relieve dealers and others who have been somewhat apprehensive as to whether the E-M-F Co. was in danger of not being able to carry out the program which was adopted by it after the split.

Judge Swan's decision was made after a hearing on the 25th ult., when a whole day was taken by the attorneys for the Studebaker Automobile Co., of South Bend, Ind., and the E-M-F Co., respectively, in rehashing the conflicting versions of the misunderstanding that arose under the arrangement by which the Studebaker company served as the distributing channel for E-M-F. cars. Subsequent to the hearing Judge Swan had given the attorneys three days in which to file briefs, after which he took the case under advisement.

Following the rupture, the Studebaker company applied to Judge Swan's court for an injunction, and a temporary restraining order was in effect for three days, but the application for a permanent injunction was withdrawn in the latter part of December. The Studebakers went to Cincinnati, in another Federal Court circuit, and applied for an injunction, but this was denied. The Cincinnati judge in effect re-

ferred them back to Detroit, to the court of original jurisdiction, and Judge Swan's decision just rendered is the termination of the renewed efforts made by the Studebakers in that court.

### Ford Buys Control of Keim Mills.

Henry Ford and his associate stockholders, acting as individuals and not as the Ford Motor Co., of Detroit, Mich., have purchased a controlling interest in the John R. Keim Mills, Inc., of Buffalo, N. Y., which for the past two years has been producing many of the pressed steel parts used in the Ford cars. The step is indicated as having been taken to protect and assure a positive source of supply for the Ford company. John R. Lee will continue as president of the concern and the general character of the production, which includes a considerable volume of cycle parts and specialties for other industries, will not be altered at present, though it has been decided to increase the factory force to 1,000 men. Norval A. Hawkins, of the Ford Co., has been made vice-president.

### Law Leaves Columbia to Move West.

F. A. Law, superintendent and chief designer of the Columbia Motor Car Co., of Hartford, Conn., has resigned and will sever his connection with the company on the 19th inst. He expects to leave Hartford about the first of March to become factory manager for one of the plants of the General Motors Co. in the Middle West. His partner, F. T. Reid, in the F. A. Law Machine Co., of Hartford, will continue that business as in the past.

### Whitlock Ties to Wetzel and Peterson.

The Whitlock Coil Pipe Co., of Hartford, Conn., has made arrangements by which T. J. Wetzel, of New York City, and K. Franklin Peterson, of Chicago, will act as direct factory representatives in the sale of Whitlock radiators, manifolds, piping and other products for the automobile manufacturers. L. D. Bolton, under the direction of Peterson, will look after the Whitlock interests in Detroit.

### A. M. C. M. A. BREATHES ITS LAST

**Meets the End Surrounded by Its Friends—Deceased Left an Estate of Over \$60,000 for Division.**

Chicago, Ill., Feb. 9.—The American Motor Car Manufacturers Association, aged five years, expired here yesterday in the New Southern Hotel. It drew its last breath at about noontime. Expiration by limitation is given as the technical cause of demise, but all save the attending physicians are well aware that a strong contributing factor was the lump of Selden patent butter which first lodged in the association's throat several months since. Unlike other brands of butter, the Selden lump not only refused to melt, but expanded to such proportions that the patient slowly choked to death. Its end was comparatively painless and far from melancholy. It was conscious to the very last and passed away with a smile on its countenance and a good word for its nurses and for the management of the Chicago show.

The estate of the deceased amounts to more than \$60,000, which by the terms of its will, will be divided among its 45 heirs. The division will be made on a pro rata basis in accordance with the amounts paid into the treasury by the heirs or members, a committee on liquidation being appointed to perform this last and rather cheerful rite. By the terms of the will H. O. Smith, chairman of the board of management, received a gold watch in token of his services and sums were set aside for the purchase of tokens of similar nature for Job E. Hedges, the association's counsel, and for Alfred Pierpont Reeves, its former general manager, who began nursing the infant when it was very young and so very tender that he advanced its first month's rent and who tended it until that lump of Selden butter swelled to such alarming proportions. After consulting a number of the other nurses, Reeves then assumed

charge of the Selden creamery, into which not a few of them already had wandered and in which more of them since have taken up their abode. There are still others who are anxious to do likewise and it was because of this state of affairs that there was small need for a mourners' bench at yesterday's death watch. According to the reports of those who were in at the death, the gathering was a large one. No tears were shed. Everyone was in a cheerful frame of mind and all transactions were unanimous.

The American Motor Car Manufacturers Association was born in Chicago in 1905. It was born chiefly to combat the Selden germ or patent. Apparently it was believed that five years would be sufficient to attain that purpose, as the articles of agreement or association limited the life of the association to five years, which period expired this year. Of course, the articles might have been renewed, but meanwhile the Selden germ has attained such strength and lodged so thoroughly in the association's system, that renewal was not even suggested. If any other organization arises to take its place, of which there is but remote likelihood, it must be an entirely different association, as the A. M. C. M. A. is leader than Hector and beyond recall; and with it dies the "Independent" show held annually in Grand Central Palace, New York.

After final reports had been rendered at yesterday's meeting, and speeches had been made and the various bequests provided for, the association expired with a resolution on its lips expressing "high appreciation of the management of the Chicago show and its completeness and artistic and practical features."

#### Connecticut Cab Succeeds W. C. P.

The Connecticut Cab Co., capitalized at \$50,000, has been organized in Bristol, Conn., to operate taximeter cabs in New York City, succeeding to the business of the W. C. P. Taxicab Co., of which it is to an extent a reorganization. The officers of the new company are Albert F. Rockwell, president; Ernest R. Burwell, vice-president; Charles Terry Treadway, treasurer; Ira Newcomb, assistant treasurer; L. T. Holdsworth, secretary and general manager. The W. C. P. Taxicab Co. has been operating about 100 "yellow taxicabs" of New Departure manufacture in the Metropolis.

#### Four More Get Selden License.

With the addition of four more names announced by the Association of Licensed Automobile Manufacturers on the 5th inst., the list of concerns licensed under the Selden patent reaches 71. The new names include the Grabowsky Power Wagon Co., Detroit, Mich.; Reliance Motor Truck Co., Owosso, Mich.; Oakland Motor Car Co., Pontiac, Mich.; and the Randolph Motor Car Co., of Chicago, Ill., manufacturing commercial cars.

## "OBJECTIONABLES" DARE NOT BUY

Accessory Maker's Attitude Supported by Court—Willis Loses Motion to Have Klaxon Injunction Modified.

That an accessory manufacturer will be sustained in the courts in keeping his goods from being sold on any terms whatever to concerns that are objectionable to him, either because of price cutting or for other reasons, provided that the goods are put out under a patent license which forbids their sale to any one designated by the manufacturer as objectionable, again has been demonstrated in the results attending an effort on the part of the E. J. Willis Co., of New York City, to obtain a modification of the injunction which last December was entered against it in relation to Klaxon horns. The Willis motion came before United States District Judge Learned Hand in New York City, and the modification asked for was an alteration in the original injunction which would permit the Willis company to buy Klaxon horns from licensed dealers provided the company bought them and sold them after full observance of all the conditions of the licenses. Judge Hand denied the motion.

Although the selling of motor car accessories with patent license tags attached stipulating either the price or the conditions which must be observed is becoming quite common, the Lovell-McConnell Mfg. Co., of Newark, N. J., which makes the Klaxon horn, has gone further, and among the several rigid provisions of its license is one which states that dealers "may not sell to anyone designated by the makers as objectionable." The Willis company, having been brought to book for not only cutting price but for violating several other provisions of the license under which each horn is put out, was enjoined by the Lovell-McConnell company from handling Klaxon horns at all, being placed distinctly in the "objectionable" class.

When the motion for the modification of the injunction came up for argument, the Lovell-McConnell attorney opposed it on the ground that it would be impossible for the Willis company to buy any Klaxon horns so long as it was designated by Lovell-McConnell as objectionable, because by the terms of the licenses the license for use or sale terminates as soon as the horn is sold to an objectionable person or company. From which it was argued that the Willis company, knowing itself to be objectionable to the manufacturer, never could get a valid license for use and re-sale.

#### Buick Pays the Wetherill Bill.

By furnishing a bond of \$102,000, the Buick Motor Co., of Flint, Mich., released the garnishments on its funds in Detroit banks, incident to the legal proceedings in-

stituted by the Wetherill Finished Castings Co., of Philadelphia, Pa., to make the Buick company pay up \$100,000 for which the Wetherill company no longer cared to wait. The account, which was some four months overdue, was paid in full by the Buick company subsequent to the filing of the bond, the latter remaining in effect until the Buick check should go through and be paid by the bank against which it was drawn.

The filing of the bond relieved the Buick company from having to disclose how much money it had in the four banks on which the writs of garnishment were served, although it is intimated that the company, which is one of the mainstays of the General Motors "trust" project, had been gathering a heavy accumulation of funds for a big "deal." Following the Wetherill suit, however, old accounts against the Buick company to the extent of more than a million dollars have been paid to waiting creditors, with an effect on the Buick accumulation not difficult of mathematical calculation.

#### Van Dykes to Have Fixed Maintenance.

The Van Dyke Motor Car Co., of Detroit, Mich., which exhibited a delivery wagon at the Detroit show, has announced plans for a factory consisting of three buildings, 704 by 60 feet, which is to be ready by next April. The concern's destinies are under the control of Frank G. Van Dyke, president; George P. Davis, designer, and George a Troutt, general sales and factory manager. The product is to be a friction drive, two cylinder opposed motor type, of 1,000 pounds capacity, and it is intended to establish service stations in various cities where \$30 per month will be charged for the guaranteed maintenance, including fuel, lubrication, washing and adjustment.

#### Trego Joins the Hudson Forces.

Frank H. Trego has been appointed to a post in the technical department of the Hudson Motor Car Co., of Detroit, Mich., and, in consequence, has resigned as secretary of the Chicago Motor Club in order to go to Detroit. Harry T. Clinton, who has been treasurer of the club, has resigned that office to take up the secretary's work, while the office of treasurer has been filled by the election of Frank H. Martin.

#### Harding with American Locomotive.

Hugh N. Harding, widely known as a racing driver, has joined the forces of the American Locomotive Co., at Providence, R. I., in a technical capacity. He will be engaged in experimental and testing work, under the direction of B. L. Gray, chief engineer of the plant.

#### Hood is Chalmers Sales Manager.

Wallace C. Hood has been made sales manager of the Chalmers Motor Co., of Detroit, Mich. He has been acting as a special travelling representative of the company for some time.

## BENOUNCE DISGUISES OF ORIGIN

**Car Buyers Suspect "British Built" Bedford's Alien Source—Why "Center" Should Have Been Spelled "Centre."**

No little agitation and feeling has been generated in England by a controversy over whether or not false representations have been made concerning the proportions of American and British manufacture embodied in the Bedford car, which is offered for sale in England by a relative of the General Motors Co., and which very much resembles the Buick in many respects. A strong sentiment exists for "British built" cars, to correspond with the loyalty which Englishmen are called upon to exercise in regard to all goods of British manufacture as against importations, and it is alleged that although the representatives of Bedford Motors, Ltd., the London subsidiary of General Motors, have indicated that the Bedford is "British built," there are reasons for supposing that no small part of it is built in the United States.

One prospective customer was struck with the fact that a timing mark on the fly wheel read "Center" instead of being spelled "Centre," which latter is the English orthographical rendering of the word, while an indignant correspondent took the Autocar, one of London's foremost automobile papers, to task for referring to the car as being British built and stated his reasons for believing that it is "in reality the Buick car." The Autocar dutifully sent a copy of the letter to Bedford Motors and after a reasonable time explained to its readers "they did not reply, and so far as we know, they never have replied, as no rejoinder from them upon the subject has reached us or it would have been published."

"We have nothing to say against the Bedford car if, or because, it is made in America," the Autocar continues, "but we protest very strongly against any car be claimed to be British if it be not made in Great Britain."

### Fickling in Receiver's Hands.

Bankruptcy proceedings have been brought against Fickling & Co., of New York City, manufacturers of automobile tops, bodies and equipment, Judge Adams appointing William Henkel, Jr., as receiver. The liabilities are estimated at \$18,000, of which \$9,000 is unsecured, and the business assets at \$29,000, consisting of plant, \$20,000; accounts, \$4,000, and good will \$5,000. The petition alleges that the corporation is insolvent and that it transferred all its outstanding accounts to the Northern Bank of New York. It also is alleged that the bank has taken possession of the assets on a chattel mortgage of \$8,500, has closed up the stock room and has prevented the taking of materials for

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the factory to complete contracts amounting to \$6,000. Judge Adams issued a restraining order against the bank from interfering with the possession of the receiver, as the bank had posted notices of the sale under the chattel mortgage and W. I. Fickling, the president of the concern, stated that the company would suffer irreparable loss if the sale took place.

### York Effects Its Change of Name.

In accordance with its intention previously announced, the York Motor Car Co., of York, Pa., has changed its name and hereafter it will be known as the Pullman Motor Car Co., Inc. The application having been granted by the courts, the change went into effect on February 1, but the officers and personnel of the company are the same as before. As the company makes the Pullman automobile and is shortly to operate a plant in Evansville, Ind., as well as in York, the new name was decided upon.

### Couple-Gear for Pleasure Cars.

The Church Balance Gear Co., of Grand Rapids, Mich., which formerly was known as the Holson Motor Patents Co., and which owns the patents under which the Couple-Gear Freight Wheel Co.'s electric trucks are built, is preparing for the promotion of a company of large capital to build pleasure cars on the same system. The annual election of officers has resulted as follows: Melvin B. Church, president; Charles D. Sharrow, vice-president; F. J. Church, second vice-president; M. Clay Church, secretary and treasurer.

### Mezger Wins Infringement Decree.

Infringement prosecution brought by the C. A. Mezger Co., of New York City, against the Pioneer Auto Top and Supply Co. of Kansas City, Mo., has resulted in the entering of a consent decree in the Federal Court in Kansas City, granting an injunction against the defendant concern and preventing it from continuing the manufacture of wind shields of a form covered by the Mezger patents. The Pioneer company admitted the infringement and agreed that judgment be entered against it.

### Ricketts Becomes the Diamond.

Succeeding to the business of the Ricketts Auto Works, of South Bend, Ind., a new company has been formed with \$50,000 capital, known as the Diamond Automobile Co., and the car, which was introduced as the Ricketts Six is now styled the R. A. C. The Paul Picard Co., of Chicago, Ill., is distributor for the West.

### Flint Top Takes a Factory.

The Flint Auto Top Co., recently incorporated in Flint, Mich., with \$10,000 capital, has elected the following officers: M. L. Dyer, president; S. D. Bolton, vice-president; C. A. Fox, secretary and treasurer, and A. W. Myers, superintendent. The company has taken a factory on Mill street.

## DAIMLER SALE YIELDS JUST \$1

**Mysterious Bidder Secures Control Without Difficulty or Serious Cash Investment—Acquires a Block of Patents.**

For the moderate sum of \$50 a man not known to the automobile trade purchased yesterday (Wednesday) not only a \$200,000 suit against the Daimler Motoren-Gesellschaft, of Cannstatt, Germany, and a contract having a "minimum face value of \$62,500," but also some 37 American patents relating to motor cars, numerous assigned applications, a trade mark, and a dozen Canadian patents, together with the majority stock and control of the Daimler Manufacturing Co., of New York City, which at one time made the American Mercedes car at Long Island City. For \$50 more he obtained 1,341 shares of the preferred stock of the company, having a face value of \$100 each.

The sale was at auction and took place at noon in the busy Exchange Salesroom on Vesey street, New York, sandwiched in with the general pandemonium incident to the auctioning off of all kinds of securities, insecurities, real estate, bonds, mortgages and commercial what-nots by a dozen bawling auctioneers lining the sides of the large room. In the group of possible bidders who gathered in front of the stand where the Daimler parcel was disposed of there were to be seen no familiar faces of the automobile trade, aside from that of a more or less mysterious personage whose favorite role is detective for the industry and whose purpose, as he explained to the Motor World representative, was not to buy but merely to see who the purchaser was to be.

The one bidder, whose two \$50 investments brought him so much, gave his name as R. Waldo McKeon, but he did not indicate whether the purchase was made for himself or for a principal of whom he was but the agent. His opportunity for purchase came as a result of the sale ordered by Lawrence E. Sexton, trustee in bankruptcy of Kessler & Co., formerly bankers at 54 Wall street, New York. The offerings, which were described at some length in the Motor World three weeks ago, consisted of "all debts, dues, claims and demands of the trustee against Daimler Mfg. Co., amounting to upwards of \$30,000; together with 2,401 3-5 shares of stock of Daimler company (common); also 66 9-10 shares preferred held as collateral against \$6,690 of above indebtedness, and 10 shares old stock of said company; also possession of certain books, records, patterns, etc." The foregoing were sold as one entire lot, while the 1,341 shares of preferred Daimler stock (collateral shares repledged) constituted the second lot. The assets of the Daimler company consists of the "very valu-

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able contracts, United States letters patent, claims for damages for breaches of contract, and for infringement of said letters patent, and other property," as set forth by the Kessler trustee and which the Motor World presented in some detail.

As yet there are no indications as to what the purchase may mean in relation to the business being resumed. The shop and land of the company in Long Island City were foreclosed and sold some time ago, and whether the concern is to be revived either as an active manufacturing element or as a factor in the patent field has not yet been determined.

### Chalmers Gives Foremen His Views.

While dinners and "love feasts" for the sales departments of the different automobile manufacturing companies are of frequent occurrence, it is not often that the production end of the business participates in such affairs, so that for this reason, as well as for the fact that Hugh Chalmers, president of the Chalmers Motor Co., of Detroit, Mich., made it the occasion for expressing some original views of the automobile business, the dinner tendered by that company to 22 foremen and inspectors of the production departments on the 3d inst., was quite out of the ordinary. In the morning H. L. Bill, assistant superintendent, spoke to each of the men, telling them to report in the office at 6 p. m. for a lecture from General Superintendent Reddig and to send word to their families that they might be kept late. When they assembled they were led to waiting automobiles and carried to Dobson's road house, Grosse Pointe, where the dinner was served, as a complete surprise.

Having been called out of the city, Hugh Chalmers himself could not attend, but a letter from him was read. After thanking the men for their support and for creating a record month of production, he touched on the future of both the Chalmers company and the industry as a whole.

"I believe the future is absolutely assured for most of the standard makes of automobiles," he said, "because the motor car more than anything else has been the greatest advancement in transportation in more than a century. Then again the motor car is replacing the only thing that has been the same throughout centuries of civilization, and that is the horse. So it seems to me that the automobile is here to stay as long as the horse has been with us. That being the case, none of us need fear much about the future of the business during our lives."

### Duff to Make Carburettors.

Nebraska City, Neb., is the home of a new company organized with \$25,000 cash capital to manufacture carburettors and automobile parts and which is styled the R. A. Duff Engineering Co. The incorporators include R. A. Duff, Harry Holfe and Clarence Armstrong.

### THE WEEK'S INCORPORATIONS.

Detroit, Mich.—Lozier Motor Co., under Michigan laws, with \$10,000 capital.

Detroit, Mich.—Motor Appliance Co., under Michigan laws, with \$25,000 capital.

Battle Creek, Mich.—Ideal Auto Lighter Co., under Michigan laws, with \$10,000 capital.

Kansas City, Mo.—Standard Motor Sales Co., under Missouri laws, with \$7,000 capital.

Cleveland, O.—Cleveland E-M-F. Co., The, under Ohio laws, with \$20,000 capital.

Philadelphia, Pa.—Boulevard Garage Co., under Pennsylvania laws, with \$10,000 capital.

Hamilton, Ont.—Tire & Rubber Goods Co., The, under Ontario laws, with \$40,000 capital.

Milwaukee, Wis.—Garage Equipment Mfg. Co., under Wisconsin laws, with \$100,000 capital.

Toronto, Ont.—Ontario Motor Supply Co., Limited, The, under Ontario laws, with \$40,000 capital.

Morgantown, W. Va.—Central Auto Co., under West Virginia laws, with \$10,000 capital; general automobile business.

Milwaukee, Wis.—Abresch-Cramer Auto Truck Co., under Wisconsin laws, with \$20,000 capital; to manufacture commercial vehicles.

Bay City, Mich.—Oswald Auto Co., under Michigan laws, with \$6,000 capital. Corporators—Margaret Oswald, P. J., J. G. and W. A. Harrison.

Los Angeles, Cal.—Henry & Brown Motor Co., under California laws, with \$12,000 capital. Corporators—W. E. Henry, W. C. Henry and Herbert Brown.

Kansas City, Mo.—Southwest Motor Car Co., under Missouri laws, with \$25,000 capital. Corporators—W. S. Hathaway, G. W. Jones and A. E. Hathaway.

Cleveland, O.—Gabriel Auto Co., The, under Ohio laws, with \$10,000 capital. Corporators—C. W. Gabriel, W. L. Saper, H. E. Gabriel, W. J. Marks and A. W. Gasser.

New York, N. Y.—Gleason Taxicab Co., The, under New York laws, with \$25,000 capital; to operate taxicabs. Corporators—C. H. O'Neil, T. E. Costello and J. F. Whiteley.

Toledo, O.—McNaull Auto Tire Co., The, under Ohio laws, with \$50,000 capital. Corporators—W. D. McNaull, F. W. Caughling, Edgar C. Hampton, F. E. Miller and P. F. Parrott.

Boston, Mass.—Manhattan Motor Truck Co., The, under Massachusetts laws, with \$10,000 capital. Corporators—Alphonso E. Kenney, William H. Britton and Philip Dooskin.

Indianapolis, Ind.—Indianapolis Auto Top & Rubber Co., The, under Indiana laws with \$15,000 capital; manufacturers. Cor-

porators—F. L. Palmer, A. K. Ziegler and E. E. Wilkee.

Chicago, Ill.—K. & S. Garage Co., under Illinois laws, with \$3,000 capital; general garage and livery business. Corporators—John Koelling, Charles K. Samuels and Theobald Mueller.

Morristown, N. J.—Eastern Krit Sales Co., under New Jersey laws, with \$100,000 capital; to deal in motor vehicles. Corporators—Victor A. Wiss, Thos. A. Wiss and William A. Hurtzig.

Indianapolis, Ind.—Delmar Auto Body & Wheel Co., under Indiana laws, with \$1,000,000 capital; to manufacture automobile bodies and wheels. Corporators—E. H. Habig, E. E. Weir and others.

Grand Meadow, Minn.—Nolan Auto Co., under Minnesota laws, with \$50,000 capital; general automobile business. Corporators—W. A. Nolan, W. R. Zabel; G. T. Torgimson and G. A. Wright.

Chicago, Ill.—De Luxe Motor Service Co., under Illinois laws, with \$2,000 capital; general automobile livery and garage. Corporators—Homer R. Mallow, Chauncey C. Macklin and Deo R. Parsons.

New York, N. Y.—New Taxicab & Auto Co., under New York laws, with \$25,000 capital; to manufacture, deal in and repair motor vehicles. Corporators—G. H. Reaney, F. J. Manning and M. W. Cooper.

Chicago, Ill.—Central Sales Co., under Illinois laws, with \$2,500 capital; to manufacture and deal in motor vehicles, machinery, etc. Corporators—Ingvall N. Herreid, William R. Wiley and Robert E. Hagon.

Middletown, N. Y.—Central Garage Co., The, under New York laws, with \$10,000 capital; to deal in automobiles, motorcycles, etc. Corporators—William L. Mitchell, Edwin P. Valkenburgh and Howard D. Rockafellow.

New York, N. Y.—Yorkville Automobile & Garage Co., The, under New York laws, with \$3,000 capital; to manufacture and deal in automobiles, engines, etc. Corporators—Adolph Miller, Phillips Freed, Armin H. Mittlemann.

Camden, N. J.—Louis J. Bergdoll Motor Co., under New Jersey laws, with \$500,000 capital; to manufacture and deal in motor vehicles. Corporators—Louis J. Bergdoll, Philadelphia; F. R. Hansell and John A. MacPeak, Camden.

New York, N. Y.—Monaton Motor Car Co. under New York laws, with \$100,000 capital; to deal in automobiles and supplies, and operate garages. Corporators—M. McKenna, Brooklyn; W. J. Markell and W. M. Scott, New York City.

St. Louis, Mo.—Smith Automobile & Battery Co., under Missouri laws, with \$10,000 capital; general automobile business. Corporators—Arthur King, Fred G. Smith, Adolph Zuerst, Jr., and Herman Wieland, St. Louis; Benson D. Smith, Hillsboro, Tex.



## IN THE RETAIL WORLD.

E. O. Babcock, Unionville, Mich., sees a future in the automobile business and will open a garage this spring.

Cordes Bros., Henning, N. D., are preparing to erect a garage; it will be of brick construction, two stories.

E. T. Wiggins, Inglewood, Cal., is having plans drawn for a new garage; it will be located on Commercial street.

Charles M. Noble, Newton Highlands, Mass., is building a garage; it is located near the Stevens building on Walnut street.

Myers & Tetrick, Blackwell, Okla., have embarked in the automobile business and will handle the Overland. They will open a garage soon.

John J. Corkery, Yonkers, N. Y., has been granted a permit to erect a garage at 217-219 Riverdale avenue. It will be a brick building, two stories high.

Samuel E. Stokes, Philadelphia, Pa., has let the contract for a garage in the rear of 4519 Wayne avenue. Its dimensions are 46x33 feet, and it will cost \$2,300.

The Springfield (Ill.) Motor Car Co., has established a Chicago agency at 1549 Michigan avenue. Nelson Gotshall, sales manager of the company, is in charge.

John F. Welch, Blackwell, Okla., who recently disposed of his interest in the Rice & Welch garage, has established a garage at Newkirk. He will handle the Ford.

F. A. Brandle, Northampton, Mass., has leased the old electric lighting station near Masonic street, and will remove his garage business there. He now is located on State street.

Fire destroyed the garage of E. P. Rowe in the rear of the Tuttle House, Dorchester, Mass., last week. Three machines were burned, the cause of the fire being unknown.

H. Rozell, New York City, has leased from M. J. Kelly, the two story stable building at 207 West Seventy-fifth street, and when alterations are completed will occupy it as a garage.

The Arnold Motor Co., Omaha, Neb., has taken possession of its new garage on South Lawrence street. The new establishment is conveniently located and is well equipped.

F. E. Glenn, Tulsa, Okla., is having built a garage at 409-411 East Third street. It will be of brick, one story, 60x150 feet, and will cost \$6,000. It will be ready for occupancy in the spring.

The Idelbach Automobile Works, Houston, Tex., has begun business in that place and is located on Rusk street. The establishment will be devoted to rebuilding and repairing exclusively.

The Eastern Krit Sales Co., Morristown, N. J., has opened sales rooms at 10½ Pine street and will act as local representatives for the Krit cars. Victor A. Wiss, Thomas

A. Wiss and William A. Hurtzig constitute the firm.

The Union Auto & Sales Co., Omaha, Neb., is another concern which has a garage under way on North Lawrence street. When completed it will be the home of the Haynes, Parry and Krit cars.

The H. B. Doherty Co., Binghamton, N. Y., has been taken over by the Utica Motor Car Co., of that city, and hereafter will be known as the Binghamton company. The former proprietor will continue with the new firm.

W. V. B. Campbell, of Milwaukee, has entered the automobile business in Minneapolis, Minn., and has taken quarters in the Parker garage at Tenth street and Mary place. He will handle the Lozier, which is new to the Flour City.

The Hokanson Automobile Co., Madison, Wis., celebrated the opening of its new garage last week with a housewarming. The building is 90x135 feet, three stories and has storage room for 200 cars. Both White lines are handled.

G. P. Hewitt, Milwaukee, Wis., has opened temporary quarters at 176 Thirteenth street, near Grand avenue, where the Buick line will be handled. A new building which will be a local branch will be erected in the spring.

The Snow automobile Co., Des Moines, Iowa, has taken possession of its new garage at 121-123 South Main street. The establishment is well appointed throughout and includes a repair shop. Rambler and Overland cars are handled.

The Commercial Motor Car Co., Denver, Col., is the latest addition to the local automobile colony, with salesrooms at 1627 Champa street. They represent the Buffalo commercial cars and later will take on a line of pleasure vehicles.

The Fawkes Automobile Co., Minneapolis, Minn., has purchased, presumably for garage purposes, a plot 100x150 feet, fronting on Hennepin avenue between Harmon place and Maple street. The price paid, \$30,000, is a record for the district.

The Twin City Taxicab Co., Minneapolis, Minn., has been formed in that city to operate a taxicab service, and has its headquarters in the new Parker garage. They start with a fleet of fifteen machines, which number will be doubled next month.

The McIntyre Automobile Co., Omaha, Neb., expects to take possession of its new garage at 2203 Farnam street, about the middle of this month. They have added to their line of cars which now consists of the Welch, Oakland, Staver and Gleason.

H. C. Whittaker, Wheeling, W. Va., one of the prominent business men of that city, has dipped into the automobile business, and has taken on the Rainier. His territory will consist of the northwestern section of West Virginia and southwestern Ohio.

The Standard Automobile Co., of Illinois, is the style of a new concern which has

opened up at 1326 Michigan avenue. They will act as distributors for the Cole "30" for northern Illinois and Indiana, and the entire states of Michigan and Wisconsin.

C. H. Palmer, Chicago representative of the Racine Boat Co., has added automobiles to his line and will represent the Abbott-Detroit and Krit cars in the Windy City. The newcomers will share quarters with the water vehicles at 1610 Michigan avenue.

For the second time within a month, A. V. Hart, Rochester, N. Y., has been visited by fire at his garage. The last visitation occurred at his South Water street establishment last week and did \$1,000 damage before it was extinguished. Incendiarism is suspected.

The Ford Motor Co., Houston, Tex., now is located in the Stersenberg building at the corner of Walker avenue and Milam street, occupying the entire ground floor. It will be a distributing base for Ford cars for the entire southern half of the Lone Star state.

The Bates-Odenbrett Auto Co., Milwaukee, Wis., has bought out the Browne Motor Car Co., and will take over the Marion and Overland lines, which were handled by the absorbed concern. The purchasing firm, which is the oldest in the city, is located at 503-507 Broadway.

E. W. Burns, Spencer, Mass., proprietor of the Massasoit House, is contemplating the erection of a garage to accommodate the great amount of automobile traffic which passes through the town. If a suitable site is decided on the structure will be erected in the spring.

The Utica (N. Y.) Motor Car Co., has established a branch in Schenectady, which will be known as the Schenectady-Cadillac company and will be in charge of E. G. Peterson. The company recently was allotted additional territory for Peerless and Cadillac cars which it handles.

Ford & Lyon, Fitchburg, Mass., have let the contract for an addition to their garage on Pritchard street. The new building, which is expected to be ready for occupancy March 15, will give a total of 25,000 square feet of floor space. The firm represent the Rambler and Maxwell cars.

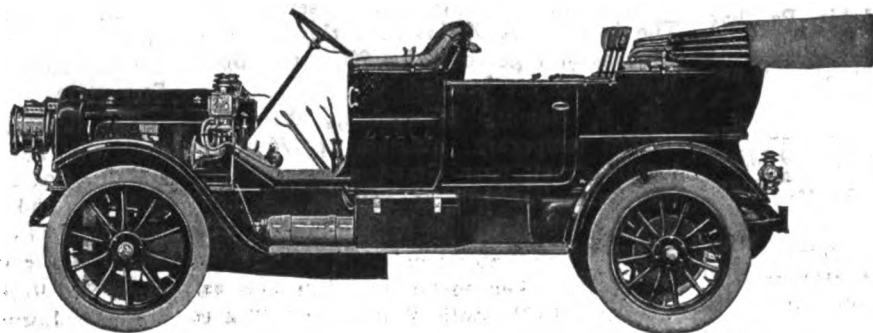
The Curtis Automobile Co., Milwaukee, Wis., soon will let the contract for a two story brick and steel garage and sales room at 142-144 Eighth street, just south of Grand avenue. The building will be equipped with all modern appliances and is expected to be ready for occupancy by May 1.

Schulte & Dean, Scranton, Pa., are having plans drawn for a garage to be built on the Farr property on Adams avenue. Its dimensions will be 40x48, either two or three stories, the height being undetermined yet. The firm at present are located at Washington avenue and Ash street and handle the Rambler and Regal cars.

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#### Advantages of the Accelerator.

Words of commendation should be uttered for the benefit of such makers as are coming back to the use of foot accelerator pedals on their standard cars. For a number of years the use of this most important member of the controlling system has languished among those who have followed at all closely the dictates of foreign practice. Recently, however, its gradual adoption by one maker after another has been noticed, until now only a few are left who are out of line in this respect. Questions there may be as to the proper method of connecting the accelerator, of interconnecting it with the hand lever on the steering wheel, which generally is used interchangeably with it, and of contriving it so that it can be operated without fatigue on the part of the driver. But of its usefulness there is no longer any question.

It is more particularly in the ease of gear changing which it effects, and in the ability to accomplish sudden bursts of mod-

erately high speed, almost immediately relapsing into slow speed, that it becomes most advantageous. The latter attribute comes most handily into play when manipulating in close traffic, when to operate the lever on the steering wheel without in any wise jeopardizing the steering control is a work of functions not unattended with risk of disaster. Hence the accelerator pedal is found on nearly all town cars, as well as upon medium sized touring cars such as are used largely for town and general service.

Considering the two principal uses of the accelerator, it is important to call attention to one direction in which several makers are working, and in which they are encouraged by most reasonable theory. That is, in so arranging the connecting mechanism that the pedal is capable of accelerating the car to only about half speed, or thereabouts.

The advantage of this arrangement is that it obviates the possibility of racing the engine merely by depressing the pedal, incidentally preventing the straining of the motor in consequence of ignorant or injudicious handling. For gear shifting purposes, there is practically no need to run the engine at more than half speed, except when the car is traveling very fast, in which case a quick shift usually is made, often without altering the speed of the motor until after the higher gears are engaged. For traffic work also, there seldom is need for very high speed, though not infrequently the nervous driver is impelled to force the pedal into its extreme position merely through the momentary embarrassment of a tight squeeze.

It requires little mechanical skill to contrive the connections in such a way that the desired result can be brought about, and in fact in one or two instances noted at the shows this year, it appears to have been almost an accidental result of certain combinations in the design. It also entails small expense upon the maker. By the same token, it affords ample opportunity for favorable argument, and should prove a useful addition to the list of necessary, and necessarily harmless, talking points about a new model.

#### Losses in the Repair Department.

Most unhappy of all phases of the automobile business is the draining and heart-breaking losses which many repair departments are bringing upon their proprietors.

It is the one branch or department where remedy is most needed, because of the fact that as a whole it is far from profitable. In some cases the proprietors are well aware that their repair work is causing them serious loss, while in others the losses are taking place without being located definitely, a condition which is made possible when the repair department receipts and expenses are mixed in with and not differentiated from those of an agency business in cars or accessories.

One of the most prominent dealers in the Middle West was amazed to find at the end of a big year's business that he had come out practically even when he should have been about \$45,000 ahead, figuring the book profits on his extensive operations. Himself unable to unravel the mystery, he subsequently opened his books and files to an expert auditor, who after going into the matter fully, was able figuratively to put his finger directly on the trouble. The missing \$45,000 was the amount that had slipped away as pure loss in the maintaining of several large repair departments, the operation of which was costing a considerable percentage over the receipts.

As a matter of fact, if scientific and intelligent bookkeeping be applied to all of the repair departments which are maintained in connection with the business of selling cars, few of them would show anything but a loss, when all proper charges against them had been taken into account. The reasons for loss are numerous and varied, and the remedy does not necessarily reside in the raising of the general scale of prices for repair or replacement work.

High rent, due to having the repair department in the same building as the sales room, is to be considered, suggesting the saving that would be effected by having the repair work done where the rental would not exceed that of ordinary machine shops or factory space. Free adjustments and minor repairs which come under the head of "taking care of customers" could be greatly curtailed without harm in many instances, with an immense saving in labor and material cost. A most strict and able supervision of the workmen in the repair department is necessary, that their hours may be truly productive of results, and an imperative requirement is a vigilant and efficient guardianship of parts, materials, tools and supplies, which melt away with surprising rapidity if not constantly watched. The system of charges, too, is frequently ex-

ceedingly careless and haphazard, sometimes involving dishonest jugglery by which a protesting customer obtains a substantial reduction in his bill, and part of the amount deducted is "spread" over the bills of other customers. A repair department that is not depended upon as a "feeder" for garage business need never encounter the demands of chauffeurs' graft, but nevertheless, the "rebating" of chauffeurs exists almost as a regular practice in a few repair departments.

To be made successful or even self-sustaining from a financial standpoint, the repair department needs not only good book-keeping, which will show its affairs up clearly and accurately, but also good management, instead of being treated as a bothersome incidental which must more or less take care of itself. Each year as the business grows older, more customers are educated to an appreciation of good, honest repair work and to a willingness to pay for it. Likewise the proportion of demands for free repairs or replacements becomes less, in consequence of the greater durability and perfection of the cars that are sold and because the public has an increasing understanding of what is reasonable. All that remains is for the proprietors themselves to give keen business attention to matters which will prove costly if not handled in a way proportionate to their importance to the profit and loss account.

#### Motor Buggies and the Chicago Show.

Following the Motor World's recent editorial comment on the motor buggy as a "vanishing type" not a few expressions of opinion were heard which showed conclusively that in those quarters at least, the total disappearance of the type would be viewed with feelings of surprised disapproval. Nor is this attitude at all unexpected. Considered in its most favorable light, the motor buggy, which is confessedly an unhorsed carriage, engine propelled, is nothing more nor less than a compromise. As such it found and doubtless may continue to find for some time to come, a ready welcome among certain classes of buyers. It never was branded as a lost utility, nor as a type wholly out of date, but only as one engaged in the graceful act of disappearing from view. This view appears to be confirmed in some measure by the status of the Chicago show.

Not to judge too hastily in the matter, it should be admitted that the "private

## COMING EVENTS

February 5-12, Chicago, Ill.—National Association of Automobile Manufacturers' ninth annual show in Coliseum.

February 8-14, Los Angeles, Cal.—Automobile Dealers' Association of Southern California's show in Grand avenue rink.

February 14-19, Buffalo, N. Y.—Automobile Club of Buffalo's eighth annual show in Convention Hall.

February 14-19, Hartford, Conn.—Hartford Automobile Dealers Association's third annual show in Foot Guard Armory.

February 14-19, St. Louis, Mo.—St. Louis Automobile Dealers Association's annual show in First Regiment Armory.

February 14-19, Rochester, N. Y.—Rochester Automobile Dealers' Associa-

tion's third annual show in Convention Hall.

February 15-17, Washington, D. C.—American Automobile Association's national legislative convention.

February 17-19, Grand Rapids, Mich.—Grand Rapids Automobile Club's first annual show.

February 18-22, Fargo, N. D.—Fargo Automobile Dealers first annual show.

February 19-26, Los Angeles, Cal.—Licensed Association of Los Angeles' first annual show in Hamburger building.

February 19-26, Minneapolis, Minn.—Minneapolis Automobile Show Association's exhibition in National Guard Armory.

February 19-26, Newark, N. J.—Associated Automobile Clubs of New Jersey's show in Essex Armory.

February 19-26, Salt Lake City, Utah—Automobile show in Auditorium.

show" aggregation encamped in the vicinity of the Coliseum and up and down the length of Michigan avenue, is larger this year in probability than ever it was before; and that in the list of machines so revealed to the public there may be several worthy examples of the type in question. Judged solely on the basis of last year's show and that of the year before, however, it must be admitted that the motor buggy is fast declining and verging toward a state of complete and final dissolution. Just how long the absolute end may be deferred, however, is entirely another matter.

Despite the fact that at the show no maker appeared with an example of the true high wheeled carriage, several are exhibiting machines equipped with solid tires and fairly large wheels. Furthermore, such of the old motor buggy builders who still produce the type continue steadfast in their faith in it as a selling medium—among a limited class of customers.

To a Motor World man, one of the makers who still are producing motor buggies in limited quantities, defined this class as being composed of those who, through exaggerated ideas of the liability to punctures and blowouts are, as he put it, "afraid" of the pneumatic tire. Such owners, many of them enjoying the questionable advantages of a geographical location remote from the blessings of good roads, are in a position to enjoy to the full the advantage which the high wheels possess of being able to go most anywhere most any time. At the same time, however, and by the ready admission of the same indi-

vidual, comes the statement that many motorists of this class later become converts to the pneumatic, and are ready and willing to abandon the old love for the new, even before it becomes useless.

Indeed, it is for the benefit of such owners, among other things, that the formerly exclusive producer of high wheeled machines, so frequently may be found turning his attention to the smaller sized pneumatic; for that, and because, as he puts it, the demand for the standard type of car is far greater than that for the buggy type. Even so, the conviction is strong in many breasts that the utility of the motor buggy is bound to continue in a healthy state for a long time to come. And well it may. For its strongest point is that it is non-competitive with a majority of machines of other types now on the market, and that it serves to educate the reluctant and prejudiced to a newer and better appreciation of the more solidly constructed machine.

So long as bad roads continue to isolate people in remote sections of the country, it is probable that a few makers of really good machines of the sort will find purchasers for their outputs. But the number produced and sold each year must, in all probability, continue to diminish until a period when the peculiar conditions, theoretical and practical, which brought it forth shall have passed. At present the decline in its market is very strongly evidenced by its abandonment by a number of those who have been among its strongest advocates in the past.



# CARS THICKER THAN "FOREST"

Eight Real Trees Do Their Best to Spread Over the Immense Array of Motor Car Offerings at Chicago—Brick Walls, Verdure and Flowers Lend "Country Estate" Effects, but the "Woodsy Smell" Fails of Its Perfume—Display Impressive in Its Magnitude.

Chicago, February 8.—Whoever was responsible for the statement that the Chicago show would be held in a forest, that is, in a forest setting, either is a mighty poor guesser or he has a queer idea of forests. There never was a time when a forest was constituted of eight great big trees under the spreading branches of which stand three or four times as many very much smaller trees, nor is it customary to find picket fences, stone gateways, flowering urns and gilded Doric domes within the confines of even a modest copse, and it is this sort of thing that is to be found in the Coliseum. It is not a forest at all.

It is more suggestive of an English gentleman's estate, or several English gentlemen's estates, whose front yards adjoin, which was the description vouchsafed by those who are not so keen on forests as the make believe Pinchots and Ballingers. These foresters made it appear also that it might be possible to write down or write up this show with the smell. They said that a woodsy odor would pervade the atmosphere, but any one who came with nostrils dilated and lungs ready to inhale such an odor was sorely disappointed. The woodsy smell was left behind when the woodsman's axe felled the eight great trees in that "German" forest located in Willamette, Illinois.

But a smell is here all right, and it is a pleasant smell, too. It suggests the demonstration of a new cologne or sachette powder at a department store. Whoever works the invisible atomizer is on the job intermittently, which is to say that the odor is

not constant and pervades only portions of the big building. It is necessary to be on the right spot at the right time or the show goer will get no smell for his money. But the odor, as stated, is a pleasing one, and if the maker of the perfume does not experience a stimulation of business it is his own fault, nor is he to blame if the odor is unsuggestive of gasoline.

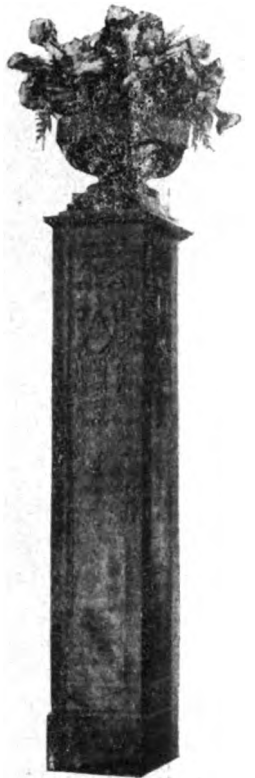
If what has been said appears to be airy persiflage or to be in any way a reflection on the show, let such thoughts be dismissed; for as a matter of fact, this Chicago show is far and away the most picturesque exhibition that ever has been staged. There never was anything in the same class with it.

But with no desire to be hypercritical, it is fair to say that the decorative scheme while striking and intensely original, is too theatrical for its purpose. It absolutely dwarfs, if it does not detract from, the exhibits, nor is it easy for description to do it justice and so obtrusive and overshadowing are those greens that make photographers ejaculate "nawsty" words, that it is doubtful if even the camera properly can serve its purpose.

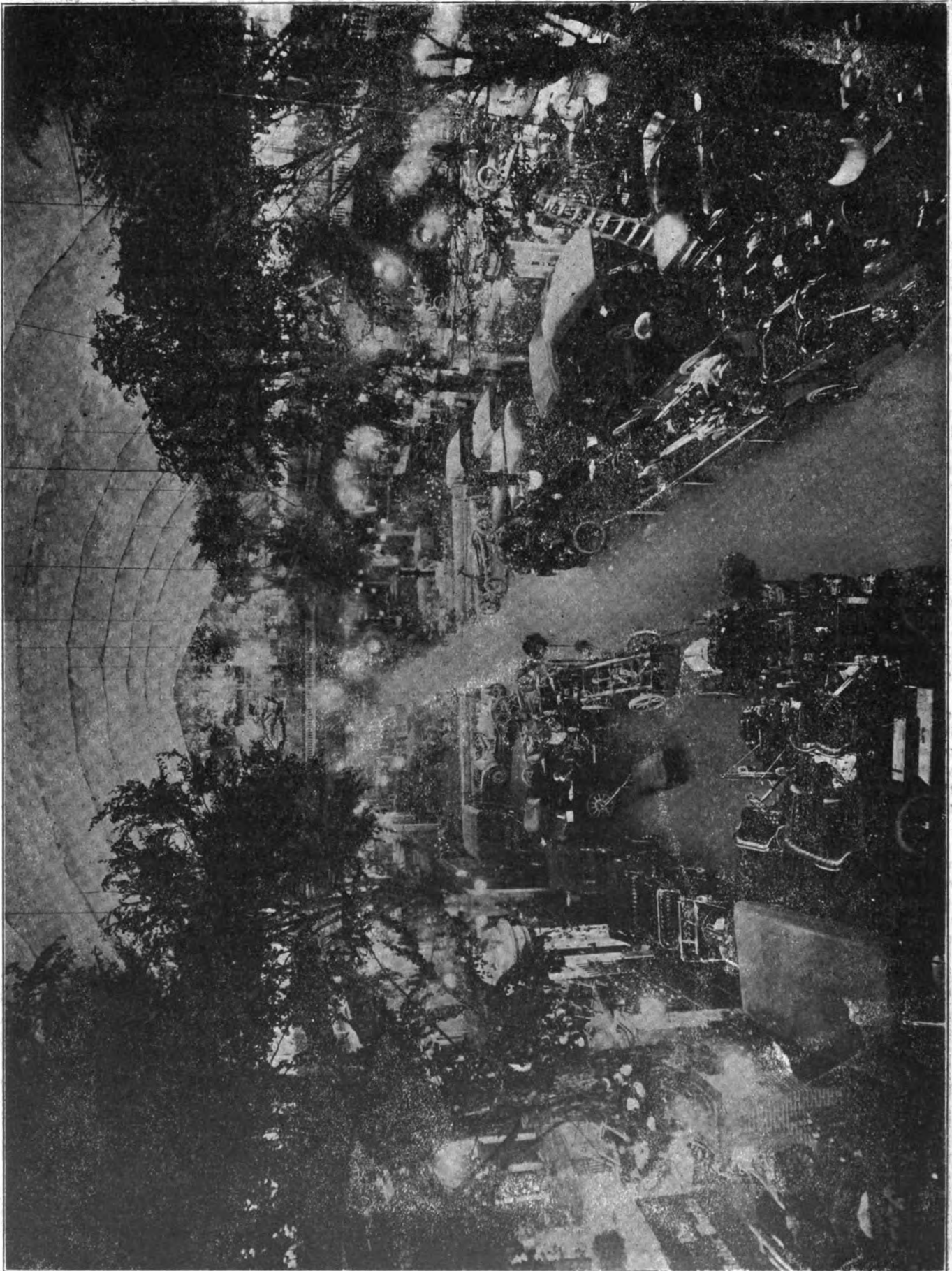
There are four center sections in the Coliseum, each of which may be said to comprise an estate, and each estate is divided into as many front yards as there are exhibitors. Each estate or yard is separated by a vine grown high picket fence, reared on a low red brick base. The several fences are intersected by great grill work gateways, the stone posts of which are topped by flowering urns and set off by lighted

globes. The railings at the sides of the several yards which also are set on brick bases are much lower than is the picket fence. Near each gateway is a giant tree, 50 or 60 feet high, and with a great outspread of branches, while here and there are numerous smaller trees and shrubs and flowering pots. Four gilded Doric domes supported by slender white Doric columns also are features of the decorative theme.

The exhibits occupying the wall spaces and surrounding the center sections are ensconced in trellises, so to speak; they are located under the gallery and a succession of archways supported here by rough stone pillars and there by lattice work columns gives to each a separateness that is all its own. The overhead trellis is heavily hung with blossoming foliage. The gallery overhead has been transformed to represent a veranda, a false white railing hiding the chicken wire netting that at all previous shows was such an eyesore, and that constituted such a blot on the general scheme. Painted scenery or foliage heightens the veranda effect. Over all there is a great expanse of azure sky daintily flecked with fleecy clouds. It is all very beautiful, too beautiful for mere words, and the visitor



THE NIGHTLY LINEUP OF CARS OUTSIDE THE COLISEUM



COLISEUM EXHIBITS IN THEIR SUBURBAN SETTING

must be deeply interested in automobiles not to be enrapt or carried away by the picturesqueness of the scene.

The Coliseum Annex represents a real trellis garden. There are low fences separating each exhibit and around the walls and again the overhead trellis is thickly hung with blossoming vines. There has been no stinting effort anywhere, and by comparison the alleged trellis garden that formed the decorative theme for the recent show in Grand Central Palace, New York, was a mean and stingy affair and looked like less than the proverbial thirty cents. The signs all are scrollwork with the names of the exhibitors in old English letters.

In the Armory, in which the overflow is housed, there are no estates with towering trees and grill gateways, but there are a lot of flowers and shrubs and other greenery. There is considerable rustic effect and also several of what are officially styled pagodas, but no real pagodas ever looked like these. The sky, what there is of it in the Armory, consists of green and white bunting.

Between the Coliseum and Armory the narrow alley through which most of the exhibits are brought, is threaded by the enclosed board walk which, in the past has been likened to a ventilating flue and a slide-way for the streams of humanity which constantly ebb and flow between the two main divisions of the show, and which has been known more fancifully as "limousine lane." It is a necessary evil since it furnishes the only means of communication between the two principal divisions of the show, but it is generally regarded as a most unpleasant necessity.

It was this same elongated pine box which, early Monday morning, threatened the destruction of the Coliseum, together with the group of more or less dilapidated buildings which cluster around it, when a small fire broke out midway of its length. The threat was not a very ominous one, but it served as sufficient excuse to bring out about all the portable fire fighting apparatus which Chicago possesses, and to excite the local yellow journals to hints of incendi- arism.

What happened was this: In accordance with the rule of the show management that no gasoline should be taken into the Coliseum under any circumstances, the fuel tank of an inward bound car was drained in the alley. In all probability some of the gasoline trickled under the passageway and was ignited by a match carelessly thrown aside. At all events, suddenly and without warning, flames began to play about the outside of the box and creep up through the flood. Two or three of the guards, stationed there by the management to prevent small boys from breaking in or ripping the structure to pieces for kindling wood, at once pulled up a few boards and extinguished the flames with hand apparatus. Had not some excited person turned in an alarm, it is likely that even fewer persons

would have been aware of the incident.

But with memories of the fire which nearly terminated the commercial vehicle section of the show in old Tattersalls, in December, 1907, and with the idea which appears to be ingrained in the breast of the average Chicagoan that the Coliseum is far from a good fire risk, there was some little uneasiness for a few minutes, when the engines were seen headed for the big show buildings. For the benefit of those who remarked on the tinder-like qualities of



A BIT OF RURAL SCENERY

the decorations, however, it may be said that the leaves, at least are thoroughly fire-proofed. Tests made early in the week showed that they would only smoulder, even under the most favorable conditions.

From the New York standpoint, the crowds were almost as interesting as the decorations. They have been large and a goodly portion are unmistakably of the West. Fur caps and cloth caps of the earlap type and felt hats with leather bands are numerous and indicate beyond doubt the interest of the smaller Western communities. They come, these Westerners, with a deep and searching interest in all things pertaining to automobiles. Always they bring interest and their money, frequently they bring their wives and a few children, and occasionally their lunches as well.

But Chicago takes kindly to the unconventional, and so the sight of a party of four picnicking out of pasteboard boxes, while seated in the balcony side aisles, created no comment whatever. It was during the slack period just before the crowds began to come in one evening early in the week. The men of two generations were there with their women, and as they gnawed chicken bones and munched at real home made pie, they discussed various makes of cars with an intelligence and penetration which would be surprising to many who are not familiar with the class which is raising its wealth in the big farm country.

It is the large proportion of real buyers in the crowd which gives to the Chicago show its tremendous importance to the industry. That the crowd comes not only to buy cars, but also to buy parts, accessories and supplies, also is important to note. That the show was not wholly ready to be opened, when the doors were thrown ajar last Saturday afternoon, mattered little to the Western contingent. The Chicago show crowd comes early and often, and is ready to go home promptly at ten thirty every evening.

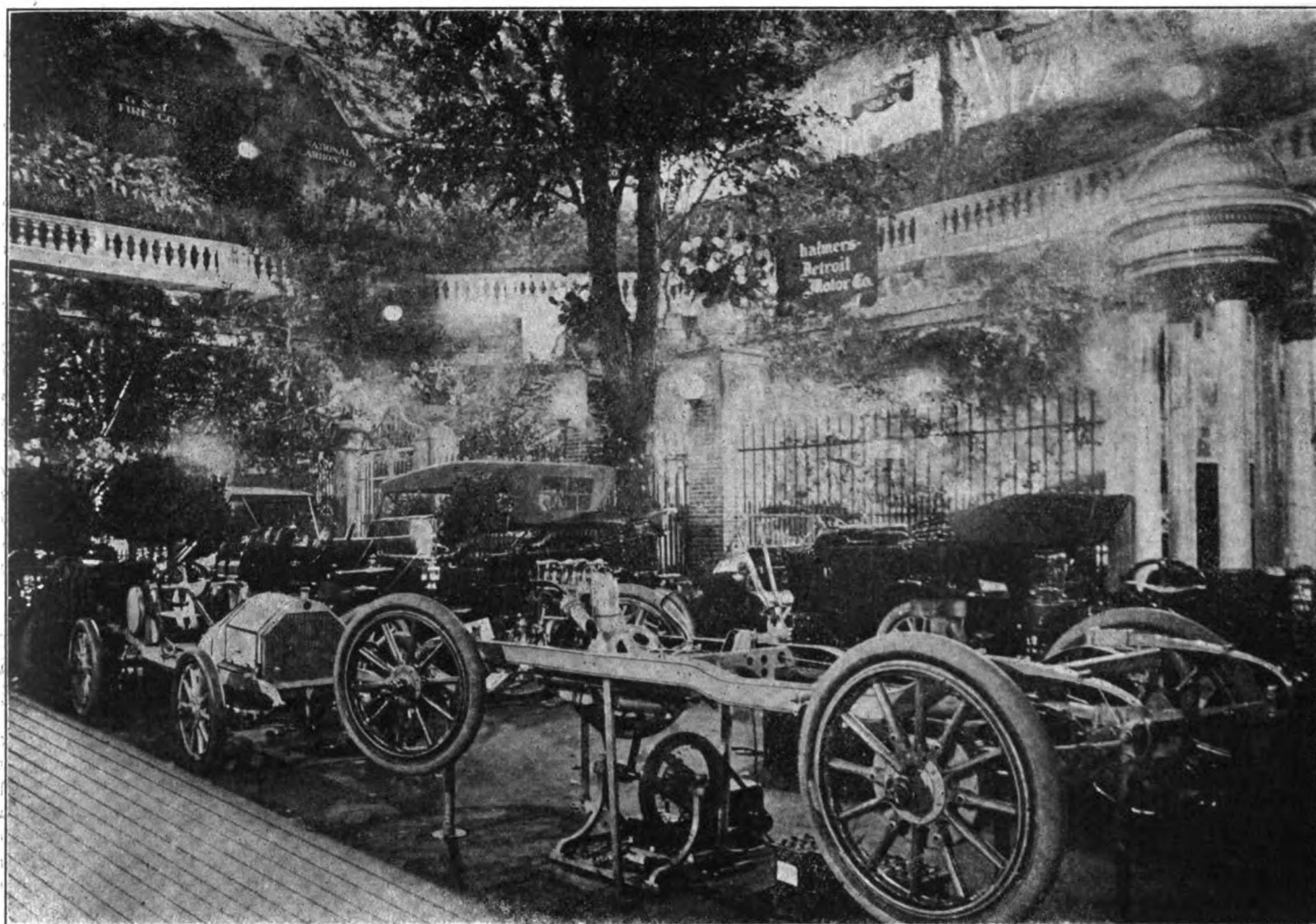
It being not quite ready appears to be one of the characteristics of all Chicago shows. In fact, the decorators and the huskies who move in the exhibits seldom get away until forced out by the crowd, and the sight of booths empty until Monday night is no rarity. This year, however, the decorations were finished promptly, save one element. That was the "piece de resistance" which it is customary to impose at the head of the stairs leading to the cafe in the basement. A fountain was designed for the important position this year, but its makers dallied too long on the way, and it was not finished Saturday. Monday, work had progressed far enough so that the water could be turned on. But the fountain proceeded to spout in an unforeseen direction, wetting down the floor. Its completion later in the week added an almost unnoticed finishing touch to the ornate garnishment of the real show.

The show itself, of course, partakes largely of the character of the two previous and recent national expositions in New York, of the elements of both of which it is compounded. There are 255 exhibitors in all, 101 of whom display cars, 141 accessories and parts, while 13 show motorcycles. In addition to the material which already has been displayed this year, however, is a goodly share of new and attractive display.

## Striking Features of the Exhibits.

Among the more striking features of the various exhibits may be mentioned the Thomas "tumbling chassis," which was shown in New York, together with such other to-be-expected importations as the 'Round the World trophy, also shown on the Thomas stand; the Alco Vanderbilt Cup winner of last fall, and, of course, the cup





CHASSIS DISPLAY OF THE CHALMERS-DETROIT CO.

itself. The Chalmers "Bluebird" and the big Fiat racing cars also are to be seen, as well as a collection of Apperson, Marmon, Knox and other racing trophies.

Such of the spectacular accessory displays as are to be seen are for the most part held over from New York. There is the big Splitdorf magneto, which shoots off big sparks, as everyone can see, and at least one jumbo carburetter. There also is the model aeroplane, which hovers over the G. & J. tire booth. One new single spark ignition system is shown, and one new magneto, the latter of most radical principle and form. There is a new demountable rim as well. Startling outcroppings in the accessory field, however, are less numerous than in former years. But one noteworthy trend is strongly evidenced: that is, in the direction of electric lighting. Practically all lamp manufacturers exhibit show electric models in some form or other, while on the stands in the Coliseum and Armory a number of display car models, which were not so equipped in New York, now carry incandescent bulb lights. One of the new cars, in fact, is fitted with lamps of special and most ingenious design.

In the same connection mention should be made of one striking novelty in the illuminating line—a direct importation from

abroad, said to be an idea "borrowed" from some titled dignitary—which is shown on one of the cars exhibited by C. P. Kimball & Co., the Chicago body makers. Unfortunately, owing to the obscure position of the car itself, the novel mounting of the lamps in the glass of the wind shield escapes the casual observer; nevertheless, they are worth seeking out. Adding to the effect of the regular dash lamps, which also are electrically equipped, the lamps in question are mounted above the dash, at either end of a narrow glass panel which forms the lower section of the shield. The lamp bodies are of the same general form as the familiar dome lights commonly used for interior limousine lighting. But the front glass is so constructed that its sash ring serves to clamp the entire lamp to the glass of the shield, which is cut away to permit it to be installed. The conductors are led to the lamps in fine brass tubes, which are inconspicuously mounted on the back side of the dash. The effect is both new and striking, especially so as the lamp glasses are cut, causing the light to be emitted in bright scintillations.

#### Striking and Novel Body Designs.

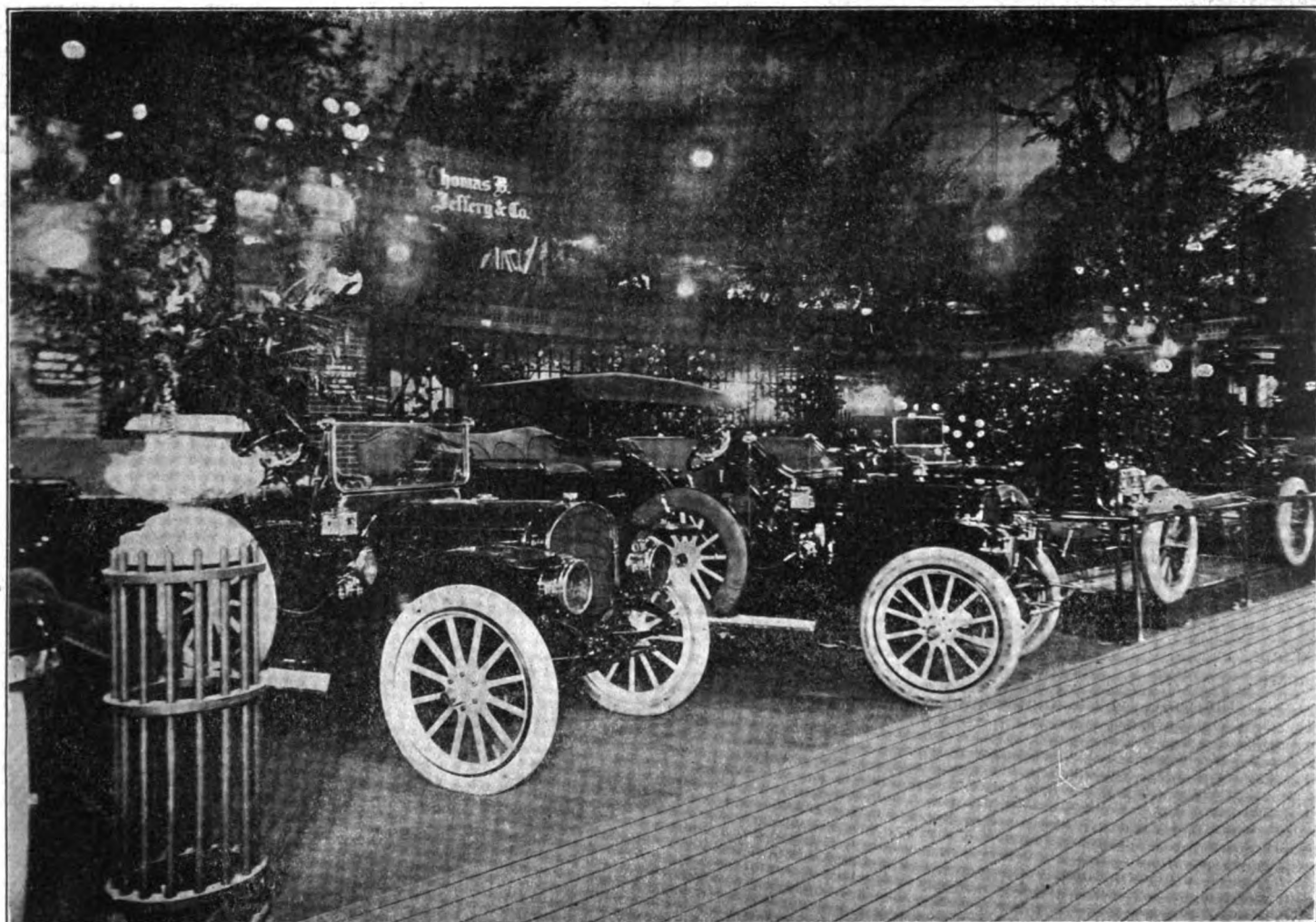
As usually is the case, Chicago is the meeting ground for a number of manufac-

turers who see fit to alter their show displays during the brief interval between the big expositions of the eastern and central sections of the country. Indeed, it may not be too much to say that the Chicago show ordinarily brings forth quite as much of new color contrasts and up-to-date patterns in bodies and equipment, if not more, than either the Palace or Garden efforts at New York. In part, this may be due to the fact that Chicago itself boasts a number of accomplished and resourceful carriage makers. The Kimball bodies are examples which would lead to this impression, as is the particularly pleasing inside driven coupe body which is the work of the Chicago Coach & Trimming Co., and which is mounted on a Berliet chassis.

Aside from the good lines which this vehicle reveals, it is distinguished by unusual length of interior accommodation, as well as by a single "jump" seat, which is placed in front of the driver's companion, but which may be folded down into the hooded sash when not in use. The rear deck of this machine is minus the usual "dicky seat," but instead carries a round storage tank, on the flat rear deck about which spare tires may be placed.

Mention also should be made of the odd coincidence by which the three distinctive





WHERE RAMBLER CARS ARE STAGED

and elegant limousine effects produced on the Pierce, Studebaker and Winton cars are enhanced by three new and hitherto unexhibited samples of exclusive lamp design, all three being of the same style, though differing materially in detail. The general effect is that of an antique, many sided lantern, tapering to an apex at the bottom, which is ornamented by a ball or other ornamental finish. Needless to say, the form is such that electric equipment is the only practicable one, as well as the most suitable.

A striking car is shown on the Thomas stand, most conspicuously colored orange yellow. It is a limousine of the six-cylinder form, which has black guards and body base. Electric cars, such as the Columbia, "Mark LXX" landaulette—which is an inside driven affair—of course, are fine mediums for displaying the carriage maker's ingenuity. The Babcock is one of those which is somewhat extraordinary in its coupe form, with its outside driver's seat and green show finish. An example which is effective in another way is the little Columbus runabout which is shown in the basement, and which is of light and compact design and finished in grey. A different shade of gray, and a car of more luxurious proportions, is the inside driven

coupe which is exhibited by the Anderson Carriage Co.

#### Cars in All Colors of the Rainbow.

On the whole, color combinations appear to have been in the minds of those who have had to do with staging the exhibits, perhaps to better effect this year than ever before. In the Armory, for example, are to be seen Brush studies in red and orange, a vehicle of the latter hue being equipped with a form of luggage carrying box back of the seat, which was not shown in New York. The contrast selected for the Pullman display is in red and primrose. On individual bodies striking effects sometimes are to be observed, as in the "catchy" looking Matheson Six roadster, which to an observer on the highway probably would give a distinct impression of a most rapid shade of vermillion, but which, on close inspection, is seen to be set off with a black body box lined in red, while the red portions of the remainder of the vehicle are toned down with black lines.

On the adjoining stand a similar effect is secured, though in a very different way, on a Corbin roadster, in which the underside of the mud guards is painted red, while the tops of the guards and the lower part of the body are black. The rest of the

machine is red, very red indeed, even to the seats. Other effective color combinations both in individual bodies and in the exhibits taken as a whole, are to be found on the stands of the Pope Manufacturing Co., Chalmers Motor Co., Pierce-Arrow Motor Co., Haynes Automobile Co., and Maxwell-Briscoe Motor Co. The Packard white and gold car again is on view, as is the pink and silver American Simplex.

As was the case at New York, the runabout, distinctively as such, is not over prominent. One or two new examples are found, however, as well as several which were seen at New York, among the latter being the Haynes and the Premier speed car. A particularly neat and attractive little Mitchell is on the main floor of the Coliseum, finished in the standard black body and cream colored running gear. It has a single rear rumble, and the front seat is hooded under a well-drawn buggy top. A newcomer in the same line is the Lambert, which has an oval fuel tank mounted back of the seat, and which is equipped with pedal motor starting gear in place of the usual crank.

#### A New Crop of Torpedo Bodies.

But perhaps no feature of the show is of more modern fashion than the torpedo

aggregation, which is considerably more numerous than that at New York, even combining the exhibits of the two shows. Among the new models may be mentioned the Inter-State, which is of particularly happy form. Its distinguishing mark is the dash, which is drawn to form a direct and logical extension to the bonnet. Another is the new Staver body, which is neatly and compactly drawn, and reveals considerable study. Other new mountings of this class are the Stoddard-Dayton and Mora. Such conspicuous examples as the Franklin, Winton, Speedwell, Cole "30," Selden and Marmon, have been seen before, as have the Royal, the White and the Columbia.

While several makers this year have abandoned the practice of presenting a special show chassis, carefully polished and fitted, others have adopted the plan who never have made use of it before. Thus there is no dearth of ornamental chassis at the show, nor of sectioned and working models. The new Rambler is one of those which is given a mounting de luxe, over a heavy plate mirror. Another striking example is the Speedwell. The Matheson chassis, of which there are two, one of the six and the other of the four cylinder models, are finished in combined polish and enamel, very handsomely. The same in a general way applies to the Stearns chassis, of which two also are shown, one of the large and one of the small cars. Jackson, Speedwell, Hudson and Stevens-Duryea are others shown in polished chassis form. The Haynes display is a very pretty combination of polished and enameled metal.

#### Three Point Suspension of Midland.

One of the most striking of the several sectioned models is the Midland, which was not shown in New York, and which affords a very clever demonstration of the advantages of the three point method of suspension. Three brass pointers are mounted in the middle of the chassis and extend upward for a foot or so, one being carried on the rear of the gear box, one on the cross frame member which supports the rear end of the torque tube itself. In addition to this, the front axle is lifted and supported in a pivot, in such a way that the two front wheels may be alternately raised and lowered by rocking the fore part of the chassis back and forth. At the same time, the rear wheels are in their usual position on the floor and remain absolutely motionless.

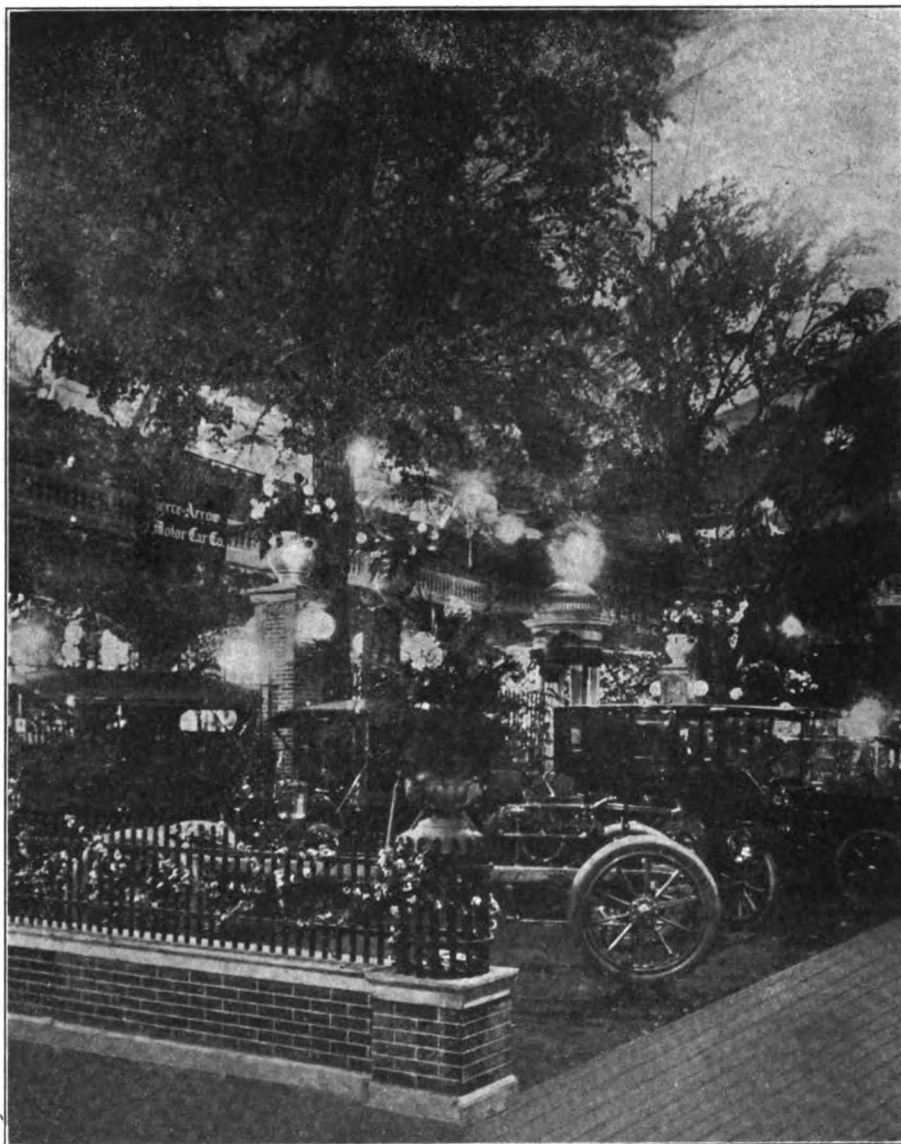
The result is that when the front of the chassis is rocked a very appreciable weaving movement is set up in the frame, the effects of which are visible in the movement of the pointers. The motion also suffices to show that the combination trunnion and slide block mounting for the forward end of the motor, together with the trunnion mounting of the rear end of the power plant in the ball and socket bearing which is carried by the frame, absolutely protects

the active elements of the chassis from injury due to severe road stresses.

Pennsylvania motor construction, Premier make and break igniters, and the Marmon lubricating system, are demonstrated by means of special moving models. The working of the chassis of the Reo, Elmore two-cycle, Hudson, Chalmers, Brush, and Everitt "30" chassis, is shown in each in-

who make it a practice to visit all shows, and more particularly the great array of tradesmen, there are no less than five brand new and hitherto unexhibited products—namely, the Sterling, Lion and Livingston, in the pleasure field, and the Clark and Monitor, in the realms of the commercial vehicle.

Makers who have exhibited in former



PIERCE-ARROW CARS IN BEAUTIFUL SETTING

stance, by moving and sectioned models, while the unique construction of the improved Franklin motor is illustrated on the stock chassis which is used for demonstrating purposes.

#### Newcomers at the Coliseum.

From the standpoint of the Chicago showgoer, the Coliseum is well stocked with cars which are new in the local eye. First of all there are such cars as the Everitt "30," White gasoline, Hudson, Ohio, American Simplex, Fal, Springfield, Cole "30," and Metz, which, though shown in New York and elsewhere this year, never before have appeared in the Windy City. For those

years, but who are making their first big show appearance for the present season at this time, include the builders of the Rambler, Auburn, Dorris, Diamond T, Fuller, Great Western, Rider-Lewis, Springfield, Richmond, Zimmerman, Austin and the R. A. C., which formerly was known as the Ricketts.

#### Originality in Sterling Clutch.

Naturally, general interest centers most strongly upon the brand new cars. Of these characteristics, the Sterling is one of the several new cars which, though generally standard in form, yet possess one or two points of decided originality. Sterling prac-

tice has decreed the use of the four-cylinder engine, axle mounted gearset, standard control and generally approved forms of body design. The engine is of the type in which the inlet valves are mounted in offset pockets, while the exhausts are carried in the heads, and in which the valve actuation is accomplished by means of a single cam shaft which is mounted on the

The unique feature of the machine is the clutch, which is of original and ingenious design, embodying a modification of the multiple disc principle. Its derivation from the multiple disc is not self-evident, however, since it exists only in the adaptation of multiple surfaces with the use of but a single thin disc of the accepted type. Briefly, the driving relation is secured by

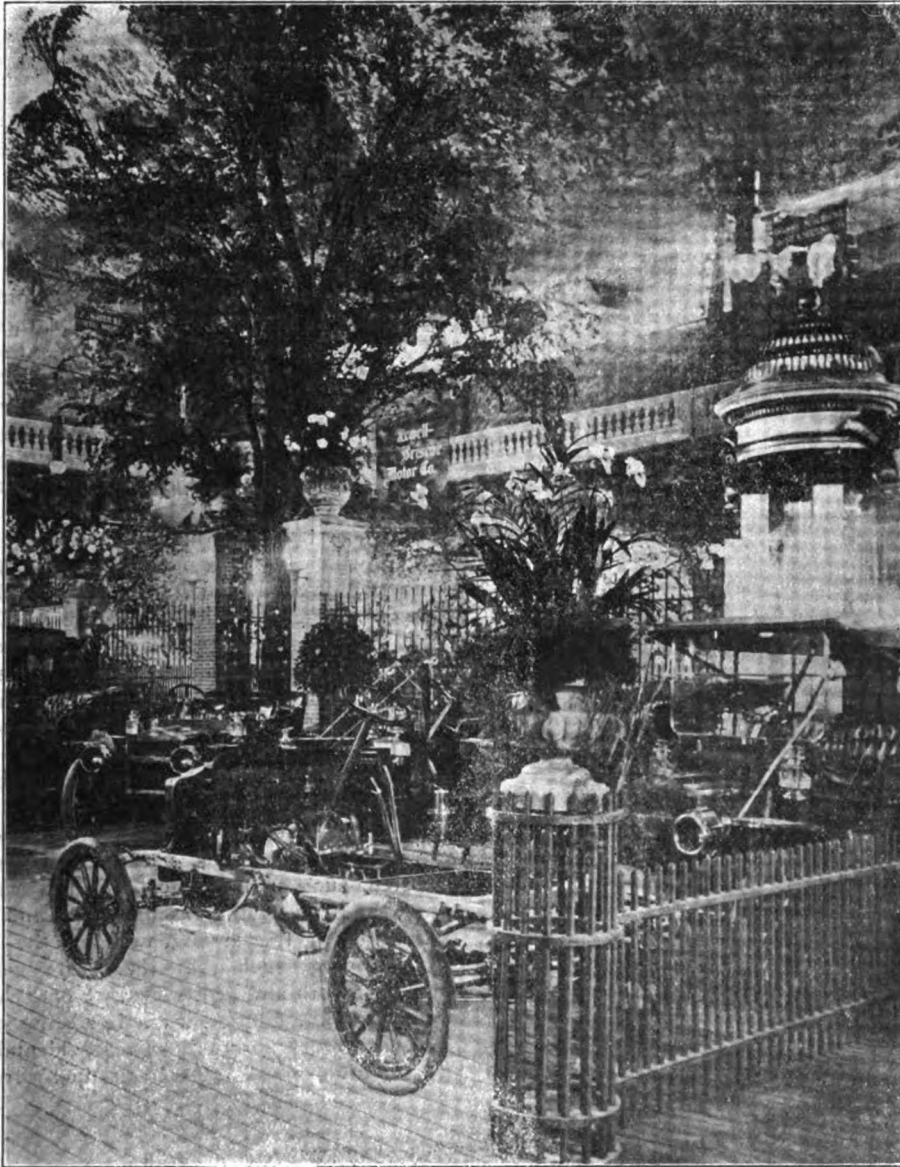
ing apparent when it is stated that the effective diameter of the organ is only  $5\frac{1}{4}$  inches, and its length 4 inches. All wear is absorbed by fiber discs interposed between the active surfaces, and provision for adjustment is made by threading the cover onto the housing, so that it may be screwed up a half turn or more when the parts within become slack.

Sterling cars are produced in two sizes of chassis, with  $4\frac{1}{4}$  by  $5\frac{1}{4}$  inch and 4 by 5 inch motors, respectively, and 118 and 115 inch wheel bases. In other respects the two are much the same, however, even to the use of three-quarter platform rear springs with all styles of body. The varied types of the latter, however, combine to form a line of seven different types, among which is a particularly effective little speedster model.

## Electric Lighting for the Lion.

So rapidly has the cause of electric light been advanced within the last few months that it no longer may be considered surprising for a manufacturer to list electric, or at least combination lamps, as standard equipment. Thus it is distinctly in line with the trend of the times, though advanced practice, for a car maker to build the lamps into his car, so to speak, which is the method which has been adopted in the construction of the new Lion. Revealing not a few distinguishing marks, this new product of prolific Michigan is rendered conspicuous by reason of the fact that its electric lighting equipment is not only of exclusive design and of special construction as well, but that the dash lamps are bedded solidly against the dash, which is designed especially to accommodate them. Both sets of lamps have a special focusing device, whereby merely turning a thumb screw at the back serves to advance or withdraw the bulb toward or away from the reflector. Energy for lighting the lamps is secured by the use of storage batteries.

The car is equipped with a unit power plant, hung on three points, the single support being in the rear and taking the form of a journal on the rear of the gear case, which has a bearing on a cross member of the frame. This bearing is of very liberal proportions and is calculated to allow for considerable frame weaving, should that at any time be demanded by the exigencies of severe road service. The motor is of exhaust valves mounted in the heads and inlets carried in offset pockets, and in general is of not unfamiliar form and construction. One of its unusual details, which is worth noting, is the use of the fan bracket as a crank case breather. The bracket, which is of cast aluminum and liberal in size, is cored out to a point near the offset upon which the spindle of the fan is journaled, and the opening is extended through the top. This leaves a clear passage to the gear housing, which, being in communication with the crank case proper, serves



THE MAXWELL-BRISCOE CO.'S ATTRACTIVE DISPLAY

right side of the engine. Commendable features in its construction are the ample jacketing of the exhaust valve as well as the combustion chamber, and the funnel-like increasing taper of the exhaust manifold; these points being intended to ensure a clean working engine with absolutely unhampered exhaust. The gearset, which is of the three-speed selective type, is built into the torsion tube and axle unit, the alignment of the axle being ensured by means of diagonal braces running forward to a point just back of the universal joint whereby the torque tube is supported in the frame.

pinching a flange formed integral with the driven member between the clutch body and a single saw-blade disc. The action of engagement is secured by forcing radially outward a set of four segmental wedges, which cause a pair of convex discs between which they are mounted, to expand in the direction of the clutch axis. This has the same result as would be secured by exerting direct spring pressure, but greatly reduces the necessary spring tension. As a matter of fact, it is claimed that absolutely satisfactory results are secured with only a 30 pound spring, the efficacy of the wedging system at once be-

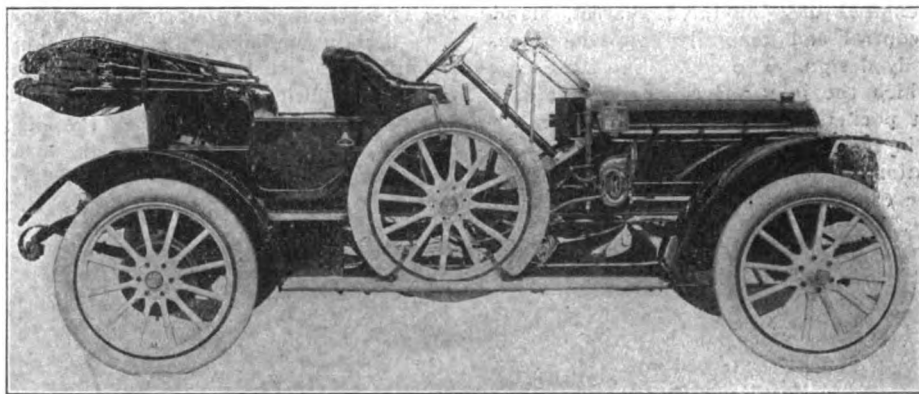


as an avenue for the escape of superfluous gases. The cylinders are of  $4\frac{1}{2}$  by 5 inches dimensions. Magneto ignition is a standard feature. Lubrication is accomplished by means of a crank case circulatory system with pump actuation.

The gearset is of the three-speed selective type, with the lay shaft lying in the same plane as the driving member. An enclosed cone clutch is used. Final drive is through an enclosing torsion tube. With 36 by  $3\frac{1}{2}$  inch tires and 110 inch wheel base the car is produced in both touring and roadster types, the equipment being complete with either type.

#### Good Points in the Lexington.

Another of the newcomers, as far as the show is concerned, although one which is well seasoned in service, is the Lexington, a solid and rather stylish looking machine which is produced in two chassis models and is shown in standard touring form. The larger model is of 40-45 horsepower rating, and has a four-cylinder motor of  $4\frac{3}{4}$  by



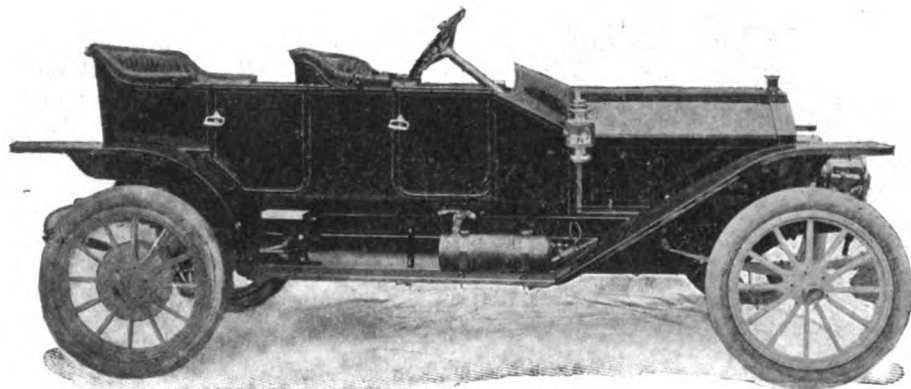
THE NEW RAMBLER TOURING CAR

inch tires, and otherwise is proportionately smaller all around. Save that it has full elliptic rear springs with the scroll end formation, it is of much the same design as the larger car, however. Needless to say, it is made to sell at an even more attractive price than the other as well.

attached to the display of the new line upon which the immense Kenosha plant is engaged. In many respects, the new Rambler resembles its immediate predecessor, though several important refinements are to be observed, as was the case a year ago, when the spare wheel idea first was adopted. Needless to say, this feature, which is an exclusive one, insofar as American practice is concerned at the present time, is continued.

An important innovation is the improved clutch, which is of the expanding shoe type, with a powerful and very easily applied toggle mechanism used to operate it. The two friction members have a perfectly straight line movement along one diameter of the clutch so that they engage uniformly throughout their surfaces. They also disengage simultaneously—which is an important point when it comes to the question of gear shifting.

In the engine sundry changes of a more or less inconspicuous nature have been effected, such as the placing of the water pump in front of the timing gears, and an alteration in the arrangement of the exhaust piping, such that the waste gases have a smooth and gently curving path clear through to the muffler, instead of being subjected to more abrupt bends. Incidentally, the manifold now is tapered gradually from



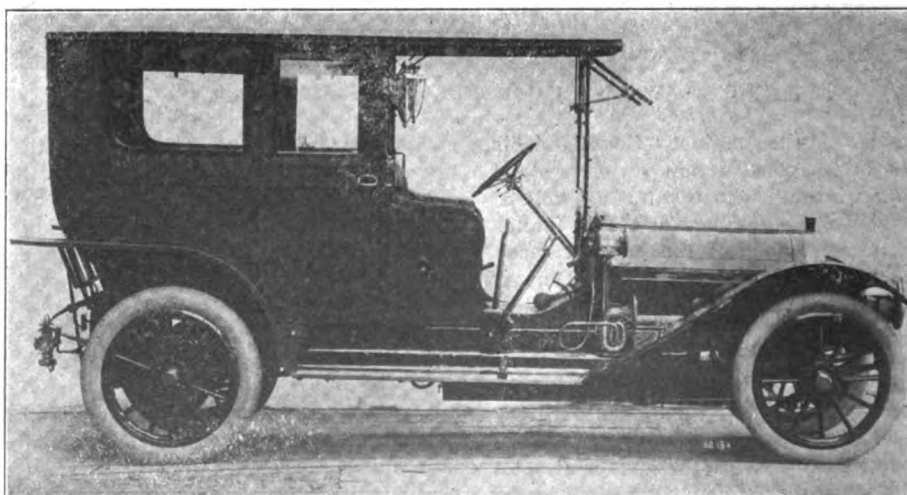
THE NEW INTER-STATE TORPEDO

5 inch cylinder dimensions. The cylinders are individually cast with both sets of valves offset and mounted on the left side. The regular ignition equipment is of the jump spark order, with storage battery used as a source of energy. As shown, however, double ignition is provided, a useful feature of its installation being the use of independent brass conduits for the high tension wires of each half of the double system. The two are mounted over the cylinder heads and between the two water distributing pipes, and serve to separate and protect the wiring in such a way that each method of ignition is rendered as nearly independent of the other as is possible.

A three-speed selective gearset, mounted in the waist of the chassis is employed, together with the familiar H segment form of control, and a plain cone clutch. Drive is by double jointed cardan shaft, with triangular torque rod. The tire sizes are 36 by 4 inches, the wheel base 122 inches, and the spring equipment is semi-elliptical both front and rear. The smaller model has a  $4\frac{1}{2}$  by 5 inch motor, rated at 35-40 horsepower, 116 $\frac{1}{2}$  inch wheel base, 34 by  $3\frac{1}{2}$

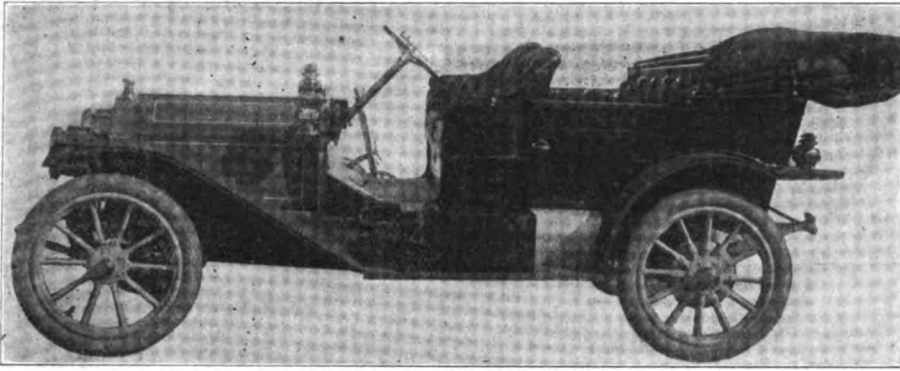
#### Improved Clutch of the Rambler.

Owing to the announced intention of Thomas B. Jeffery & Co. to produce only a limited number of cars during the current year, and to raise the quality of the product to an even higher plane than it had occupied before, if possible, considerable interest



THE PIERCE-ARROW LIMOUSINE





THE LEXINGTON FIVE-PASSENGER TOURING CAR

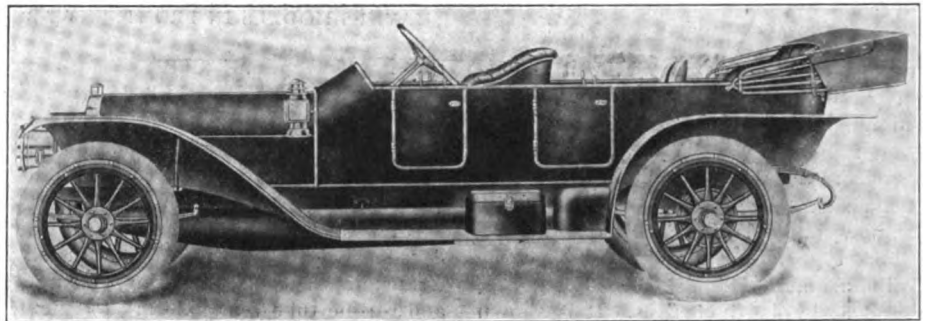
front to back, in such a way that there is no chance for the gas to be strangled.

Another innovation of a most striking nature is the new arrangement of the double ignition system which provides for the use of but a single set of spark plugs. Formerly two sets of plugs were employed, one for the magneto and the other for the battery and coil system. Now, with the single series of plugs and wires leading to the individual switches, which provide ready means for isolating any of the cylinders at will, a high tension multiple switch is provided on the dash whereby the energy from either source may be directed to the cylinders. The switch itself consists of a rotor with handle attached, to which the plug leads are fastened; and a set of eight permanent contacts, to which the two sets of secondary wires from the two respective systems are connected. The arrangement of the connections is such that either system may be thrown into action by setting the distributor switch properly and then switching on the primary by means of the usual device such as is employed on most double ignition systems.

#### New Features of Springfield Cars.

Springfield cars formerly were made in the Massachusetts town of that name, but now are produced under improved conditions in the community in Illinois which bears

the same cognomen. As a somewhat remodelled and considerably improved product, it is of considerable interest to the seasoned showgoer. To the Chicago eye, however, it is an entire novelty, since it never has been shown here before. With an eye to introducing the impression of "custom quality," it is known as the "made-to-order" car. Actually, it is of generally standard



THE KNOX "DOUBLE-SIX-SIXTY" TORPEDO

appearance in regard to its mechanical characteristics, but revealing the touch of ingenuity in a number of points.

Thus, for example, the throttle mechanism, instead of being connected with the ratchet lever on the steering wheel by means of linkage, such as might be liable to develop the uncertainties resulting from

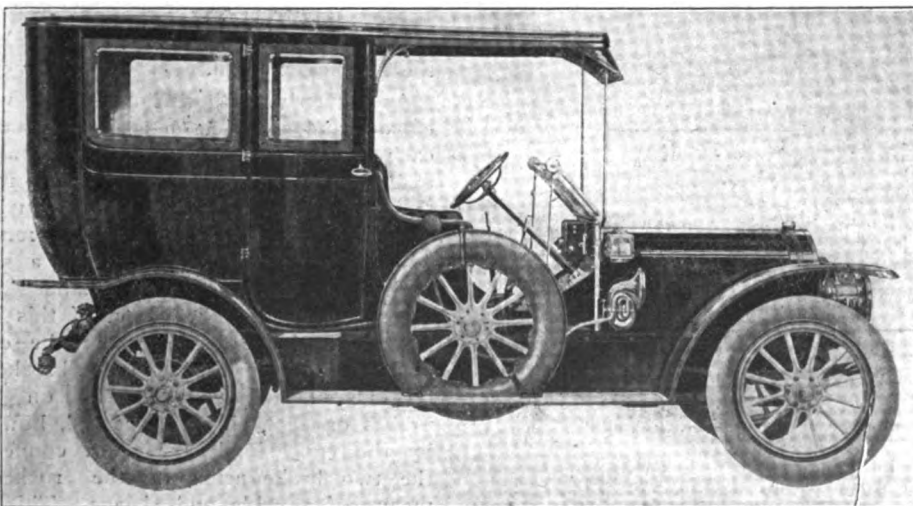
lost motion in the course of time, the throttle arm on the carburetter is fitted with a roller which bears against a cam on the actuating shaft. A spring holds the arm against the cam surface, and the result is that there is absolutely no chance of lost motion at any time. Similarly, the timing lever which is connected with the magneto is hooked to the contact breaker ring by means of a rather heavy yoke, which likewise is contrived with an eye to durability and the elimination of needless play. The accelerator pedal, which is mounted in a new way on the latest model, is arranged to open the throttle only to about half speed. The full acceleration is obtained only by the use of the hand lever.

The change speed gear, which is of the three-speed selective type, is fitted with a new style locking device, which takes the form of a double fingered yoke, thrown by the shifting rocker arm itself. It is important to note, moreover, that the transmission in its entirety now is produced in the Springfield Motor Car Co.'s own plant,

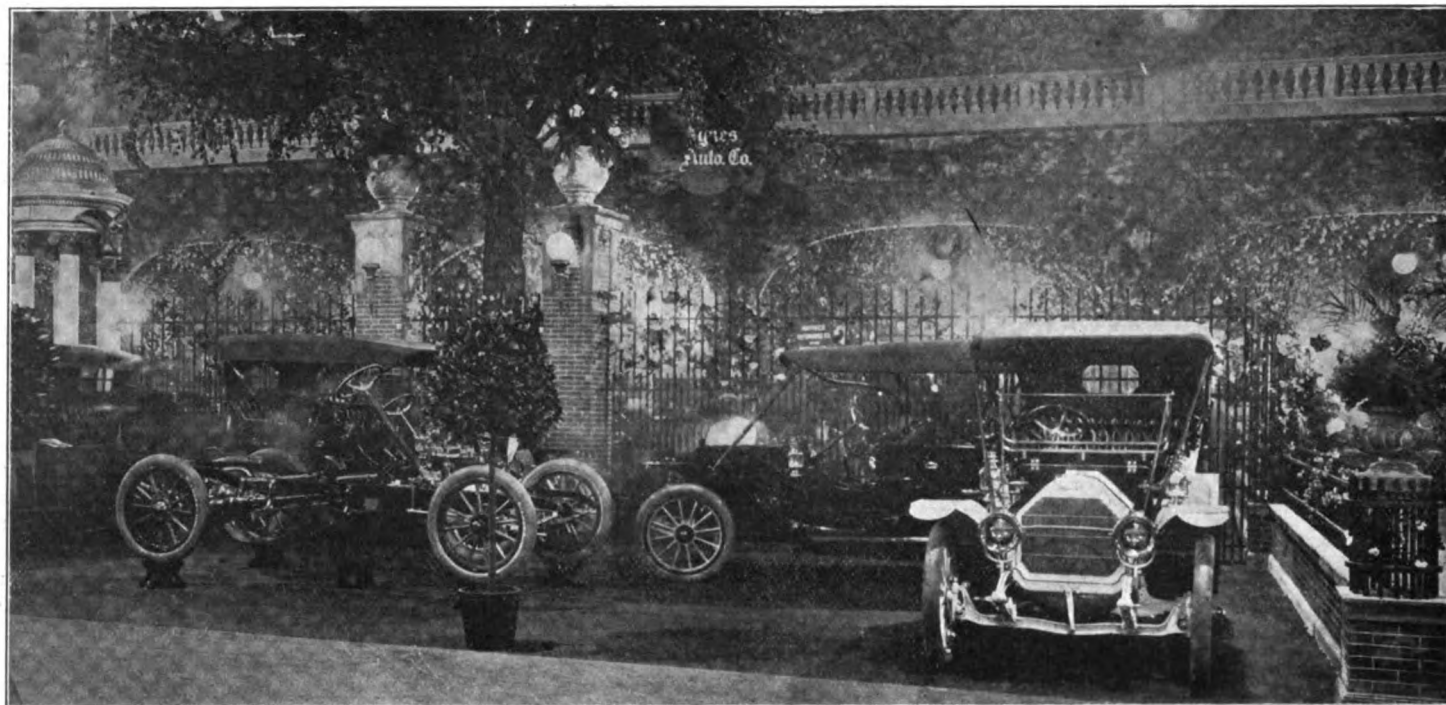
and that preparations are being made to increase the production to include axles, steering gears and other important parts. The machine is of the four-cylinder vertical type, with cylinders 5 by  $4\frac{3}{4}$  inches bore and stroke, and rated at 50 horsepower.

#### Selective Lever Action of the Fuller.

The Fuller appears for the first time in four-cylinder form, and with the general outward proportions of approved practice in every respect. It is one of the limited number of makes of car to be equipped with that delight of the non-mechanical user, the planetary change speed gear. The gear is mounted just back of the fly wheel and drives through an enclosed cardan shaft to the live rear axle. Some little originality is displayed in the arrangement of the mechanism by which it is controlled, in that a selective action is given to the single side lever. Ordinarily, movement of the lever serves merely to engage or release the emergency brakes, that system, which is enclosed and mounted on the rear wheels, being applied when the lever is drawn back. When the lever is pushed forward, while a thumb latch is pressed down, however, the high gear is engaged. Such is the arrange-



THE NEW RAMBLER LIMOUSINE



HAYNES MODELS IN PROMINENT ARRAY

ment that for an emergency stop it is possible to pull the lever straight through from the high speed to the braking positions, without touching the latch. Low speed forward and reverse movement are pedal controlled.

The new model is driven by a four-cylinder block type motor of 4 by 4 inch cylinder dimensions. It has 100 inch wheel base and 32 by  $4\frac{1}{2}$  inch tires. It is shown in roadster form, but also may be had with two passenger rear seat, or in full tonneau form. Full elliptic springs all around is a part of Fuller gospel. Therefore this exceptionally elastic combination is found on this, as on the other model shown, which is a continuation of a former type, and mounted on solid tires of 36 inch diameter.

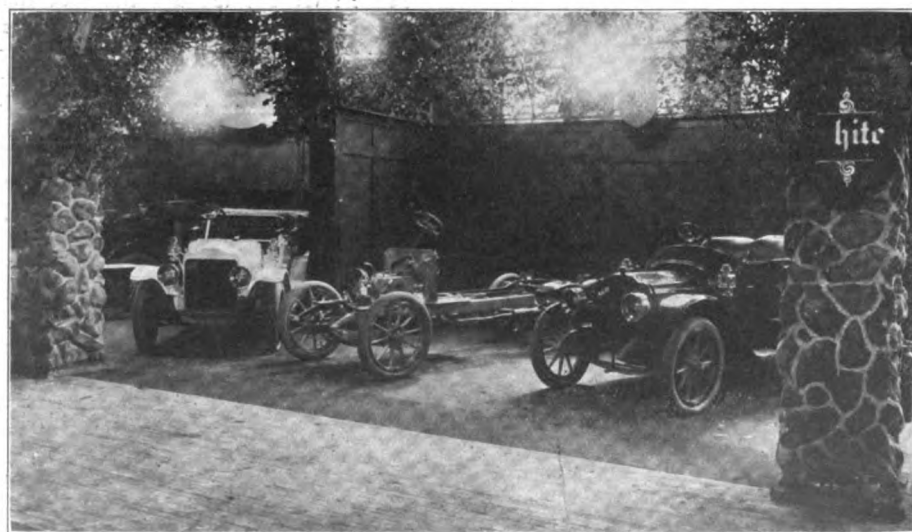
The latter is displayed in four-passenger style, with detachable rear seat, and is of

the buggy type in outward appearance, though of much more solid design and construction than the average motor buggy. It is equipped with an opposed engine of  $5\frac{1}{4}$  by 4 inch cylinder dimensions and rated at 20 horsepower, which is 2 horsepower greater than last year's machine, the cylinder sizes having been increased slightly. Transmission is by planetary change gear and torque tube rear axle arrangement, this form having superseded the unenclosed shaft with two cardan joints which was employed on the previous car of the same general form. Listed as a different model, the same mechanism in most respects also may be had with smaller wheels and pneumatic tires, while with the solid tire equipment it is produced in two different forms of commercial wagons suitable for light delivery purposes.

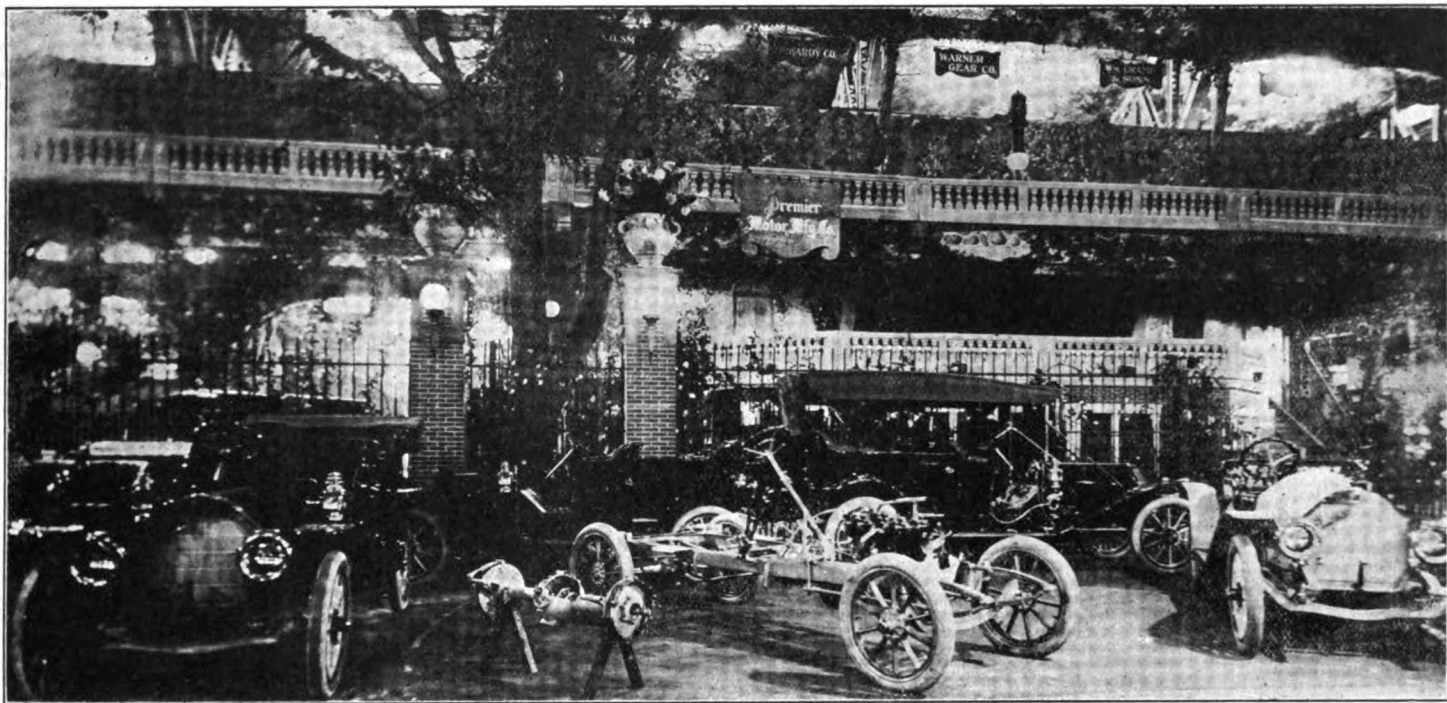
#### Brake Connection of the Diamond T.

One of Chicago's own products is the Diamond T, also it is a very natty little car, shown at the present exhibition in the form of a roadster with single rumble seat. It has a four-cylinder,  $4\frac{1}{4}$  by  $4\frac{1}{2}$  inch engine, which turns up 38 horsepower, and is of standard form, with cylinders cast in pairs and valves mounted on the right. A rearrangement of the timing gears and the use of brass cylinder caps which establish the water connections are new elements in its design, the latter contributing some distinctiveness to the appearance of the motor. Although the general makeup of the machine remains much the same as heretofore, a few alterations have been made, as for example, the relocation of the steering gear. This is now placed on top of the frame, where it affords a better arrangement for the steering connections and cleaner construction in general, and also gives opportunity to increase the rake of the steering column.

As formerly, both sets of brakes, which expand and contract on a single drum on each of the rear wheels, are interconnected and work together. In the previous model they were cross connected and equalized. Now the brakes on either side are connected in a much simpler way with a single rocker arm, and are not equalized from wheel to wheel. The object of this is to provide against disability of the entire braking system in the event of a breakdown on one side. Equalized pulls on both brakes on each side are secured, however, by the very simple device of connecting the two brake arms to the rocker by means of a cable and sheave. This provides against irregular application of the expanding and contracting shoes. Both



WHITE GASOLINE AND STEAM CAR EXHIBIT



WHERE PREMIER CARS ARE STAGED

the hand lever at the side of the car and the foot pedal apply the brakes, but neither of them is interconnected with the clutch.

#### Engine Changes of the Great Western.

While the tendency with some makers is to multiply the product by increasing the variety of models produced, with others the trend is toward as great a condensation in this respect as possible. The Great Western is a product of the latter order. Known as the Great Western "30," it is built in but a single chassis type, though variations in body design of course are possible. In general design it remains much the same as heretofore. The engine, which is one of its characteristic features, is the pioneer in a class which has become quite extensively used, and in which the exhaust valves are placed in the heads and the inlets in offset pockets, the arrangement of the exhaust ports and manifold being a distinguishing feature because of the way in which they affect the external formation of the cylinder castings.

Engine changes introduced into the new model include the enclosing of the two-to-one gear at the front of the crank case and a quarter-inch enlargement in the bore, among other things, the cylinder dimensions now are  $4\frac{1}{4}$  by 5 inches, bore and stroke. The engine oiling system is of the crank case constant flow type, with a pump mounted on the end of the cam shaft. Other chassis changes include the lengthening of the wheel base from 106 to 112 inches, the adoption of 34 by  $3\frac{1}{2}$  inch tires, double brakes on the rear wheels, three-quarter elliptic rear springs and enclosed shaft drive, in place of the unenclosed shaft and radius rod drive which formerly was used. The new body design adopted also

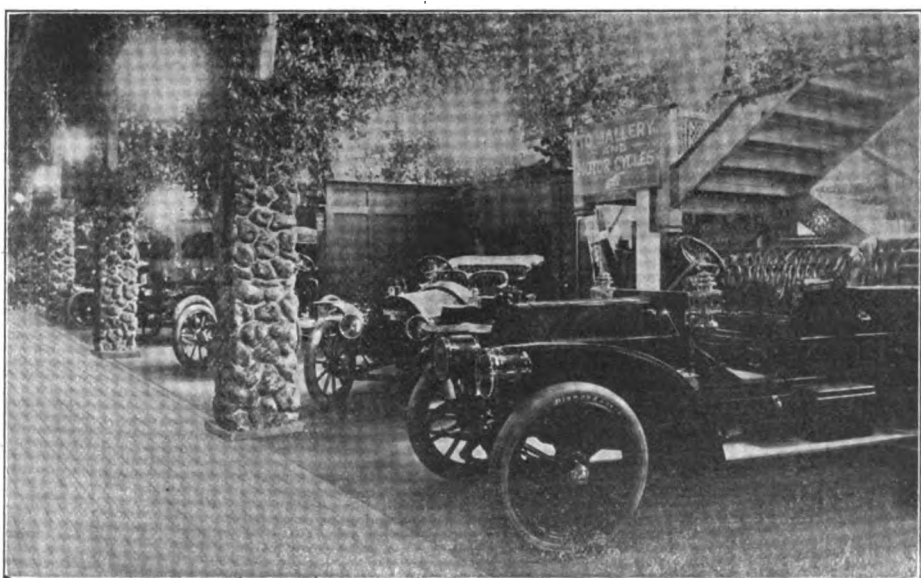
has considerably improved the external appearance of the machine.

#### New Four-Cylinder Rider-Lewis.

Rider-Lewis cars first were produced in six-cylinder form, with an original form of valve-in-the-head motor, axle mounted change speed gear and other commendable features. That model is reproduced at this time in its entirety, save for the use of 36 by 4 inch tires in place of the original equipment, which was 34 by 4 inches, and the adoption of the Bosch dual ignition system, instead of the less highly developed system of the same specialist, which immediately preceded it.

To the Rider-Lewis six has been added a new four-cylinder model designed along

much the same lines, but equipped with an original and pleasing form of block motor. The valve gear, which, as on the six, is of the overhead cam shaft type, is fully enclosed, as are all working parts about the new motor. Unlike many engines of its class, however, it is subdivided into several rather ingeniously cast units. The cylinder heads and mounting for the valve gear constitutes one unit, the cylinders another, the water outlet and the water inlet two others, and the crank case and sub base oiler a fifth and sixth. The crank case especially is noteworthy. It is of the plain barrel type, with supporting members separately cast, and forming stout bands surrounding the case. A very heavy yoke distinguishes the torque



MATHESON CARS IN IMPOSING DISPLAY



tube construction, while the rear of the chassis is suspended on full elliptic springs, in distinction from the three-quarter elliptic members, which are used on the six.

#### **New Locking Device in Dorris Gear.**

Few changes have been made in the construction of the Dorris, which has remained practically standardized for several years. Its characteristics of the more conspicuous order are the unusual method of suspending the change gear housing, which is rigidly attached to the engine base in unit power plant form, the method of clutch and gear shift interconnection and the system of brake equalization. The method of driving the speedometer from the transmission, instead of from one of the front wheels, which was adopted last year for the first time, is continued. But in the new cars the driving gear is entirely enclosed in the gear case, thereby being protected from the effects of dust and dirt, while the arrangement also affords better means for attaching the flexible shaft, as well as reducing the necessary length of shaft employed.

A new arrangement of the brackets supporting the rockers of the valve actuating mechanism eliminates the protruding elements which formerly were observable and affords a much neater and more effective method of mounting. The exhaust manifold has been rearranged and now gives a nearly straight line flow of gas to the muffler, the manifold also being of the enlarging, or funnel, type. The change gear mechanism itself remains the same as heretofore, but a new locking device has been introduced for retaining in the neutral position the sliding set which is out of use. It consists of a short horizontally swinging lever, pivoted at one end and engaged at the other by the rocker arm. As the rocker arm is moved across the car in the act of selection, the lever is swung from one extreme position to the other, a finger extending from its lower side thereby being made to engage one or the other of the two "pull-out" rods, to which the gear shifting forks are attached.

#### **Novel Battery Arrangement of R. A. C.**

New in name, and practically a new vehicle, the R. A. C., which is a direct and logical successor to the Ricketts Six, of a year ago, is shown in considerably improved form. The motor, which is of original design and construction, is of the valve-in-the head type, embodying the push rod and rocker method of actuation. Its cylinder dimensions are 4.3-16 by 4¼ inches, and its rating is 50 horsepower. One rather unusual feature is the use of demountable cylinder heads—this method of construction permitting a clean and inexpensive form of cylinder casting, and also affording ready means for cleaning the cylinders without tearing down the entire power unit.

Double ignition is a stock feature, and in connection with the battery system an unusual and commendable expedient is

found in the method of mounting the battery box. Instead of being carried on the running board as is common practice, it is mounted under the hood in an otherwise unutilized space just back of the radiator and on the right side of the engine. One of the several advantages claimed for this arrangement is that it greatly reduces the length of primary wiring required, thereby reducing the liability of breakages in the conductors.

The unit type of power plant is employed, the fly wheel and clutch being unenclosed. The latter is of the cone type with cork inserts, and so contrived that it can be dismounted without disturbing any other members in the transmission line. The change speed gear is of the constant mesh, sliding dog clutch type, with stepped tooth clutch jaws; it is so constructed that on the direct and high speed, no gears are in mesh. Final drive is through a propeller shaft and full floating rear axle of approved pattern. With the seven passenger body, no less than 142 inch wheel base is used, together with 36 by 4½ inch tires. The roadster and small tonneau types, however, have 133 inch wheel base and 36 by 4 inch tire equipment.

#### **Low Wheels on Zimmerman Cars.**

Formerly producers of high wheeled vehicles exclusively, the Zimmerman Manufacturing Co. during the last year has been fitting at least one of its models with low wheels and pneumatic tires. That model, which is equipped with a twin cylinder opposed engine, has been reduced \$50 in price, but at the same time has been improved in one or two details, as, for instance, in the adoption of a better form of spark coil than used to be employed, and in improved accessories.

The crowning achievement of the entire product, which includes, in addition to the 16-18 horsepower model made either in low or high wheeled form, a surrey of the same type mechanically, is the new four-cylinder car. This is a perfectly good looking car of 35 horsepower, having standard features, pneumatic tires of 34 by 3½ inch dimensions and a 4.5-16 by 5¼ inch motor, vertical, water cooled, and equipped with the Splitdorf magneto. It has semi-elliptic springs in front and double scroll rear equipment, 115 inch wheel base, and a complete equipment.

#### **Auburn in a Larger Model.**

The new Auburn car is an up-to-date and attractive machine of 35-40 horsepower, with 4½ by 5 inch cylinders, selective, shaft transmission and other approved elements. The transmission gear and multiple disc clutch are enclosed in a unit housing, independent of the motor but very neatly contrived to afford the proper support for the live parts and also protect them from the inroads of dust and dirt. In the standard touring model it has 116 inch wheel base, 36 by 3½ inch tires and 10 inch clearance.

The spring suspension is semi-elliptic in front and full elliptic in the rear. It is produced in touring, small tonneau and roadster models. The twin cylinder opposed engine car, which has been the standby of the Auburn Automobile Co. for a number of years, still is retained under stimulus of demand, as is estimated. Only the new four cylinder model is on exhibition at the show, however.

#### **New Richmond Model Water Cooled.**

Save that the cylinder bore has been increased by ¼ inch, the standard model of the Richmond car has been changed but little from its former construction, as far as regards the standard model. A radical change has been introduced into the line, however, by the adoption of a water cooled model. Heretofore, the Richmond has been air cooled exclusively. The new water cooled model is identical with the standard type, save in respect to the method of keeping down the cylinder temperatures. With a new crank case oiling system and a little longer wheel base, both models, which are made in runabout and touring form, exhibit the same general specifications as have ruled in previous types of the same vehicle.

#### **Larger Motor for New Austin Car.**

Austin cars are of the solid looking, quick acting type which has gone so far toward stimulating the demand for the big and luxurious sort of car many people just yearn to possess. They are built largely in six cylinder form, and for several years have been distinguished in the shows by the conspicuous chocolate and white color scheme which is an unmistakable and exclusive earmark of the maker. A new model shown, which is of 50-70 horsepower rating, has practically the same specifications as the older and standard 60 horsepower car, save for the motor, which is of 4½ by 6 inch dimensions.

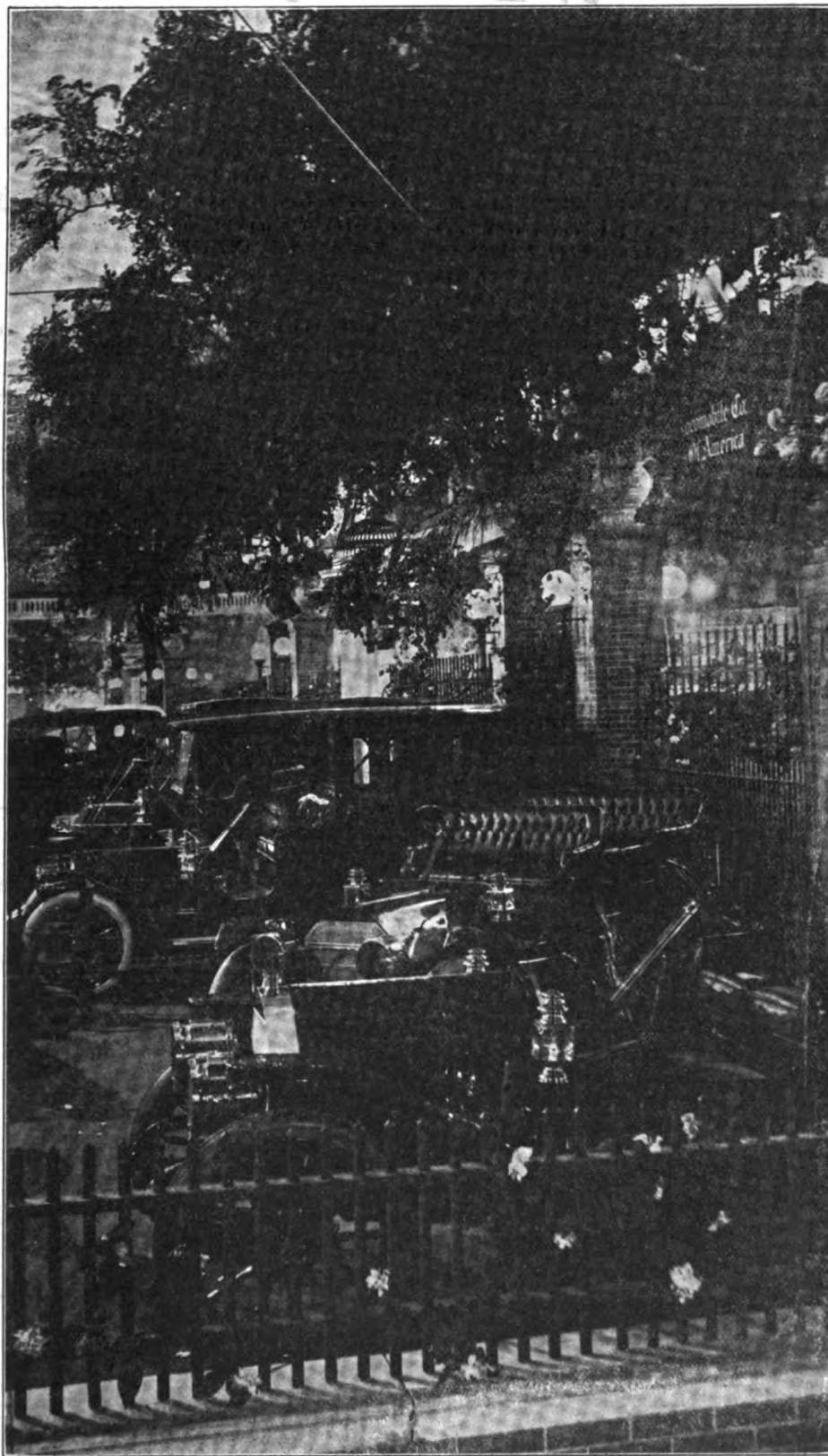
#### **Unique Claims of Berliet Axle.**

Berliet cars, exhibited for the first time this year in America, though familiar enough to those who attended last year's show, reveal to those who are anxious to study the foreign car transplanted much of mechanical interest and structural excellence. One evidence of the extreme pains which are taken to produce a satisfactory result is shown in the method of forming the live rear axle casing. As to the two end sections which form its principal portion, they are forged in the form of solid steel billets and afterward turned and bored to size. The process is expensive; but it leaves the metal close grained and uniform as to strength, and ensures extremely long life for the axle.

#### **Commercial Cars Hard to Find.**

No commercial vehicle section is to be found in the show, and the exhibits of such business vehicles as are on view are





THE LOCOMOBILE CO.'S EFFECTIVE DISPLAY

scattered widely. Counting the Clark and Monitor products, which already have been mentioned among the new vehicles, there are but eight representatives of the utility type. These are the Gramm-Logan, Rapid, Grabowsky, Brush, Schacht and McIntyre. The Schacht Manufacturing Co. shows a delivery body fitted to a chassis adapted

from its so-called "three purpose" car, the same as was shown at the Palace in New York. The Little Brush runabout, which, as is well known, has been made in straight delivery form, is shown mounting a capacious but not unwieldy box behind the seat, suitable for drummers' sample cases or for light merchandise. The McIntyre offering

is entirely new, insofar as show display is concerned.

#### **New Power Plant for McIntyre Cars.**

While the W. H. McIntyre Co. has produced commercial vehicles equipped with twin opposed engines before, the machine exhibited in the Armory is the first to be fitted with a four-cylinder vertical motor and further is distinguished by a demountable type of power plant. By removing four bolts, the motor, change gear, radiator and accessories may be withdrawn as a unit. The drive is by propeller shaft to a counter shaft, differential equipped, from which point the final transmission is by double side chains. As shown, the equipment is an open express body. The rated capacity is 2,000 pounds.

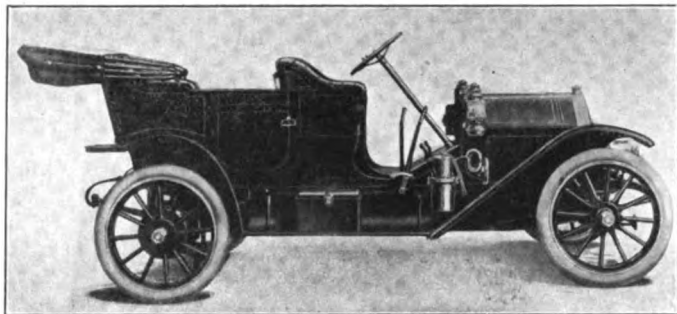
#### **Live Axle for Clark Wagon.**

The Clark delivery wagon is one of the two hitherto unexhibited commercial products, like its neighbor, indigenous to Chicago, and an unusually rugged looking machine of its class. Indeed, unlike the ordinary delivery vehicle, it is built more upon the lines of the average heavy duty truck, reduced in proportion to the load, of course, than after the manner of the modified pleasure car or reformed carriage. Aside from its substantial appearance in general, one of its most striking characteristics is the rear axle construction, which is of original design. That member is of the full floating type, with unusually massive torque tube enclosing the propeller shaft. The forward end of the tube is carried in a ball and socket joint on a cross frame member. But the traction load is absorbed by radius rods, which lie directly beneath the frame side members. Selective, three-speed change gear is another of its rather unusual features, this equipment being carried just back of the motor and in the center of the chassis or thereabouts.

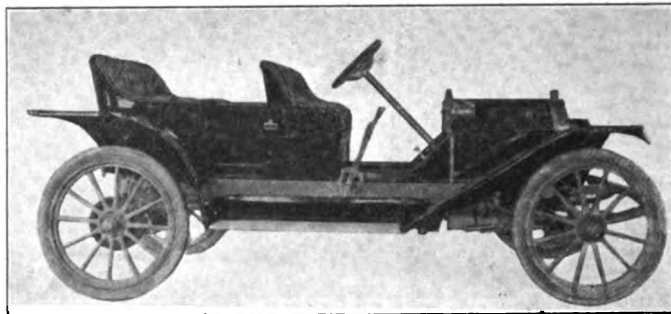
The engine equipment exhibited at the show is of the twin cylinder opposed type. The permanent power equipment, however, will be a four cylinder block motor of most modern form, built expressly for the Clark Co. Its cylinder dimensions are  $3\frac{3}{4}$  by 5 inches, and its rating 24 horsepower. It is of the block form, with valve stems and springs enclosed, and in replacing the engine shown, will not alter the construction of the car in any other material respects. As is customary with the more advanced class of commercial vehicle builders, the body design is left chiefly to the option of the purchaser. The vehicle shown is equipped with a light express body with standing top, which may be fitted with cross seats for purposes of passenger haulage, if desired.

#### **Twin Motor for the Monitor.**

Exhibited for the first time, though not a new product, the Monitor, which is a Chicago development of the medium capacity class, is built specifically for delivery work, yet is capable of standing much



THE NEW LION FROM MICHIGAN



THE GREAT WESTERN FROM INDIANA

heavier loads than the ordinary run of deliveries is supposed to call for. It is built upon sturdy lines, with 34 by 2½ by 3 inch solid tires front and rear, respectively, and semi and full elliptical springs under the front and rear. Its power plant is of the convenient and eminently suitable double opposed type, with planetary change gear and shaft drive. The engine is placed below the chassis line and under the driver's seat, and is mounted on a sub-frame, which runs far enough to the rear to carry a cross member which supports one of the two transmission bearings. The second transmission bearing is carried by a cross member of the main frame.

The method of mounting the rear axle is a little out of the ordinary from the mechanical standpoint, in that the radius rods, which are used to take up the driving stresses, instead of being carried parallel with the frame sills, are bent inward just in front of the axle and are attached in front to the cross frame member mentioned as carrying the rear transmission bearing, being coupled close together on either side of the driving shaft. In this way they fulfil much the same function as the diagonal braces which commonly are employed in connection with one rather popular form of torque tube construction. The cylinders are of 5 by 4 inch dimensions, and the rating 20 horsepower.

#### Sprinkling of Electrics at the Show.

Like the commercial products, electric vehicles, though well represented, are scattered throughout the show in such a way that it must be an ardent seeker indeed who finds them all the first time around. The list includes the names of such well known producers in this line as the Woods Motor Vehicle Co., Babcock Electric Carriage Co.

Baker Motor Vehicle Co., Studebaker Automobile Co., Columbia Motor Car Co.,

#### CENSUS OF THE SHOW.

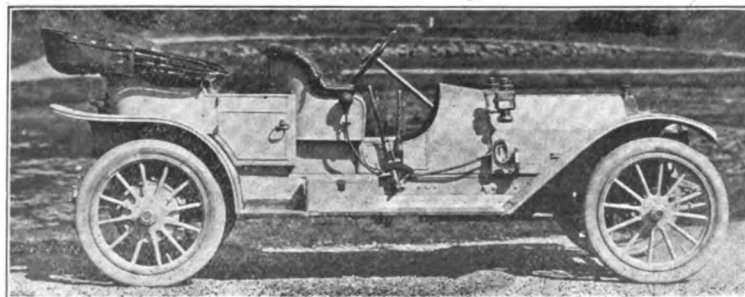
<b>Gasolene:</b>	
One cylinder .....	5
Two cylinder .....	16
Four cylinder .....	213
Six cylinder .....	35
<b>Total gasolene pleasure .....</b>	<b>269</b>
Water cooled .....	258
Air cooled .....	11
<b>Vertical .....</b>	<b>257</b>
<b>Horizontal .....</b>	<b>12</b>
<b>Four cycle .....</b>	<b>262</b>
<b>Two cycle .....</b>	<b>7</b>
<b>Steam .....</b>	<b>2</b>
<b>Electric .....</b>	<b>33</b>
<b>Total pleasure .....</b>	<b>304</b>
Touring cars .....	159
Enclosed type .....	60
Runabouts .....	57
Roadsters .....	15
Torpedos .....	13
<b>Chassis:</b>	
Gasolene .....	65
Steam .....	2
Electric .....	1
<b>Total chassis .....</b>	<b>68</b>
<b>Total cars and chassis .....</b>	<b>372</b>

Rauch & Lang Carriage Co., Columbus Buggy Co., Anderson Carriage Co. and the Waverley Co.

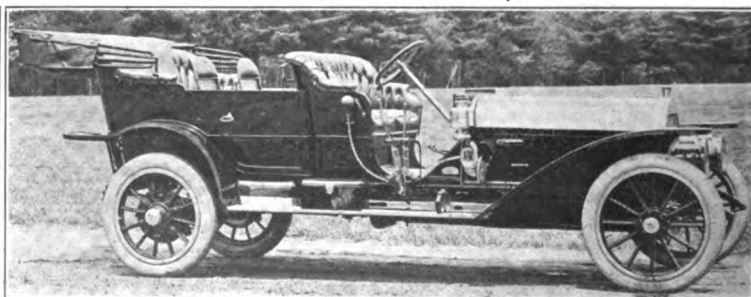
#### Buggy Type Dwindles.

One time sufficiently important, numerically speaking, to warrant treatment as an individual class of vehicles, the high wheeled motor buggy has dwindled well-nigh to the vanishing point. Of the several manufacturers represented on the Coliseum and Armory stands who formerly produced that class of machine, or who now produce it, it is a remarkable fact that none exhibit the true high wheeled vehicle. This statement may be explained by saying that of the very few who exhibit pleasure cars fitted with solid tires, none of those observed employ tires of more than 37 inches greater diameter. Those who do produce vehicles of this class express their faith in it, and predict a long-continued demand for it in limited quantities. But their position is explained by the admitted expectation that the bulk of future trade will be with the more "regular" type of machine.

Of those showing solid tire equipped vehicles, there are the Zimmerman Manufacturing Co., and Fuller Buggy Co., with 36 and 37 inch wheels, respectively, and several of the makers of commercials. One apparent convert to the large wheel idea is the Metz. Since the New York show this little machine has been placed on 33 inch wheels, at least optionally, by way of concession to the supposed western inclination, it is to be presumed. But close inspection reveals the fact that it is shod with 2½ inch pneumatic tires, and therefore that, in proportion to its weight, this equipment places it in about the same class as some of the larger cars shown upstairs. The pioneer builder in the high wheeled line, having run upon a financial shoal recently, did not exhibit, although listed in the preliminary official roster.



STEVENS-DURYEA SMALL TONNEAU



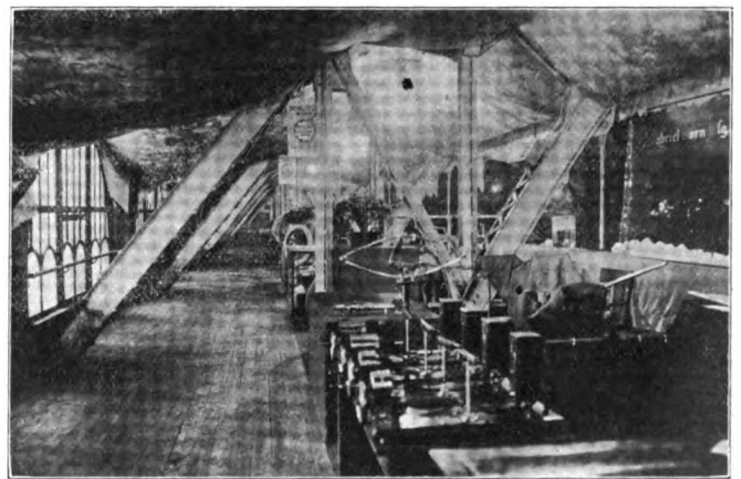
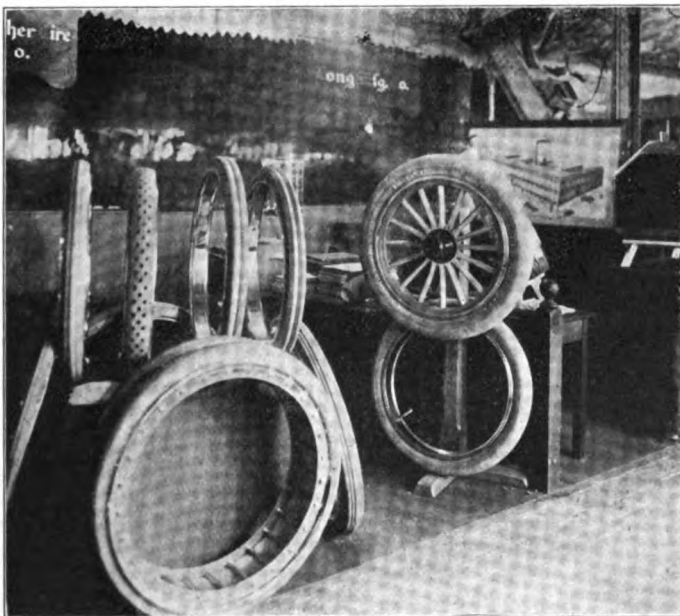
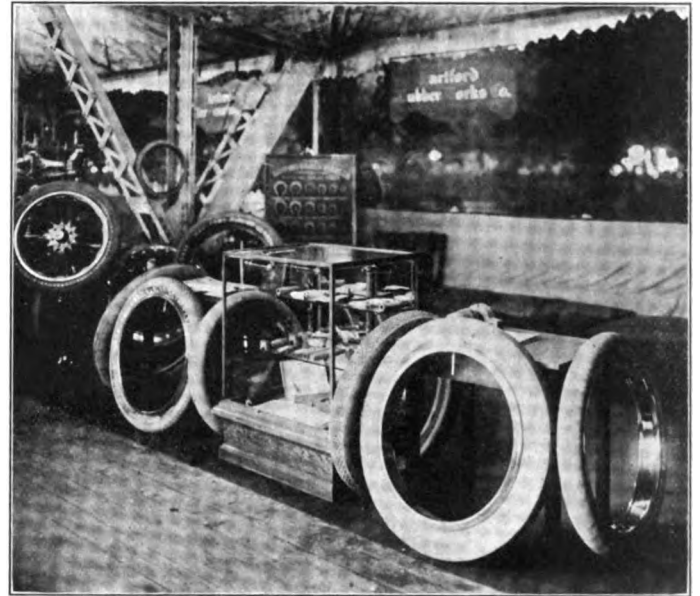
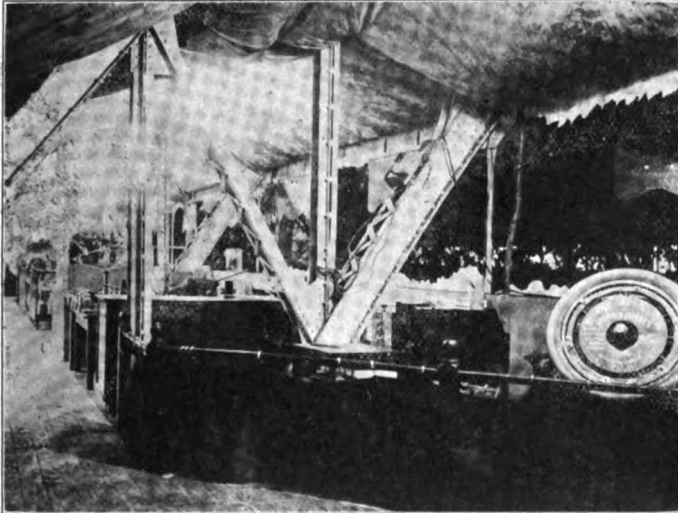
STEVENS-DURYEA TOURING CAR

## "Old Stagers" Crowd Newcomers in the Accessory Section.

Either it is the case that new exhibitors of accessories are not developing so rapidly and changingly in the Chicago show's sphere of influence as in the past, or the giving over of the Coliseum basement to cars exclusively has, so reduced the space available for the new accessories as to

netic circuit, and the construction allows the doing away with all moving wires, brushes, commutators and the like. Instead of rotating in a vertical plane, as provided for in most magnetos, the inductor rotates in a horizontal plane, and it consists only of a piece of laminated steel on a shaft.

rotating inductor, so that by removing the distributor cap the timer blade and distributor are in full view and of easy access. The current is transformed to high tension by means of an outside coil, which may be mounted on the dash or in some less conspicuous place. Advance or retard of the



VARIED ACCESSORIES DISPLAYED AMONG THE GIRDERS IN THE COLISEUM GALLERY

leave but a comparatively small list of them to vie with the veterans which previously were staged at New York. At any rate it is only here and there that space is found for an accessory concern making its this year's initial exhibit in the Windy City.

Most radical of the products to make their first bow is the Webster-Milton high tension magneto, made by the Webster Electric Co., of Tiffin, O., and exhibited by the Excelsior Supply Co., of Chicago. At no time is there an open gap in the mag-

Straight bar magnets of tungsten steel are employed, a group of three on each side, and two sets connected by laminated iron pole pieces to form a double horseshoe lying horizontally.

The inductor moves in the center of this arrangement, disturbing the magnetic field sufficiently to bend or wave the lines of force that cut the primary windings around the connecting pole pieces which link the two groups of bar magnets. The breaker and the distributor are mounted on top of the magneto, above the vertical shaft of the

spark is obtained by partially revolving the whole magneto horizontally, the entire circumference of the circle being available, and the spark at all times is at the peak of the wave and consequently at its greatest efficiency. A very full spark at low speed is made possible, without an unduly heavy discharge at high speed.

Of the other new products to be shown the greater proportion are in the nature of parts, including motors, differentials, carburetters, radiators and the like. Several types of Long's radiators are staged, these

being made in Chicago by the Long Mfg. Co. Although in the types intended for touring cars and cabs a cellular appearance is given, the tubes are vertical, thin rectangular section, and have but one seam, which is at the rear of the radiator. The intermediate horizontal fins serve merely for extended radiating surface. The company also shows "spiral tube" radiators, of a construction to take the intense strain and vibration which are met with on commercial vehicles, where it is necessary to have a radiator more flexible and durable than is used on the ordinary pleasure car, where such stresses do not obtain.

"Anything in brass" is the slogan associated with the offerings of the Turner Brass Works, of Sycamore, Ill., which include the Harroun bumper, robe rails, tire holders, small pipe couplings, a double action tire pump, bronze radiator signs, soldering furnaces, blow torches, tank gauges and mufflers.

A new type of Continental motor is disclosed by the Continental Motor Mfg. Co., of Muskegon, Mich. It is of 44 horsepower, by A. L. A. M. rating, and is designed for high duty service on large cars and on trucks. Differing from all the other types of Continentals, the motor has T-head cylinders. Equipment is provided for dual ignition and the motor complete with magnetos weighs but 750 pounds. Numerous other types are shown, including one made to Chalmers specifications.

Close-coupled, condensed lens headlights and "rotary action" wind shields are presented by the Overland Sales Co., Chicago, Ill. The concern is not related in any way to the interests who make the Overland car, but is a distributor for Hopewell tire jackets, for the Detroit Steering Wheel & Wind Shield Co.'s products; Finderson & Kropf Mfg. Co., horns, robe rails and foot rests; Fowler Lamp Co., electric lamps; Shawber & Co., jacks; Milwaukee Auto Engine & Supply Co., timers; Vivax storage batteries, and the Chicago Lamp Co.

Several neat forms of automobile tops are displayed by the Gates-Osborn Mfg. Co., of Marshalltown, Iowa, a new concern, which has been running only a few months, but which purposes to capture a portion of the western trade.

Pat Hussey is by all odds the "piece de resistance" in the space occupied by Fulton & Zinke, who since Hussey's joining their forces are known as the F-Z-H Auto Parts Co., of Chicago, his initial completing the hyphenated trio. As a background, he has Falls motors, Lockport radiators, Victor lamps, Hussey lamp brackets, the Cotta transmission and other lines of similar character for which the company acts as distributor.

By the addition of a second adjusting device the Universal tire protector or removable tire tread, made by the Universal Tire Protector Co., of Angola, Ind., has been further improved and perfected and is non-detachable by service strain. The com-

pany also shows the Universal emergency tire sleeve, of the armored type and equipped with a quick acting anchorage device.

Originality of design is revealed in the "A. H." differential, put out by the Ross Gear & Tool Co., of Lafayette, Ind. The principal feature of the construction is the web shape of the housing, the body being a single casting. Pinions are dropped into pockets and short pins put through and interlocked by means of bolts which hold the assembly. The only stress on the pins carrying the differential pinions is that imposed by the pinions themselves, and it is equally distributed on both ends of the pins. The pinions turn on bronze bushings, instead of on the hardened pins. The differential is not split in the middle and there is only one joint between the driving wheel and the pins which drive the pinions. A new steering gear has been brought out from the same source for use on medium touring cars and light commercial vehicles, while no material alterations have been made in the time-tried types for 3 and 5 ton trucks.

Fertile in carburettor ingenuity, the Holley Brothers Co., of Detroit, Mich., puts on view a new type, having double jet and individual adjustment for the jets. The central or primary jet is purposely made of such small capacity that at increasing speeds it tends to "run lean" instead of increasingly rich. An augmentation of the suction, however, pulls open an auxiliary valve and throws the second jet into action. Variations in spring action do not affect the quality of the mixture, it is said, because the auxiliary handles a mixture, not a component of a mixture. There is also shown a means for "dashboard adjustment," to suit changes in atmospheric conditions, such as rain, fog or snow, which should be of considerable advantage to the all-weather tourist.

Telescoping stay rods, with thumb-nut pinch screw to lock, provide a large folding range to the tension type wind shield staged by the Twentieth Century Motor Car Supply Co., of South Bend, Ind. The shield can be placed at almost any angle or may be folded over the hood. Another shield, quite novel in construction, is intended for "torpedo" cars. It has but one sash, may be set at any angle, and will fold over the dash.

Combining demountable and quick detachable features, the Security demountable rim is brought out by the Security Demountable Rim Co., of Chicago, Ill., a twin of the Triple Action Spring Co. Five studs run through the felloe, and on them are as many eccentric discs which have flattened surfaces on the side furthest from the center of rotation. The rim and band are tapered toward the back and front of the wheel, respectively, and when turned into locking position the discs engage an in-turned locking flange on the inside of the rim, at the same time seating in the bot-

tom or groove of which the flange forms one side. The slight springing of the rim which is involved in turning the discs off the flats and around to release position is depended upon to clear of rust the joint between the rim and band. Creeping is prevented by two dowel pins, one on either side of the valve. No special valve is required, and either clincher or Q. D. tires may be used.

Transmissions and side levers constitute the chief display of the Auto Parts Mfg. Co., of Muncie, Ind., while the Fellwock Auto & Mfg. Co., of Evansville, Ind., and the Chicago Wind Shield Co., of Chicago, have shields in a plentitude of models. S. Breakstone, the Chicago agent for the Hagstrom Bros. Mfg. Co., of Lindsay, Kan., gives representation to Hagstrom inside tire sleeves and spark plugs.

Of exhibitors who, although previously appearing at New York, waited for Chicago to spring a surprise, the Atwater Kent Mfg. Works, of Philadelphia, is a more or less lonely example, its new offering being the Monoplex electric horn, operating on the vibrator principle. The "old stagers," however, make a phalanx of familiar names and goods which is very impressive. The tires include among others the Diamond, Morgan & Wright, Hartford, Michelin, G & J, Continental, Goodyear, Ajax, Firestone, Empire, Federal and Thermoid, while the tire specialties are represented by Fox chains, Woodworth treads, Gilbert tire jackets, Shaler vulcanizers, Weed chains and a long list of similar products.

In the ignition field the Remy, Heinze, Eisemann, Splitdorf, Connecticut and Mosler devices are conspicuous, while Solar and Gray & Davis lamps lend their strength to the lighting equipment display. The parts and materials are strongly in evidence, the list comprising such offerings as Cramp castings, A. O. Smith parts, Standard Roller Bearing axles, Warner Gear Co. gears and components, Excelsior motors, Hayes radiators and fittings, Muncie equipment, Raybestos, Raymond brakes, Thermoid, Warner Mfg. Co. transmission gears, Timken bearings and axles, and a volume from lesser known makers. Warner, Jones and Stewart & Clark lead the speedometer contingent, while Klaxon horns, Truffault-Hartford Shock absorbers, Gabriel horns, Foster shock absorbers, Bowser tanks, Jericho horns, Sager springs, Peerless shock absorbers and similar devices also make their appeal more directly to owner than to car manufacturers.

The list of exhibitors and their products is as follows:

#### AUTOMOBILES. Gasoline Pleasure Cars.

\*American Locomotive Co., New York City—Alco.

\*American Motor Car Co., Indianapolis, Ind.—American.

\*Apperson Bros. Automobile Co., Kokomo, Ind.—Apperson.

\*Atlas Motor Car Co., Springfield, Mass.—Atlas.



Auburn Automobile Co., Auburn, Ind.—Auburn.  
 Austin Automobile Co., Grand Rapids, Mich.—Austin.  
 \*Bartholomew Co., Peoria, Ill.—Glide.  
 Berliet Import Co., Chicago, Ill.—Berliet.  
 \*Black Mfg. Co., Chicago, Ill.—Black-Crow.  
 \*Brush Runabout Co., Detroit, Mich.—Brush.  
 \*Buckeye Mfg. Co., Anderson, Ind.—Lambert.  
 \*Buick Motor Co., Flint, Mich.—Buick.  
 \*Cadillac Motor Car Co., Detroit, Mich.—Cadillac.  
 \*Cameron Car Co., Beverly, Mass.—Cameron.  
 \*Cartercar Co., Pontiac, Mich.—Cartercar.  
 \*Chadwick Engineering Works, Pottstown, Pa.—Chadwick.  
 \*Chalmers-Detroit Motor Co., Detroit, Mich.—Chalmers-Detroit.  
 \*Columbia Motor Car Co., Hartford, Conn.—Columbia.  
 \*Corbin Motor Vehicle Corp., New Britain, Conn.—Corbin.  
 \*Dayton Motor Car Co., Dayton, Ohio—Stoddard-Dayton.  
 Diamond Automobile Co., South Bend, Ind.—R. A. C.  
 Diamond T Automobile Co., Chicago, Ill.—Diamond T.  
 Dorris Motor Car Co., St. Louis, Mo.—Dorris.  
 Elkhart Motor Car Co., Elkhart, Ind.—Sterling.  
 \*Elmore Motor Car Co., Clyde, Ohio—Elmore.  
 \*Everitt-Metzger-Flanders Co., Detroit, Mich.—E-M-F. "30" and Flanders "20."  
 \*Fal Motor Co., Chicago, Ill.—Fal-car.  
 \*Fiat Automobile Co., New York City—Fiat.  
 \*Franklin Mfg. Co., H. H., Syracuse, N. Y.—Franklin.  
 Fuller Buggy Co., Jackson, Mich.—Fuller.  
 Great Western Automobile Co., Peru, Ind.—Great Western.  
 \*Haynes Automobile Co., Kokomo, Ind.—Haynes.  
 \*Henderson Motor Sales Co., Indianapolis, Ind.—Cole "30."  
 \*Hudson Motor Car Co., Detroit, Mich.—Hudson.  
 \*Hupp Motor Car Co., Detroit, Mich.—Hupmobile.  
 \*Inter-State Automobile Co., Muncie, Ind.—Inter-State.  
 \*Jackson Automobile Co., Jackson, Mich.—Jackson.  
 Jeffery & Co., T. B., Kenosha, Wis.—Rambler.  
 Kimball & Co., C. P., Chicago, Ill.—Bodies (mounted).  
 \*Kissel Motor Car Co., Hartford, Wis.—Kisselkar.  
 \*Knox Automobile Co., Springfield, Mass.—Knox.  
 Lexington Motor Car Co., Inc., Lexington, Ky.—Lexington.  
 Lion Motor Car Co., Adrian, Mich.—Lion.  
 \*Locomobile Co. of America, Bridgeport, Conn.—Locomobile.  
 \*Lozier Motor Co., New York City—Lozier.  
 \*McIntyre Co., W. H., Auburn, Ind.—McIntyre.  
 \*Matheson Motor Car Co., Wilkes-Barre, Pa.—Matheson.  
 \*Maxwell-Briscoe Motor Co., Tarrytown, N. Y.—Maxwell.  
 \*Metz Co., Waltham, Mass.—Metz.  
 \*Metzger Motor Car Co., Detroit, Mich.—Everitt "30."  
 \*Midland Motor Co., Moline, Ill.—Midland.

\*Mitchell-Lewis Motor Co., Racine, Wis.—Mitchell.  
 \*Moline Automobile Co., East Moline, Ill.—Moline.  
 \*Moon Motor Car Co., St. Louis, Mo.—Moon.  
 \*Mora Motor Car Co., Newark, N. Y.—Mora.  
 \*National Motor Vehicle Co., Indianapolis, Ind.—National.  
 \*Nordyke & Marmon Co., Indianapolis, Ind.—Marmon.  
 \*Oakland Motor Car Co., Pontiac, Mich.—Oakland.  
 \*Ohio Motor Car Co., South Cincinnati, Ohio—Ohio.  
 \*Olds Motor Works, Lansing, Mich.—Oldsmobile.  
 \*Packard Motor Car Co., Detroit, Mich.—Packard.  
 \*Palais de l'Automobile, New York City—Imported cars.  
 \*Peerless Motor Car Co., Cleveland Ohio—Peerless.  
 \*Pennsylvania Auto Motor Co., Bryn Mawr, Pa.—Pennsylvania.  
 \*Pierce-Arrow Motor Car Co., Buffalo, N. Y.—Pierce-Arrow.  
 Pierce Motor Co., Racine, Wis.—Pierce-Racine.  
 \*Pope Mfg. Co., Hartford, Conn.—Pope-Hartford.  
 \*Premier Motor Mfg. Co., Indianapolis, Ind.—Premier.  
 \*Pullman Motor Car Co., York, Pa.—Pullman.  
 \*Regal Motor Car Co., Detroit, Mich.—Regal.  
 \*Renault Freres Selling Branch, Inc., New York City—Renault.  
 \*Reo Motor Car Co., Lansing, Mich.—Reo.  
 Rider-Lewis Motor Car Co., Anderson, Ind.—Rider-Lewis.  
 \*Royal Tourist Car Co., Cleveland, Ohio—Royal Tourist.  
 Schacht Mfg. Co., Cincinnati, Ohio—Schacht.  
 \*Selden Motor Vehicle Co., Rochester, N. Y.—Selden.  
 \*Simplex Motor Car Co., Mishawaka, Ind.—American Simplex.  
 \*Speedwell Motor Car Co., Dayton, Ohio—Speedwell.  
 Springfield Motor Car Co., Springfield, Ill.—Springfield.  
 \*Staver Carriage Co., Chicago, Ill.—Staver.  
 \*Stearns Co., F. B., Cleveland, Ohio—Stearns.  
 \*Stevens-Duryea Co., Chicopee Falls, Mass.—Stevens-Duryea.  
 \*Streator Motor Car Co., Streator, Ill.—Halladay.  
 \*Studebaker Automobile Co., South Bend, Ind.—Studebaker-Garford.  
 \*Thomas Motor Co., E. R., Buffalo, N. Y.—Thomas.  
 Wayne Works, Richmond, Ind.—Richmond.  
 \*White Co., The, Cleveland, Ohio—White; steam and gasolene.  
 \*Willys-Overland Co., Toledo, Ohio—Overland and Marion.  
 \*Winton Motor Carriage Co., Cleveland, Ohio—Winton.  
 Zimmerman Mfg. Co., Auburn, Ind.—Zimmerman.

#### Electric Cars.

\*Anderson Carriage Co., Detroit, Mich.—Detroit.  
 \*Babcock Electric Carriage Co., Buffalo, N. Y.—Babcock.  
 \*Baker Motor Vehicle Co., Cleveland, Ohio—Baker.  
 \*Columbia Motor Car Co., Hartford, Conn.—Columbia.

\*Columbus Buggy Co., Columbus, Ohio—Firestone-Columbus.  
 \*Rauch & Lang Carriage Co., Cleveland, Ohio—R. & L.  
 \*Studebaker Automobile Co., South Bend, Ind.—Studebaker.  
 \*Waverley Co., The, Indianapolis, Ind.—Waverley.  
 \*Woods Motor Vehicle Co., Chicago, Ill.—Woods.

#### Commercial Vehicles.

Clark & Co., A. C., Grand Crossing, Chicago, Ill.—Clark delivery.  
 \*Grabowsky Power Wagon Co., Detroit, Mich.—Grabowsky.  
 \*Gramm-Logan Motor Car Co., Bowling Green, Ohio—Gramm-Logan.  
 \*McIntyre Co., W. H., Auburn, Ind.—McIntyre.  
 Monitor Automobile Works, Chicago, Ill.—Monitor light truck.  
 \*Rapid Motor Vehicle Co., Pontiac, Mich.—Rapid.  
 \*Schacht Mfg. Co., Cincinnati, Ohio—Schacht.

#### ACCESSORIES.

\*Ajax-Grieb Rubber Co., New York City—Ajax tires.  
 \*Ajax Trunk and Sample Case Co., New York City—Leather trunks and tire cases.  
 \*American Electrical Novelty & Mfg. Co., New York City—Ever Ready batteries, lamps and tire specialties.  
 \*Apple Electric Co., Dayton, Ohio—Ignition equipment.  
 \*Atwater-Kent Mfg. Works, Philadelphia, Pa.—Igniters and timers.  
 \*Auburn Auto Pump Co., Auburn, N. Y.—Tire pumps.  
 \*Auto Improvement Co., New York City—Self-starting devices and motor specialties.  
 Auto Parts Mfg. Co., Muncie, Ind.—Parts.  
 \*Badger Brass Mfg. Co., Kenosha, Wis.—Solar lamps and acetylene generators.  
 \*Baldwin Chain & Mfg. Co., Worcester, Mass.—Baldwin chains and recoil checks.  
 \*Batavia Rubber Co., Batavia, N. Y.—Batavia tires.  
 \*Benford, E. M., Mount Vernon, N. Y.—Spark plugs.  
 \*Bosch Magneto Co., New York City—Bosch magnetos.  
 \*Breakstone, S., Chicago, Ill. (14)—Hagstrom spark plugs and specialties.  
 \*Bowser & Co., S. F., Fort Wayne, Ind.—Gasolene and oil storage systems.  
 \*Breeze Carburetter Co., Newark, N. J.—Carburetters.  
 \*Briggs & Stratton, Milwaukee, Wis.—B. & S. igniters.  
 \*Brown-Lipe Gear Co., Syracuse, N. Y.—Transmission, differential and steering gears.  
 \*Byrne, Kingston & Co., Kokomo, Ind.—Kingston carburetters, mufflers and pumps.  
 Chicago Wind Shield Co., Chicago, Ill.—Tops and wind shields.  
 \*Consolidated Rubber Tire Co., New York City—Tires.  
 \*Continental Caoutchouc Co., New York City—Continental tires and demountable rims.  
 Continental Motor Mfg. Co., Muskegon, Mich.—Continental motors.  
 \*Cook's Sons, Adam, New York City—Lubricants and lubricators.  
 \*Cook's Standard Tool Co., Kalamazoo, Mich.—Standard jacks.  
 \*Cowles & Co., C., New Haven, Conn.—Monograms.  
 \*Cramp & Sons, Wm., Ship & Engine Building Co., Philadelphia, Pa.—Bronze and bearing metal castings.  
 \*Dayton Rubber Mfg. Co., Dayton, Ohio—Airless tires.

\*Detroit Motor Car Supply Co., Detroit, Mich.—Bodies and tops.

\*Diamond Chain and Mfg. Co., Indianapolis, Ind.—Chains and sprockets.

\*Diamond Rubber Co., Akron, Ohio—Diamond tires.

\*Dietz Co., R. E., New York City—Lamps.

\*Dixon Crucible Co., Joseph. Jersey City, N. J.—Graphite and lubricants.

\*Driggs-Seabury Ordnance Corp., Sharon, Pa.—Crank shafts and frames.

\*Duff Mfg. Co., Pittsburg, Pa.—Barrett jacks.

\*Edmunds & Jones Mfg. Co., Detroit, Mich.—Lamps and specialties.

\*Electric Storage Battery Co., Philadelphia, Pa.—Accumulators.

\*Elite Mfg. Co., Ashland, Ohio—Jacks and pumps.

\*Empire Tire Co., Trenton, N. J.—Empire tires, brake lining and steering wheel grips.

\*Excelsior Motor and Mfg. Co., Chicago, Ill.—Motors.

\*Excelsior Supply Co., Chicago, Ill.—Supplies and accessories.

\*Federal Rubber Co., Milwaukee, Wis.—Federal tires.

\*Fellwock Auto and Mfg. Co., Evansville, Ind.—Bodies, wind shields and tops.

\*Firestone Tire & Rubber Co., Akron, Ohio—Firestone pneumatic and solid tires.

\*Fisk Rubber Co., Chicopee Falls, Mass.—Fisk tires.

\*Flentje, Ernst, Cambridge, Mass.—Shock absorbers.

\*Fox Metallic Tire Belt Co., Brooklyn, N. Y.—Non-skid chains.

\*Franklin Mfg. Co., H. H., Syracuse, N. Y.—Die castings.

\*Fulton-Zinke Co., Chicago, Ill.—Gasolene motors, parts and supplies.

\*G & J Tire Co., Indianapolis, Ind.—G & J tires.

\*Gabriel Horn Mfg. Co., Cleveland, Ohio—Gabriel exhaust horns and Foster shock absorbers.

\*Garage Equipment Co., Milwaukee, Wis.—Wind shields, vulcanizers and bumpers.

\*Gasolene Motor Efficiency Co., Jersey City, N. J.—Carburettor attachment.

\*Gates-Osborn Mfg. Co., Marshalltown, Ia.—Tops.

\*Gemmer Mfg. Co., Detroit, Mich.—Steering gears and parts.

\*Gilbert Mfg. Co., New Haven, Conn.—Tire jackets, lamp covers and rubber cloth specialties.

\*Globe Machine and Stamping Co., Cleveland, Ohio—Pressed metal work.

\*Goodrich Co., B. F., Akron, Ohio—Goodrich tires.

\*Goodyear Tire and Rubber Co., Akron, Ohio—Goodyear tires and compressed air inflators.

\*Gray & Davis, Amesbury, Mass.—Lamps.

\*Ham Mfg. Co., C. T., Rochester, N. Y.—Lamps.

\*Hancock Mfg. Co., Charlotte, Mich.—Lubricators.

\*Hardy Co., R. E., Chicago, Ill.—Starite spark plugs.

\*Harris Oil Co., A. W., Providence, R. I.—Lubricants.

\*Hartford Rubber Works Co., Hartford, Conn.—Hartford tires.

\*Hartford Suspension Co., Jersey City, N. J.—Truffault-Hartford shock absorbers.

\*Havoline Oil Co., New York City—Lubricants.

\*Hayes Mfg. Co., Detroit, Mich.—Radiators, hoods and fenders.

\*Heinze Electric Co., Lowell, Mass.—Magnetos, coils and ignition equipment.

\*Herz & Co., New York City—Magnetos and ignition devices.

High Frequency Ignition Co., Los Angeles, Cal.—Ignition systems.

Holley Bros., Detroit, Mich.—Carburetters and magnetos.

Imperial Brass Mfg. Co., Chicago, Ill.—Brass fittings.

\*Kokomo Electric Co., Kokomo, Ind.—Kingston spark coils, plugs and timers.

\*Lavalette & Co., New York City—Magnetos and ignition specialties.

\*Leather Tire Goods Co., Niagara Falls, N. Y.—Adjustable tire treads and non-skid bands.

\*Link-Belt Co., Philadelphia, Pa.—Renold chains.

Long Mfg. Co., Chicago, Ill.—Radiators.

\*Lovell-McConnell Mfg. Co., Newark, N. J.—Klaxon horns.

\*McCord Mfg. Co., Detroit, Mich.—Radiators, lubricators and fans.

\*Mesinger Mfg. Co., H. & F., New York City—Rebound checks and magneto covers.

\*Michelin Tire Co., Milltown, N. J.—Michelin tires and accessories.

\*Morgan & Wright, Detroit, Mich.—Morgan & Wright tires.

\*Morrison-Ricker Mfg. Co., Grinnell, Ia.—Gloves and gauntlets.

\*Mosler & Co., A. R., New York City—Spark plugs.

\*Motor Parts Co., Plainfield, N. J.—Auto-Cle wrenches and parts.

Motor Specialty Co., Detroit, Mich.—Keystone grease.

\*Motsinger Device Mfg. Co., Pendleton, Ind.—Ignition systems.

\*Motz Clincher Tire and Rubber Co., Akron, Ohio—Tires.

\*Muncie Gear Works, Muncie, Ind.—Motor buggy parts.

\*National Carbon Co., Cleveland, Ohio—Dry cells and battery cases.

\*National Coil Co., Lansing, Mich.—Spark coils.

Never-Miss Spark Plug Co., Lansing, Mich.—Spark plugs.

Norton Co., Worcester, Mass.—Abrasive wheels and grinding appliances.

\*Oliver Mfg. Co., Chicago, Ill.—Peerless jacks.

Overland Sales Co., Chicago, Ill.—Parts and accessories.

\*Pantasote Co., New York City—Tops and upholstering materials.

\*Pennsylvania Rubber Co., Jeannette, Pa.—Pennsylvania tires.

\*Perfection Spring Co., Cleveland, Ohio—Springs and Security wind shields.

Point Spark Plug Co., Aberdeen, S. D.—Spark plugs.

\*Rands Mfg. Co., Detroit, Mich.—Tops.

\*Randall-Faichney Co., Boston, Mass.—Jericho exhaust horns, B-Line grease guns and Bing spark plugs.

\*Remy Electric Co., Anderson, Ind.—Magnetos.

\*Republic Rubber Co., Youngstown, Ohio—Republic tires.

Ross Gear and Tool Co., Lafayette, Ind.—Steering and differential gears.

\*Royal Equipment Co., Bridgeport, Conn.—Brakes and brake lining.

\*Sager, J. H., Rochester, N. Y.—Supplementary springs.

\*Shaler Co., C. A., Waupun, Wis.—Electric vulcanizers.

\*Smith Co., A. O., Milwaukee, Wis.—Gears and parts.

\*Spicer Universal Joint Mfg. Co., Plainfield, N. J.—Universal joints.

\*Splittorf, Inc., C. F., New York City—Magnetos, coils and plugs.

\*Sprague Umbrella Co., Norwalk, Ohio—Tops and wind shields.

Standard Auto Supply Co., Chicago, Ill.—Accessories.

\*Standard Roller Bearing Co., Philadelphia, Pa.—Roller bearings.

Standard Varnish Works, Chicago, Ill.—Varnishes.

\*Standard Welding Co., Cleveland, Ohio—Tubing and electrically welded parts.

\*Stewart & Clark Mfg. Co., Chicago, Ill.—Speedometers.

\*Stromberg Motor Devices Co., Chicago, Ill.—Carburetters.

\*Swinehart Clincher Tire and Rubber Co., Akron, Ohio—Swinehart tires.

\*Thermoid Rubber Co., Trenton, N. J.—Tires, tubes and brake lining.

\*Timken-Detroit Axle Co., Detroit, Mich.—Axles.

\*Timken Roller Bearing Co., Canton, Ohio—Roller bearings.

\*Triple Action Spring Co., Chicago, Ill.—Spring leaves and supplementary springs.

\*Troy Carriage Sunshade Co., Troy, Ohio—Tops.

Turner Brass Works, Sycamore, Ill.—Brass fittings and parts.

Twentieth Century Motor Car Supply Co., South Bend, Ind.—Wind shields.

\*U. S. Light and Heating Co., New York City—National storage batteries.

\*United Manufacturers, New York City—Jones speedometers, horns and live maps; Connecticut coils, magnetos and switches.

Sootproof spark plugs and automatic wind shields; Non-Fluid oils and grease and Weed non-skid chains.

\*Universal Tire Protector Co., Angola, Ind.—Non-skid bands.

\*Valentine & Co., New York City—Varnishes.

\*Vanguard Mfg. Co., Joliet, Ill.—Wind shields and spark plugs.

\*Veeder Mfg. Co., Hartford, Conn.—Tachometers and odometers.

\*Vehicle Top and Supply Co., St. Louis, Mo.—Tops.

\*Vesta Accumulator Co., Chicago, Ill.—Accumulators.

\*Warner Gear Co., Muncie, Ind.—Gears and parts.

\*Warner Instrument Co., Beloit, Wis.—Warner Auto-Meters and clocks.

\*Warner Mfg. Co., Toledo, Ohio—Transmission and steering gears.

\*Wheeler & Schebler, Indianapolis, Ind.—Carburetters and magnetos.

Whiteley Steel Co., Muncie, Ind.—Steel castings.

\*Whitney Mfg. Co., Hartford, Conn.—Whitney chains and keying systems.

\*Witherbee Igniter Co., Springfield, Mass.—Magnetos and storage batteries.

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## MOTORCYCLES.

\*American Motor Co., Brockton, Mass.—M-M.

\*Aurora Automatic Machinery Co., Aurora, Ill.—Thor.

\*Consolidated Mfg. Co., Toledo, Ohio—Yale.

\*Excelsior Supply Co., Chicago, Ill.—Excelsior.

\*Greyhound Motor Works, Buffalo, N. Y.—Greyhound.

\*Harley-Davidson Motor Co., Milwaukee, Wis.—Harley-Davidson.

\*Hendee Mfg. Co., Springfield, Mass.—Indian.

\*Merkel-Light Motor Co., Pottstown, Pa.—Merkel and Light.

N. S. U. Motor Co., New York City—N. S. U.

\*New Era Auto-Cycle Co., Dayton, Ohio—New Era.

\*Pierce Cycle Co., Buffalo, N. Y.—Pierce.

\*Reading Standard Co., Reading, Pa.—R-S.

\*Reliance Motorcycle Co., Owego, N. Y.—Reliance.

—Reliance.

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—Reliance.

\* Exhibited at New York.

**DRAGON TAKES TO MOTORING**

**San Francisco Brand of Celestial Monster Travels Studebaker Style—Something About His Anatomy.**

Even the extremely conservative Chinaman realizes that an automobile may be useful in more ways than one. For centuries past it has been the custom of the Chinese—whether in their own country or in foreign lands—to hold a great procession on New Year's Day in which a huge dragon, borne on the shoulders of hundreds of men played the star part. The Chinese of San Francisco came to the conclusion that au-



SAN FRANCISCO'S "DRAGON," WITH STUDEBAKER POWER PLANT

tomobiles could carry the unwieldy monster much easier than they themselves, and the picture shows the way they fixed up the "motor-dragon." Three Studebaker cars bore the main body, while head and tail projected beyond the cars. A fourth car was used as a pilot through the crowded streets of the Chinese quarter.

For more than four hours the engines of the three machines were kept running, and on account of the slow speed at which they were compelled to travel, and the number of hills they were obliged to negotiate, all driving was done on the lower gears.

It was an ingenious coupling of the three Studebaker cars that were used that made the feat possible. This was accomplished by clamping pieces of 2 by 3 inch oak to the front and rear springs of the cars and coupling these from the center with a third of the same length, leaving about an eight inch play between the machines. Racks were then provided for the poles which supported the monster dragon, these being placed immediately in front of the radiators in the tonneaus of the cars and at the rear of the last car.

While the equipping of the three Studebakers for the feat called for considerable engineering skill, the driving of the auto-

mobiles was an exceedingly trying ordeal to the men at the wheels. Despite the fact that the cars were coupled together the drivers were obliged so to operate their engines that there was an equal amount of power exerted by them all.

**St. Louis Show Its Biggest Ever.**

With 74 exhibitors, 61 of whom will display motor cars and the remaining "lucky 13" (lucky that they got in) providing the fixings that go to make the car complete, the curtain will rise on the fourth annual show of the St. Louis (Mo.) Automobile Manufacturers and Dealers, in the First Regiment Armory, on Monday next, 14th inst., and will continue until Saturday, the 19th, when the order to break camp will

be given. Already certain to be twice as large as last year's function, the show promises to be the largest and best that ever has been given west of the Mississippi, and to that end arrangements have been made for a special train of 30 cars to transport a large number of exhibits at the Chicago show to "the Mound City" complete, at the conclusion of the big national show this week. Over \$2,000 will be expended in the decorations.

**Fusion Wins One Show for Rochester.**

Instead of having two rival shows as was the case last year, there will be but one in Rochester, N. Y., this year, this harmonious state of affairs having been brought about through the rounding up of the dealers into one association. The show, which will be the third annual motor exposition for the Kodak City, will be held in Convention Hall during the week of February 14-19, inclusive. The coming show promises to exceed both of last year's affairs, over 150 exhibitors already being listed. In an effort to eclipse all previous efforts in the decorative line the show committee has secured the decorations used at the Grand Central Palace show in New York City last month, and also has seen to it that there will be no lack of music.

**HARTFORD GETS COLONIAL SHOW**

**Big Veranda Surrounding Foot Guard Hall to Give the Effect—New Arrangement Gains Floor Space.**

In keeping with the prominent position of the city as one of the oldest and foremost New England towns and rich in colonial history, the show committee of the Hartford (Conn.) Automobile Dealers Association, consisting of F. W. Dart, E. G. Biddle and W. L. Ledger, instead of scouring Japan or Africa for decorative ideas, has selected a New England setting for the third annual show, which will open in Foot Guard Hall on the 14th and close on the 19th. Departing entirely from the decorative scheme employed last year, the arrangement of the coming exhibition will be such as to lead the visitor to imagine that he is entering an old colonial residence, and to heighten this effect the prevailing colors will be white and red. Over the stage a balcony will be built which will be supported in the center by two white pillars and on this elevated platform the band will be stationed. Red burlap stretched on frames and cut in panels by white strips at intervals will be stretched around the side walls, and the decorative treatment of the walls both underneath and above the balcony will be the same.

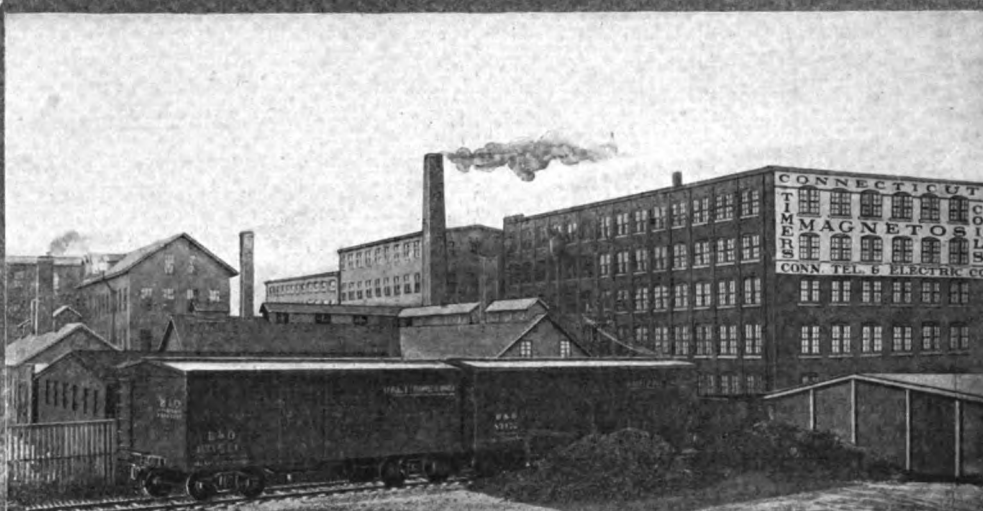
The balcony will be so arranged as to give the appearance of a big veranda extending around the entire hall. In the lighting scheme over 41,000 lights will be used, and the feature of the illuminations will be a giant electric star placed in the center of the ceiling and flanked by two large chandeliers. There will be no side aisles this year, but the central aisle will be twice as wide as formerly and will lead directly to the stage, where steps will be placed so that the cars displayed there may be inspected. In abolishing the side aisles the committee gained over 700 square feet of additional floor space for exhibition purposes. On the side of the aisles large white posts seven feet high will be surmounted with boards with the names of the cars in red old English letters. From the signposts to the side walls smaller posts, also in white will extend, connected by ribbons, and these will serve to separate the spaces.

**Buffalo to Have Only One Show.**

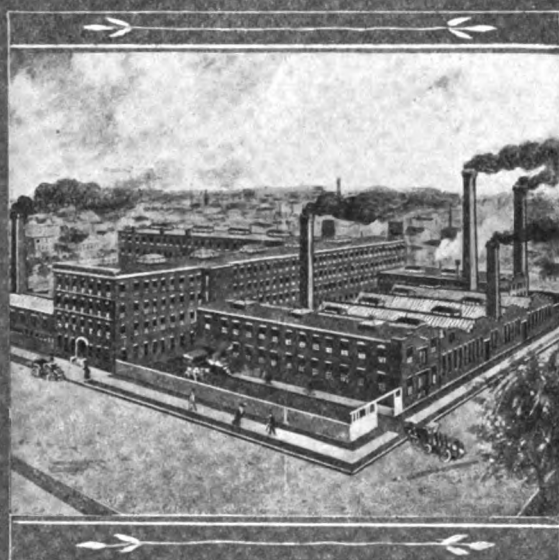
Although both organizations previously had arranged to hold shows of their own, the Automobile Club of Buffalo and the Buffalo Automobile Trade Association have agreed to combine their forces, and there will be but one show in the Bison City this winter. It will be held in the old Broadway Arsenal, February 14-19, under the joint auspices of both organizations.



N.Y. HEADQUARTER OF THE  
UNITED MANUFACTURERS



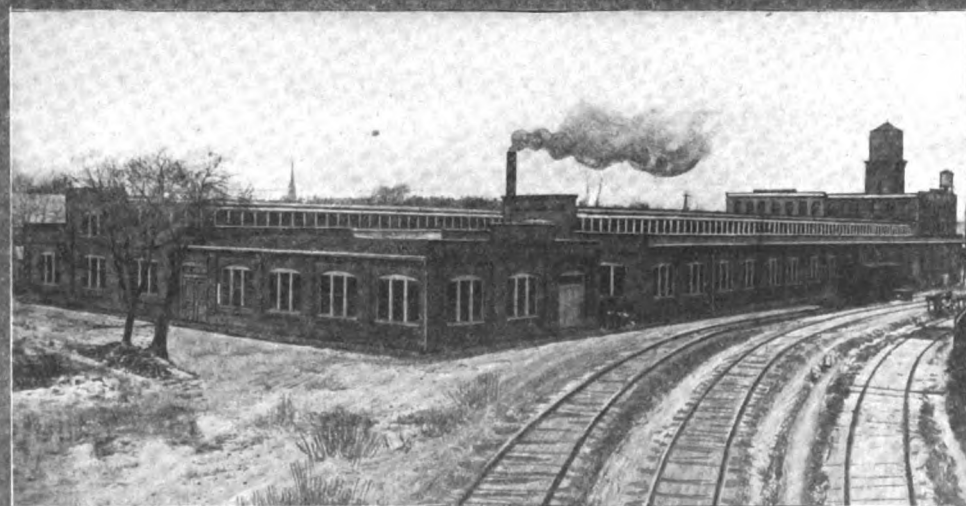
CONNECTICUT TELEPHONE & ELECTRIC CO, Meriden Conn.



NEWARK FACTORY of C.A. MEZGER CO.



JONES SPEEDOMETER, New Rochelle N.Y.



WHERE WEED GRIPS ARE MADE



N.Y. & N.J. LUBRICANT CO. WAREHOUSE

REPRESENTATIVE AMERICAN ACCESSORY FACTORIES—THE UNITED MANUFACTURERS



## THINGS GO WRONG AT NEW ORLEANS

**De Palma, Oldfield and Robertson Encounter a Hoodoo—Honors Alternate in Two Days of Tame Racing.**

Something seemed to go wrong with the Mardi Gras automobile carnival in New Orleans, La., Saturday and Sunday last, February 5th and 6th, for it was not nearly so successful a meet as was held at the same time last year. The promoters apparently worked under a hoodoo from the start, for on the first day—by far the better sport day of the two—the racing was not extraordinary, although it did give the 5,000 spectators some few thrills.

On Sunday, the second day, an aeroplane flight by Louis Paulhan proved a drawing counter attraction, for only 3,000 people went to the fair grounds track to see the automobile races and those who did probably wished afterward that they had taken in the aeroplane flight. There were 25,000 people at the aviation field.

The first day's program consisted of six events, and in none of them were the finishes of the sort to make a crowd frenzied with excitement. The track was lumpy and dusty, this despite a generous application of oil, and in consequence no fast times were recorded. In fact, the fastest mile of the day was clocked in 53 seconds, Oldfield getting the credit. Ralph De Palma and his big Fiat racer took the lion's share of honors, winning the first five miles free-for-all from Ben Kirscher, in a Darracq, and a 10 miles free-for-all handicap. Oldfield naturally defeated his stable mate, Kirscher, in a special match race and he also won a 25 miles race for stock cars. Only one accident occurred and that resulted fortunately. Leigh Lynch, driving a Jackson car in the 25 miles stock car event, essayed a Barney Oldfield through the fence at the three-quarters turn in the 14th mile. The front wheel broke and precipitated the driver and his mechanic into the infield, but the only damage was the soiling of their clothes.

George Robertson, one of the best all-around drivers in America, was figured upon as a likely contender—a crack well able to cope with Oldfield, Kirscher and De Palma, but a mishap made the smiling George betake himself to the grandstand and watch his confreres cavort. On Saturday while warming his car into tune Robertson broke his crank shaft, and although a score of men worked far into the night in an effort to get the car working in time for Sunday's meet the other drivers went to the post without Robertson. Most of the cars developed hookworm on Sunday. This day more generally is regarded as a day of rest in the South than in the North, and it may have been that the mechanical steeds considered it proper to observe the Sabbath. At any rate there were only five

races, and these proved uninteresting. Robertson's car could not be gotten ready in time and De Palma removed his presence from the track after a burst tire in the feature race of the day. Only four races were held.

### First Day—Saturday.

The racing started with a 20 miles event for stock chassis of between 301 and 450 cubic inches piston displacement. Fulton, in a Packard, took the lead at the start and held it for a few miles, with Leigh Lynch, Jackson, crowding him hard. Fritsch, Buick, maintained a good pace, as did Delaney, Jackson, for a time, but the latter fell back toward the finish. Lynch won without looking around.

Three starters lined up for the five miles free-for-all. Oldfield led to the pole, but quit at the three-quarter pole, claiming he could not change his gears into the high. De Palma was only a few lengths behind and he merely had a little romp to keep in front of Kirscher, leading him home by an eighth mile in 4:41.

The ten miles amateur for the McCane trophy brought out C. S. Bragg in a Fiat. S. L. Speer in a Jackson, Fritsch in a Buick, M. P. Irwin in a Thomas, and George Clarke at the wheel of a Jackson. Clarke was protested at the start upon the grounds of professionalism and withdrew after being questioned by the referee. Irwin dropped out soon after the start. Bragg won by a half mile or more over Fritsch, but was protested, it being claimed his car was a specially built racer. The prize was held up pending an investigation. Time, 10:36.

Oldfield, this time in a Knox, De Palma and Kirscher lined up for the ten miles handicap, the first named getting 25 seconds and Kirscher 10 seconds start over De Palma. Oldfield blazed the way for eight miles until De Palma decided it was time to make his bid for the lead, and when he finally advanced the spark to the limit it was all over but the shouting. The time was 9:49.

Oldfield made a monkey of Kirscher in their five miles "challenge" race, but as he is being paid to play the role, did not seem to mind when Oldfield breezed home a half lap in advance. The New Orleans Sweepstakes for stock cars went to Oldfield in a Knox, the barnstormer finishing 1¼ miles in front of Fritsch. The summaries:

Twenty miles for stock chassis, 301 to 450 cubic inches—Won by Leigh Lynch, Jackson; second, Fulton, Packard; third, Fritsch, Buick. Time, 21:41.

Five miles free-for-all—Won by Ralph De Palma, Fiat; second, Ben Kirscher, Darracq. Time, 4:41. Also ran—Barney Oldfield.

Ten miles amateur, stock cars—Won by S. C. Bragg, Fiat; second, Fritsch, Buick. Time, 10:36.

Ten miles handicap, free-for-all—Won by Ralph De Palma, Fiat (scratch). Time, 9:49.

Twenty-five miles New Orleans Sweepstakes, stock cars—Won by Barney Oldfield, Knox; second, Fritsch, Buick. Time, 26:43.

Five miles match—Won by Barney Oldfield, Benz; second, Ben Kirscher, Darracq. Time, 4:33½.

### Second Day—Sunday.

Sunday's races were disappointing because of the small fields of starters and the lack of events. Only four races were run, the first crack out of the box being a five miles amateur scramble for the Klaw & Erlanger trophy. Fred Shaw, in a Knox, received 15 seconds handicap over Bragg. Fiat, the honor-marker, but he would have won without the allowance. Jack D'Arcy, Stoddard-Dayton, received 45 seconds and finished third, and M. P. Irwin, in a Thomas car, trailed in fourth.

Because no starters appeared for the A. A. stock chassis race that event was scratched and the five miles for the Gentilly Automobile Co.'s trophy also was not run. M. P. Irwin, Thomas, acquired a beautiful trophy rather easily as it was awarded to him by default, when no other drivers appeared at the starting line.

What promised to be the best race of the afternoon was a ten miles match between Oldfield and De Palma. The latter held the lead for a time, but was passed by Oldfield in the second mile. De Palma was gaining ground rapidly when he blew up a front tire and Oldfield walked in alone in 9:26.

The 10 miles free-for-all-handicap brought out Kirscher, Oldfield and De Palma. Oldfield switched to his Knox for 32 seconds handicap, while Kirscher got a lead of 15 seconds over De Palma. The last named made a pretty race, but was never quite able to overcome the long marks, Kirscher winning from Oldfield in 9:32. In another 10 miles race between Oldfield and De Palma, the former was allowed 28 seconds handicap. De Palma made a pretty race and gained three-quarters of the distance at the eighth mile, when another tire brought him to a halt and Oldfield enjoyed another walkover. The summaries:

Ten miles handicap match—Won by Barney Oldfield, Knox (0:28). Time, 9:47. De Palma, Fiat (scratch) burst tire in 8th mile.

Ten miles free-for-all handicap—Won by Ben Kirscher, Darracq (15); second, Barney Oldfield, Knox (0:32); third, Ralph De Palma, Fiat, (scratch). Time, 9:32.

Ten miles match—Won by Barney Oldfield, Benz. Time, 9:26. Ralph De Palma, Fiat, burst tire.

Five miles for Gentilly trophy—Walkover for M. P. Irwin, Thomas, no other entrants appearing.

Five miles amateur handicap, for Klaw & Erlanger trophy—Won by Fred Shaw, Knox (0:15); second, C. S. Bragg, Fiat (scratch); third, Jack D'Arcy, Stoddard-Dayton (0:45). Time, 5:05.

## FORTUNE FAVORS THE THIRTEEN

Perfect Scores for "Unlucky Number" in Rochester Club's Contest—Five More Suffer Small Penalties.

After two days of battling with snow drifts over 175 miles of roads, and encountering a toy blizzard on the second day, 13 of the 20 cars which started in the second annual mid-winter endurance run of the Rochester (N. Y.) Automobile Club to Syracuse and return on Wednesday, 3d inst., returned to the "Salt City" on the 4th with perfect scores. Five other survivors fell from grace on very slight grounds, their penalties being allotted for stalled motors or spark plug trouble, while two contesting cars dropped out on the second day. Owing to the prospects of a strenuous trip there were a couple of entrants who around starting time decided to stay at home, but the others who had signed up stuck to their guns, or rather wheels.

Checking out from the club's headquarters at the Hotel Seneca at one minute intervals, the cars rolled out of Rochester early in the morning under favorable weather conditions, and prepared for a hard struggle with the roads. The morning run to Clyde, where a stop for lunch was made, was uneventful, but in the afternoon the contestants had their troubles. Huge snow drifts were encountered and it often was necessary to take to the fields in order to get around them. The big Palmer-Singer pacemaker, with Bert Van Tuyle up, did yeoman service bucking the drifts, and its good work was much appreciated by the competitors. Despite the weather the tourists received ovations from farmers and townspeople all along the route, who in many places turned out several hundred strong to cheer the motorists. All of the cars reported at Syracuse the first night and there was not a great gap between the arrival of the advance guard and the tail ends. That night the visitors were entertained at a smoker.

For the homeward run a different route was chosen, and the cars pulled out from Syracuse at one minute intervals after 9 o'clock, with Geneva designated as the halting place for satisfying the wants of the inner man. The going was fair until the outskirts of Auburn were reached, when a pesky little four foot snow drift at the brow of a hill brought out shovels, and those in the advance brigade fell to with a will, dismantling the pile of "the beautiful" in a way that would have made a Panama canal steam shovel turn rusty with envy. A steadily rising wind caused the snow to bank solidly and the going became heavier. In nearing Geneva more drifts were encountered and the shovels again were brought forth. Better roads were en-

countered after leaving Geneva and good time was made on the last section of the run. One of the humorous incidents in connection with the contest occurred at the finish line on the second day, when after maintaining a perfect score up to that time one of the contestants stalled his engine while waiting to check in and was transferred to the penalized division.

The drivers and cars with perfect scores follow:

J. W. Gillis, Chalmers; Edward Martin, Cadillac; Fred Rockelman, Ford; John Harrigan, Selden; F. W. Peck, E-M-F.; John Burns, Franklin; Charles Kellman, Cunningham; Carl Holton, Cunningham; George Bower, Maxwell; Ray Hollis, Pullman; John Ward, Chalmers; Richard Geyer, Oakland; H. A. Strickland, Chalmers.

### Twin City Club Elects Officers.

Reuben Warner, thrice president of the St. Paul Automobile Club, was elected president of the Minnesota Automobile Association at the annual meeting held in St. Paul last week. The other officers chosen were as follows: Dr. J. A. Gates, Kenyon, first vice-president; J. H. Hiheldaffer, Minneapolis, second vice-president; L. A. Wood, St. Paul, secretary and treasurer. During the past year the association's club membership increased from 8 to 26, and five other clubs' applications are pending. The secretary's report showed an increase in active membership of affiliated clubs from 1,350 to more than 1,800. The treasurer reported a balance of \$848.33, and it was voted to expend \$500 in erecting signboards, in conjunction with such clubs as appropriate an equal amount for carrying on the work. The association went on record in favor of jail penalties for reckless driving, and urged that all local speed regulations be amended to conform to the state law.

### Oregon Motorists Organize.

Permanent organization of the Oregon State Automobile Association was effected at Portland last week, and the following officers were elected: J. H. Albert, Salem, president; Lawrence Therkelsen, secretary, and W. O. Van Schuyver, treasurer; directors, the president, treasurer and G. W. Sanborn, Astoria. The objects of the organization are to promote contests, aid the good roads movement and secure favorable legislation.

### New Officers for St. Paul Club.

New officers for the ensuing year were elected by the St. Paul (Minn.) Automobile Club last week, as follows: William J. Murray, president; E. W. Bazille, first vice-president; J. R. Hickey, second vice-president; F. J. Ottis, third vice-president; Dr. A. E. Comstock, secretary; W. D. Gery, treasurer; directors, new, J. C. Nethaway, Daniel Bell, W. G. Carling; holdovers, Phil W. Herzog, and Rudolph Shiffmann.

## WHY RACING MEN ESCAPE ARREST

Skill and Caution Key to the Mystery—  
Fear of Publicity Plot May be Another Reason, Too.

Why it happens so rarely that well known racing drivers are arrested for exceeding the speed limit, is explained by a man well known in the automobile trade.

"The men who drive automobiles in races," he says, "also run machines in the streets, and I notice that only on rare occasions are any of these men arrested for exceeding the speed limit in the city here or in the country roundabout. In fact, I can recall just now the names of only two men who, a few days after races in which they drove their cars in first came afoul of the bicycle policemen and were taken in.

"It may be for a variety of reasons that so few of the many racing drivers ever get into trouble. The most important, I believe, is that these drivers have fine control of the cars they drive and moreover have a great deal of caution. There is no nickname that a racing automobile chauffeur dislikes more than that of daredevil.

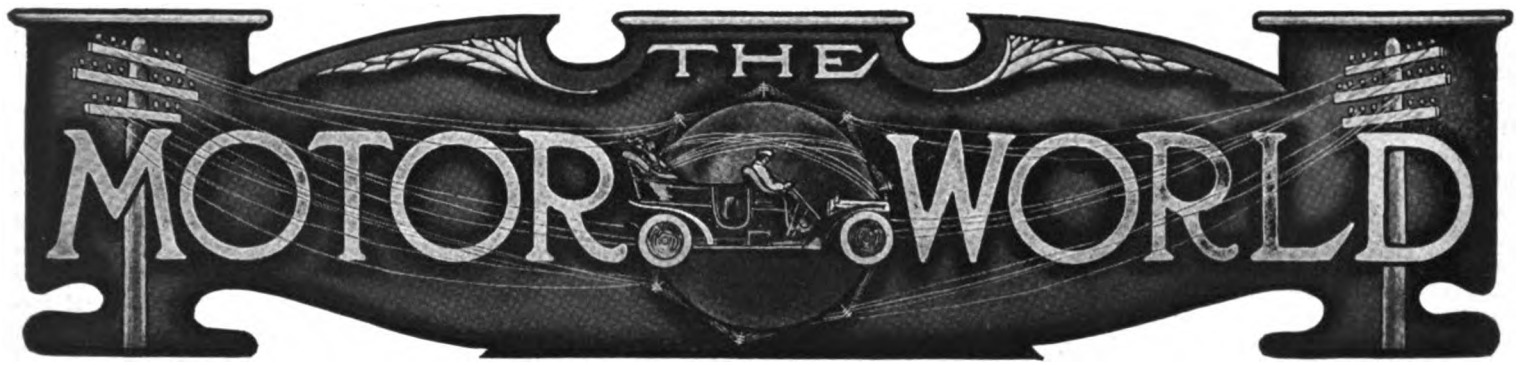
"Aside from their control and caution, these drivers really don't go very fast in the streets. If they hit it up between blocks they always slow up at the crossings. Then, too, most of them get to be known to the police, who aren't really too eager to take in these men. They know the drivers really are expert and they are likely to let these fellows drive faster without hindrance than they would permit a man not known to them as thoroughly in control of his car.

"For another reason, too, the police are apt to go easy on these well known professional drivers. They don't want to fall for any advertising scheme that some automobile concern has cooked up. The police always fight shy of the arrests that appear to be frameups for advertising purposes.

"One bicycle policeman told me once that they always hesitated about taking in women exceeding the speed laws because sometimes it was merely a theatre device, and that they didn't time men making great speeds up hills because of the advertising value that could be given to a police report, say of the such and such car going 30 miles an hour up the so and so hill, when the policeman made an arrest."

### Syracuse A. C. Re-elects Officers.

All of the old officers were re-elected for the ensuing year at the annual meeting of the Automobile Club of Syracuse, N. Y., as follows: H. W. Smith, president; Howard P. Denison, first vice-president; C. M. Ryan, second vice-president; Forman Wilkinson, secretary and treasurer. The club now has over 400 members, all of whom are confirmed optimists.



### SELDEN DECREE EXPECTED SOON

**Contestants Strike a Bargain Over It—  
Ford Hires New Attorneys and Returns  
A. L. A. M. Fire—To Give Bonds.**

Although the judgment sustaining the Selden patent was rendered in the United States Circuit Court last September, no decree against the Ford Motor Co. and the other defendants has been entered as yet, but that this formality is not to be delayed very many days has become known. Various reasons have been assigned by outsiders as to why no decree has been entered, but that which has been indicated from sources closely in touch with the situation is the fact that while the case was won with the Electric Vehicle Co., of Hartford, Conn., as a complainant, that company since has been taken out of a receivership and reorganized as the Columbia Motor Car Co., necessitating a change in the court records which involves considerable red tape.

While it is possible that the Ford company and the other defendants might temporarily obstruct the entering of the decree, owing to the changes in name which are necessary, it is intimated that the defendants have driven something of a bargain with the Selden forces by agreeing not to interpose legal delays in the path of the decree, provided the complainants supply the defendants' new attorneys with three copies of the complete records of the proceedings and testimony in the case, these records amounting to many thousands of pages and meaning an expense of \$5,000 or more. Such an agreement is calculated to bring the entering of the decree close at hand.

Following the taking in of all the members of the now defunct American Motor Car Manufacturers Association with the exception of Ford, the Association of Licensed Automobile Manufacturers has begun to assume a public aggressiveness

against the "independent" or unlicensed makers, in the form of spreadeagle newspaper advertisements setting forth the desirability of buying cars licensed under the Selden patent, and listing the licensed makes. This aggressiveness is in turn being matched by activity of a like character on the part of the Ford Company, which in space the same size as the A. L. A. M. pronouncements, raps that "divine body," as it styles it, and declares the Selden patent "a freak among alleged inventions and worthless as a patent and worthless as a device." The Ford intention to appeal the case to the higher courts is reiterated.

Not the least significant feature of the Ford declaration, however, is the statement that arrangements have been made with a \$6,000,000 bonding company for the issuance of individual bonds to purchasers of Ford cars who desire this protection in addition to the pledges of the Ford company itself to hold its customers free of damages for infringement and to sacrifice its own \$6,000,000 of assets if necessary to do so.

For the further battle which the Ford company is to wage in the courts with the Selden camp, it has engaged new attorneys, who are among the leaders in the practice of patent law. Edmund S. Wetmore, of Wetmore & Jenner, and Livingston Gifford, of Gifford & Bull, both firms being in New York City, are the lawyers who hereafter will conduct the legal warfare for the Ford forces. Because of their eminent reputation in the field of patent litigation it is anticipated that when the Selden case is taken up on appeal, the contest will be notable in law circles for the vigor and ability with which it will be conducted.

### Petrel Petitioned into Bankruptcy.

Involuntary bankruptcy proceedings have been brought against the Petrel Motor Car Co., of Milwaukee, Wis., which for the past year has been making the Petrel car. The petitioning creditors include the Hess-Bright Mfg. Co., of Philadelphia; Herman Andrae Electrical Co., and Andrae & Sons, both of Milwaukee.

### "STANDARDIZED" RIMS REJECTED

**Tire Committee of the Licensed Association not Impressed with United Rim Plan—Latter's Future Uncertain.**

Despite the overcoming of difficulties which beset it in the past, the project for two standardized types of universal quick detachable rims, as advanced by the tire manufacturers composing the United Rim Co. is again in a bad way and may have to be abandoned. Although having arranged patent matters satisfactorily among its rival constituents and having provided for the actual manufacture of the agreed upon types, the United Rim Co. has met a serious reverse in the refusal of the Association of Licensed Automobile Manufacturers, through its tire committee, to recommend the rims to its members; as a result the latter will be wholly free to use whatever rims they individually may elect to use.

For about two years the standardized rim proposal has been making more or less progress, first in a compromise of various tire companies by which they yielded their respective patent rights to the United Rim Co., a patent holding company, and, second, in effecting an arrangement with two of the big rim making concerns to manufacture the standard or compromise types. As previously given in the Motor World, the companies in the United Rim movement for standard rims include the Diamond Rubber Co., the Goodyear Tire & Rubber Co., the B. F. Goodrich Co., and the Rubber Goods Mfg. Co.'s constituents, these latter being the Hartford Rubber Works Co., Morgan & Wright, and the G & J Tire Co.

At first the United Rim Co. accounted its work almost accomplished, when it had decided upon one type of rim which was a blend of the virtues of the rival rims of its members and which was to be offered as the selected standard type. When the mat-

ter of manufacturing the rim was taken up, however, the rim makers who were approached declined to accept the United Rim terms, which provided that the rim makers should make the new rim under license and cease making any other kind. It was contended by the rim makers that for them to give up the manufacture of all other rims in order to obtain the right to make the "standard" would involve a serious risk, inasmuch as the new rim might not be as successful as expected and other rims might greatly exceed it in demand.

A concession was finally made by the rim patents company, by the selection of a second "standard" rim in addition to the first one, thus giving two "standard" types. The rims were styled Universal Q. D. Type No. 1 and Universal Q. D. Type No. 2, respectively, and a manufacturing license was granted to the Standard Welding Co., of Cleveland, O., and the Weston-Mott Co., of Flint, Mich., these concerns agreeing to drop all other types and the Diamond Rubber Co. and the Rubber Goods constituents were to retire from the rim business, and all concerned were to endeavor to make the two rims truly standard.

In this endeavor representatives of the tire companies in the United Rim movement recently appeared before the tire committee of A. L. A. M. to urge that that organization officially recommend the standardized types to the Association membership and assist in the standardizing process. Unfortunately for the project, however, the Licensed tire committee could not be persuaded that the time is ripe as yet for "standardized" rim forms, and consequently the United Rim Co.'s progress in this direction has been abruptly stopped.

While the United Rim Co. cannot dissolve except by unanimous consent of the companies concerned in it, the blow that it has received makes its continued existence more or less uncertain. A meeting of the United Rim interests is to be held in Akron, O., tomorrow (Friday) to consider the future of the movement for standardization.

#### The Men Who Will Lead the Lion.

The Lion Motor Car Co., of Adrian, Mich., whose new product, the Lion car, was staged at the Chicago show, has elected its officers for the coming year. Henry Bowen is president and general manager; Leslie B. Robertson, secretary; Austin E. Morey, treasurer, and W. H. Shierson, assistant. The car was designed by C. H. Blomstrom, well known in Detroit manufacturing circles.

#### Barnes to Manage the Anhut Factory.

H. C. Barnes, who has been superintendent of the Overland plant at Indianapolis, Ind., has severed his Overland connection to go to Detroit, Mich. He has become the factory manager for the Anhut Motor Car Co., making the Anhut Six.

## E-M-F DECLINES MERGER PROPOSALS

**Will not Join the United Motors Project—  
Nor Will There be Reconciliation with  
the Studebakers.**

Because of a mysterious pilgrimage to New York City made by officials of the E-M-F. Co., of Detroit, Mich., last week, reports were set afloat that the company either was concluding negotiations to become a part of the \$16,000,000 United States Motor project or was arranging to resume affiliations with the Studebaker interests for the distribution of the E-M-F. product. Both reports, it transpires, had some basis of fact, but were extreme and erroneous in their conclusions.

Upon returning to Detroit after several days spent in New York, accompanied by others of the company, President Walter E. Flanders issued a statement indicating that whatever prospects there may have been for the E-M-F. company to join in a merger of any kind have been dismissed. It was known that negotiations have been very active since the time of the Palace show, but, according to Flanders, the offer which was made to him and his associates has not been accepted.

"An offer was made to combine the E-M-F. company with another organization and continue me in charge of the E-M-F. plant," said Flanders, "but my associates and myself have decided to reject the offers. No further negotiations are pending. The Detroit owners are in absolute control of the E-M-F. plants. Every contract we have made with dealers and agents will be carried out, but no contracts made by the Studebaker company for the sale of our cars will be followed."

It was admitted by another officer of the company that officials of the E-M-F. and the Studebaker companies had been in conference relative to their legal differences. That the conference by no means portended a reconciliation between the two companies and a resumption of their former relations, however, was made plain by President Flanders' language.

"We would have nothing to gain by a compromise or reconciliation," he declared. "There are not now, nor have there been at any time, any negotiations between us with a view to effecting either reconciliation or compromise."

#### Details of New Pullman Factory.

The Pullman Motor Car Co., which, in addition to its plant at York, Pa., is establishing a factory at Evansville, Ind., has disclosed some of the details of the latter enterprise. The company is to have about 50 acres of ground, on which there will be a factory with 200,000 square feet of floor space, mostly on one floor, and a testing track a mile in extent. The plant will have

its own drop forge and pressed steel equipment, together with foundries of all kinds, and will be able to handle almost everything contained in the cars from the raw material up. Increases also are being made in the factory at York, where the company is making its own engines, transmissions, steering gears, bodies, tops and other parts. To supplement the 110,000 square feet of floor space at present available, two additional buildings have been leased, and also a plot of ground 50x250 feet. On the latter it is intended to put up an additional machine shop and a building for assembling and testing purposes.

#### White Star Falls Into New Hands.

Proposing to swallow the White Star Automobile Co., of Atlanta, Ga., which has developed a car assembled from standard parts, and to "grow bigger," a new company has been organized in the same city, to be known as the Atlanta Motor Car Co. The concern, which is incorporated with \$100,000 capital, has chosen the following officers: Clarence Houston, Atlanta, president; N. P. Moss, Lafayette, La., vice-president and treasurer; W. Mills, Detroit, Mich., secretary and assistant treasurer; Fred L. Sawyer, Americus, Ga., general manager. A tract of land has been bought at Marietta street and Ponders avenue for a factory.

#### Two Old Diamond Men Get Branches.

Succeeding G. J. Bradley as manager of the Detroit and Cleveland branches of the Diamond Rubber Co., respectively, James Q. Goudie has been appointed as the Detroit manager and C. B. Myer as the Cleveland manager. Goudie, whose home is in Detroit, has been with the Diamond company for about a year, first as assistant manager of the operating division at Akron, O., and later as manager, while Myer for some time has been the assistant manager at the Cleveland branch.

#### Whistler and Wyandotte Come to Terms.

For the manufacture of Magnetos a factory is to be built in Wyandotte, Mich., by the Whistler Mfg. Co., which has been negotiating with the citizens of that place for some weeks and which has come to terms with them. The plant will be located at Mulberry and Third streets, the agreement being that it will pay a minimum of \$50,000 per year in wages. It will be supplied with power current at minimum cost and will be exempt from taxes for five years.

#### M. A. M. Elects Six New Members.

The Motor and Accessory Manufacturers, at its meeting in Chicago during the week of the show, added six companies to its membership. The accessions are Briggs & Stratton Co., Milwaukee, Wis.; Livingston Radiator & Mfg. Co., New York City; Cleveland Speed Indicator Vo., Cleveland, O.; Parish Mfg. Co., Reading, Pa.; Lavigne Mfg. Co., Detroit, Mich.; B. F. Everitt Co., Detroit, Mich.



## LARGE ROW OVER A SMALL PART

Repairman Disputes the Price and is Taken to Court—Loses Case and Costs Pile Up.

Unreasonable refusals to pay for automobile replacement parts, on the ground that the price asked is too much, evidently do not meet with sympathetic consideration in the courts, at least not in the city court of Hartford, Conn., where R. M. Clough, who has a machine shop in Tolland, Conn., was called upon to explain why he did not pay a bill of \$12 to the Palace Automobile Co., of Hartford. The suit arose over a gear housing which Clough had received through the Palace company.

While Clough admitted that he had received the part, he declined to pay for it, on the ground that the price was "excessively outrageous." It transpired that when the car gave out, Clough ordered from the manufacturer in Hartford an axle part, which was sent to him and billed at \$3.25. Upon receiving it he discovered that it was not what he wanted and it was returned. Through the Palace company he obtained the proper repair part, which was billed to him at the manufacturer's list price of \$12, with 25 cents additional for express. The cost of the housing to the Palace company was \$10. Clough, who acted as his own lawyer, said that if he had received the bill at the time he received the housing he would not have used the latter, considering the price exorbitant, and he maintained that a good business concern would have sent the bill at the time the goods were sent. His estimate placed the value of the part at about \$3.25—what he had been charged for the first piece.

Failing to supply the expert witnesses to prove the prices excessive, Clough's argument did not convince the court of the justice of his contention. Judgment was therefore given against him, not only for the \$12.25 representing the housing and the express charges, but also for \$11.66 in court costs.

### The Best Market of the Future.

"During the next five years the greatest sales of automobiles will be made in that area stretching between the copper country and the southern rim of the Texas panhandle," is the opinion of Charles T. Jeffery, who is the head of the Rambler sales organization.

### Licensed Dealers Elect Directors.

Formal organization of the Licensed Automobile Dealers Association, of New York, took place on the 10th inst., at a meeting held in the assembly room of the Automobile Club of America. The directors nominated at the previous meeting were elect-

ed, as follows: Carl H. Page, George W. Bennett, Gen. John T. Cutting, Harry Fossdick, C. P. Skinner, R. D. Garden, M. J. Budlong, S. B. Bowman, James Joyce and John F. Plummer. Representatives of 26 "licensed" agencies and branches were present.

### Rubber Again Begins to Rise.

After several months of fluctuation about lower levels, the price of crude rubber again advanced to and passed the \$2 mark early this week. As quoted in the New York market on Tuesday of this week, the price asked for the up-river fine quality was \$2.03, the highest since last October. Other grades have advanced proportionately. In general the rise in price is attributed to local conditions at the Brazilian shipping points, sales in New York and Liverpool being reported as light with manufacturers for the most part out of the market. The lowest price quoted since the first of the year was \$1.74½, which was reached about the middle of January. Since then the price has averaged around \$1.85.

### Cameron to Make Ball Bearings, Too.

Although still associated with the Cameron Car Co., of Beverly, Mass., F. F. Cameron has instituted a new enterprise in Hinsdale, N. H., to make ball bearings. It will be known as the F. F. Cameron Co. and has been organized with \$20,000 capitalization. The officers are W. N. Pike, president; F. F. Cameron, vice-president and general manager, and James O'Brien, secretary and treasurer. The company has leased the top floor of the mill building of the Orren C. Robertson Co.

### Anhut Interests in Truck Project.

With the backing of several of the men who are in the Anhut Motor Car Co., of Detroit, Mich., a new concern is being organized in Mount Clemens, Mich., to build commercial vehicles. It is to be called the Mount Clemens Auto Co., and present plans provide for a factory at Church street and Floral avenue, 60x300 feet, to be followed later by a larger structure on a five acre tract donated by local business men.

### Thomas Cab Acquires Separate Plant.

The Thomas Motor Cab Co., of Buffalo, N. Y., which has been conducting its manufacturing operations in factory space yielded to it by the E. R. Thomas Motor Co., is now occupying a separate factory of its own, at 1738 Elmwood avenue. The new plant is devoted entirely to the production of taximeter cabs.

### Pilot Finally Gets a Factory.

The Pilot Motor Car Co., which was formed in Richmond, Ind., about a year ago, has taken the building of the Kramer Mfg. Co., on North Tenth street, opposite the Pennsylvania station, for a factory. It is intended to build medium price cars.

## CHICAGO SHOW THE "BEST EVER"

Attendance was Record-Breaking, Even on "Dollar Day"—And the Sales Were "Away Up."

Measured in terms of actual business consummated on the spot, it is unquestionable that the Chicago show of last week was the most successful exhibition of the present season, and probably a record breaker in show history. The attendance surpassed that at any former Chicago show, not even the advanced prices of Thursday, which was "dollar day," serving to strip the aisles of the crowds which, as on other days, surged about the stands. Despite the supposedly settled condition of the wholesale market, a good share of agency business was reported, no less than 1,500 agents having registered at the Coliseum during the week.

It was in its aspect of being close to the people, however, that the show attained its most important proportions. A large percentage of the out-of-town visitors came prepared to buy, and where they did not invest in complete cars the accessory and supplies people felt the benefits of their presence in generous measure. One remarkable feature of the retail phase of the show was the quality of the cars in requisition. Whereas in former years the demand manifested during the week has been more for the cheaper grades of car, reports from authentic sources reveal the fact that at this time the prevailing requirement was for cars averaging around \$2,000 in price; while such makers as handle the higher priced products came away well satisfied both with the quality and quantity of business transacted.

To take one noteworthy example, Thomas B. Jeffery & Co. reports the sale of no less than 175 Rambler cars during the seven days of the show, making a total of \$350,000 of business to individual buyers. This is record volume for Rambler show business, if not a record for show sales by a single maker. Last year 160 Ramblers were disposed of during the week, the average price being \$1,900.

### Another Chance for Indiana Investors.

Invitations are to be extended to the public of Marion, Ind., to invest in the Marion Automobile & Mfg. Co., which has developed a buggy type machine that, as previously indicated, is to be called the "Marion Flyer," despite the fact that this designation already is applied to a car which has been on the market for several years. For a factory the concern has leased the Genung livery building at Third and Nebraska streets. The officers are John I. Rennaker, president; Charles Rennaker, vice-president, and Clifford G. Rust, secretary.

## IN THE RETAIL WORLD.

Bartlett & Frazier, Huntington, Ind., have dissolved partnership. W. M. Frazier will continue the business.

The Hockaday Motor Supply Co. has been formed in Wichita, Kan. It will do both a jobbing and a retail business.

The Bells Hardware & Implement Co., Bells, Tex., has "gone into" automobiles; it has secured the Ford agency.

Palmyra, N. Y., and P. Duehler & Son, Lyons, N. Y., also dealers in carriages, are about to make the same move.

Mantz & Reed, vehicle dealers in North English, Iowa, are about to add automobiles to their stock. H. O. Young Sons,

The Munger Automobile Co., Dallas, Tex., has opened a branch in Fort Worth. It is located at 9 Houston street and J. R. Bowers is in charge.

C. M. Barber has embarked in the automobile business in El Paso, Tex. He is handling the Babcock electric and Olds-Oakland lines.

The Windsor Garage Co., Cumberland, Md., has awarded the contract for an addition to its establishment. The firm is located in the rear of the Windsor Hotel.

Leon Rundell, of Dolgeville, N. Y., will build a garage in the spring. It will be 25x50 feet, and will be located on Slawson street, near South Main street.

The Mulkey Auto Co., of Fort Worth, Tex., has begun business in that place, with quarters at 1511 Houston street. It is handling the Maxwell line exclusively.

K. R. Montgomery, of Detroit, Mich., has gone into business in the Straits City, and will handle the American car. He will have quarters at 487 Woodward avenue.

John Poltera, of Coldwater, Kan., is now installed in a new concrete garage, 50x100, which includes a repair department. It will be local headquarters for the Moline line.

John Law, of Lebanon; Wells & Son, of Middleport, and the Logan Carriage Co., of Parkersburg, are three more of the Ohio vehicle dealers who have "taken on" automobiles.

Close Brothers, Schenectady, N. Y., who operate a garage on Smith street, were visited by fire last week. It quickly was extinguished, before any appreciable damage resulted.

The Bergers Automobile Co., of Omaha, Neb., is having built a new garage at Nineteenth and Farnam streets. Temporarily the concern is located at 312 South Eighth street.

W. S. Hathaway, Kansas City, Mo., who has the local Maxwell, Regal and Hupmobile agencies, has removed to 1612-14 Grand avenue; the new location is a few doors north of his old stand.

Clement Bailey, Woodsville, Vt., now is installed in his new garage; it is a brick structure, 50x50, with plate glass front. In

addition to handling Buick cars, he also deals in farm implements.

The White Garage & Sales Co., Dallas, Tex., has reorganized and changed its style to White Sales Co. Coincident with the change the concern has taken the agency for the E-M-F. and Flanders cars.

The Gordon Motor Co., Richmond, Va., has purchased a plot 137 feet front on West Broad street, between Harrison and Ryland streets, for garage purposes. The transfer involved the sum of \$27,200.

Henry House, of Houston, Tex., is awaiting completion of a new garage which is being built at the corner of Capitol avenue and Milam street. It is a two-story structure of brick and concrete and will cost \$12,000.

The Union Motor Car Co., East Orange, N. J., has removed to new quarters, at 304-308 Central avenue, which will be the home of Premier and Reo cars. The salesrooms are 22x70, and the garage space measures 50x100.

The Skowhegan (Me.) Garage Co., lessees, have taken possession of their new garage, erected for them on the Skowhegan Hotel property. W. H. Norton and F. I. Spinney are among those interested in the enterprise.

The Fiat Automobile Co. of Rhode Island is the style of a new concern which has opened up at 17 Dorrance street, Providence, to exploit the Italian car in southeastern New England. Jefferson K. Crafford and Frank R. Hunter are the leading spirits in the venture.

The Detroit-Cadillac Co., Newark, N. J., just have taken possession of their new establishment at 232 Halsey street, which is one of the handsomest motor car emporiums in the city. It is a one story structure, 25½x140 feet, built of brick with limestone trimmings and plate glass front.

The C. L. Taylor Auto Co., Kansas City, Mo., is extensively remodeling its quarters at 1616-18 Grand avenue, which it formerly shared with the Maxwell agency. When alterations are completed it will have one of the largest and most commodious establishments in the city.

A. H. Barber and J. D. Hunter, North Adams, Mass., prominent business men of that town, have dipped into the automobile business and will handle the Franklin the coming season. They, of course, will retain their connection with the Barber Leather Co., and the Hunter Machine Co., respectively.

The Peerless Garage and Sales Co., of Brooklyn, N. Y., has taken possession of its new building at 1523-1525 Bedford avenue, near Eastern parkway, which is one of the best in that city. In addition to spacious storage facilities, there is a complete repair department. Peerless and Mercer cars are handled.

The Adams Repair Co., of New York

City, which in its business of rebuilding and repairing automobiles had attained to liabilities of \$43,371 before being put into bankruptcy, has effected a compromise with its creditors. The latter will receive 20 cents on the dollar, Judge Holt having confirmed the composition.

A new building which will be shared jointly by the Rambler and Kisselkar is in process of erection at Fifteenth and Harrison streets, Kansas City, Mo., and soon will be ready for occupancy. John Naye, with the Rambler, will occupy the west half of the double front emporium, and C. A. Post will have the corner store with the Kisselkar.

The Auto Supply & Tire Co., Wichita, Kan., has been organized to take over the business of the Auto Tire Co., located at 143 North Market street. The change of name was found desirable because of the addition of motor car supplies to the firm's line, but involves no change in management, C. A. Hagberg and O. D. Johnson continuing as proprietors.

The Troy (N. Y.) Garage, a new establishment in the Collar City, has acquired the Palace livery stable on Third street, and will occupy it when alterations are completed, which is expected to be early in February. It will have facilities for repairing. The members of the new firm are: Roy V. Rhodes, A. E. Mambert, Pierce H. Russell and W. A. Thomas.

The Franklin branch in Kansas City, Mo., is to have a new home which will be among the most pretentious establishments in the local colony. A plot 177x160 has been purchased at Thirty-fourth and Main streets, on which a two story building with basement will be erected; it will be modern throughout and in architecture will be in keeping with the handsome residences of the aristocratic neighborhood.

The Locomobile Co. of America's Chicago branch, formerly located at Michigan avenue and Fourth street, now is installed in a new three story brick and concrete building fronting on the same thoroughfare at Twenty-first street. It has the distinction of being the first motor car sales branch to be established in the Windy City, and until the present migration had never changed from its original location.

Two new garages have been opened in New Haven, Conn., which add considerably to the Elm City's facilities in this line. W. T. Dill, one of the pioneer dealers, just has thrown away the key of his new garage in Crown street, between Park and Howe streets. It is situated in the residential district, and has accommodations for a large number of cars, in addition to a well-equipped repair shop. Wheeler & Wuestefeld are the proprietors of the other establishment, a handsome structure which is said to be one of the largest garages in New England and is completely equipped in all departments. Stoddard-Dayton and Regal cars are handled.

**The Week's Incorporations.**

Pittsburg, Pa.—Pittsburg Motor Car Co., under Pennsylvania laws with \$5,000 capital.

Philadelphia, Pa.—Boulevard Garage Co., under Pennsylvania laws with \$10,000 capital.

Houston, Tex.—Ford Motor Co., under Texas laws, with \$2,000,000 capital; to do business in Texas.

Erie, Pa.—Erie Rubber Co., under Pennsylvania laws with \$25,000 capital. Corporators—W. H. H. Brown and others.

Philadelphia, Pa.—Lyman Tire & Rubber Co., under Pennsylvania laws with \$20,000 capital. Corporators—J. Walton Lyman and others.

Houston, Tex.—Houston Taxicab Co., under Texas laws with \$10,000 capital. Corporators—E. F. Dupree, B. S. Davison and D. F. Simmons.

Adams, Mass.—Tower Motor Co., under Massachusetts laws with \$25,000 capital; general automobile business. Corporators—C. H. Tower and others.

St. Paul, Minn.—Burney Bird Auto Co., under Minnesota laws; general automobile business. Corporators—Burney Bird, Louise Bird and Charles B. Warren.

Canton, Mass.—Compressed Gas Tank Co., under Massachusetts laws, with \$10,000 capital. Corporators—E. B. Smith, E. G. Biddle and H. W. Lester.

New York, N. Y.—Eggler Lubricator Co., under New York laws, with \$25,000 capital; to deal in lubricators, etc. Corporators—C. Meyers, E. Meyers and I. Cohen.

Bridgeport, Conn.—Motor Car Co. of Connecticut, The, under Connecticut laws with \$5,000 capital. Corporators—W. H. Lewis, Edward D. Beach and John V. Schenck.

Buffalo, N. Y.—Powell Motor Co., under New York laws with \$10,000 capital. Corporators—J. W. Powell, D. J. Churchill, G. Morton Wolfe, Earle R. Powell and Fred F. Dye.

Rochester, N. Y.—W. H. Rowerdink & Son under New York laws with \$100,000 capital; to manufacture motor vehicles, etc. Corporators—W. H., N., H. J., and M. W. Rowerdink.

Jersey City, N. J.—Blakeslee-Britten Co., under New Jersey laws with \$50,000 capital; to manufacture automobiles, etc. Corporators—G. E. Blakeslee, E. F. Britten, Jr., and E. E. Downs.

Rock Island, Ill.—Totten Auto Co., under Illinois laws, with \$10,000 capital; general automobile business. Corporators—M. L. Totten, Frank T. Lynch, Elbert G. Don and W. C. Totten.

Omaha, Neb.—Standard Auto Co., The, under Nebraska laws with \$75,000 capital; general automobile business. Corporators—H. E. Wilcox, H. H. MacDonald and Charles C. Merz.

New York, N. Y.—Fleischmann Vehicle Co., under New York laws with \$25,000 capital; to manufacture carriages, automobiles,

etc. Corporators—O. F. and R. H. Fleischmann, P. Damm.

Marion, Ind.—Marion Automobile & Mfg. Co., under Indiana laws with \$10,000 capital; to manufacture automobiles. Corporators—John I. Rennaker, Charles Rennaker and Clifford G. Rust.

Fairmont, W. Va.—Fairmont Automobile Co., under West Virginia laws, with \$5,000 capital; to deal in automobiles. Corporators—E. M. Showalter, H. F. Smith and H. D. Showalter.

Detroit, Mich.—True Blue Motor Co., under Michigan laws, with \$100,000 capital; to manufacture automobiles. Corporators—Maurice Wolf, Wallace E. Brown and Edmund H. Coombs.

Shelby County, Tenn.—Southern Automobile Co., under Tennessee laws with \$25,000 capital. Corporators—M. P. McLaughlin, H. J. Holmes, T. L. Regester, J. M. Williams and H. J. Hasenwinkle.

Bridgeport, Conn.—Rantz Motor Car Co., The, under Connecticut laws with \$25,000 capital; to manufacture automobile parts. Corporators—F. A. Rantz, George Langdon and Augustus Wood.

Augusta, Me.—L. A. W. Motors Co., under Maine laws with \$1,000,000 capital; to manufacture and deal in internal combustion engines, etc. Corporators—E. M. Leavitt, Winthrop, and others.

New Orleans, La.—Myatt-Dicks Co., under Louisiana laws, with \$50,000 capital; general automobile business. Corporators—George E. Dicks, D. O. Myatt, C. B. Dicks and T. J. Ferguson.

Nebraska City, Neb.—R. A. Duff Engineering Co., under Nebraska laws, with \$25,000 capital; to manufacture automobile parts. Corporators—R. A. Duff, Harry Wolfe and Clarence Armstrong.

Chicago, Ill.—Twentieth Century Auto Station, under Illinois laws, with \$2,500 capital; general automobile and garage business. Corporators—Cornelius J. Short, John A. Cameron and Benedict J. Short.

Aurora, Ill.—Downer Place Automobile Co., under Illinois laws with \$25,000 capital; general automobile and garage business. Corporators—Charles S. Battle, Irving Ochsenschlager and John L. Dickes.

Wichita, Kan.—Auto Supply & Tire Co., The, under Kansas laws with \$50,000 capital; to take over business of The Auto Tire Co.; to deal in automobile supplies. Corporators—C. A. Hagberg, O. D. Johnson and others.

Beatrice, Neb.—Jonz Auto Co., The, consolidated with Beatrice Lawn Mower Co., under Nebraska laws, with \$150,000 capital; to manufacture automobiles. Corporators—C. Charles Jones, W. C. Black, Jr., N. E. Jones and J. R. Quein.

Minneapolis, Minn.—Heaney Automobile Co., under Minnesota laws, with \$50,000 capital; to manufacture and deal in automobiles, etc. Corporators—A. P. Heaney, Olivia; J. M. Freeman, Olivia; R. H. Greer, Fairfax, and C. O. Jacks, Minneapolis.

**Michigan Six Gets Money and Plant.**

After exhibiting and creating interest in a six cylinder car for \$1,600, the Michigan Motor Co., Ltd., of Detroit, Mich., has arranged to locate in Rochester, Mich., in the buildings formerly occupied by the Ayres Gas Engine Co. The company is to be capitalized at \$100,000 and is to be assisted in some degree by the Business Men's Association, of Rochester. The promotion of the factory project was negotiated by H. O. Carter, of Detroit, treasurer of the concern.

**Two New Men with Stewart Indicators.**

Fred R. Hill, formerly with the New York office of the Warner Instrument Co., and Harry Weber, formerly with Herz & Co., having joined the traveling force of the Stewart & Clark Mfg. Co., of Chicago, Ill., manufacturers of the Stewart speed indicators. Making his headquarters in Philadelphia, Hill will cover Pennsylvania and southern territory, while Weber will make his headquarters in Kansas City and cover all the Southwest.

**Monitor May Get Wisconsin Money.**

By taking a block of \$50,000 worth of stock in the Monitor Automobile Co., which at present is located in Chicago, the citizens of Janesville, Wis., are to induce the company to move to their city. A committee has been appointed to raise the necessary money, and arrangements are being made to give the company the use of a portion of the large warehouse of Green & Sons for a factory to manufacture motor trucks.

**Harrington Joins the Wise Firm.**

A. C. Harrington, who for the past nine years has been a Packard salesman in the Metropolis, has resigned to take charge of the sales department of S. J. Wise & Co., Fifty-fourth street and Broadway. The latter are the New York distributors for the American Simplex car.

**Arguing G & J-Michelin Patent Suit.**

The suit of the G & J Tire Co. vs. Michelin Tire Co. has been up for argument in the United States Circuit Court in New York City during the past three days. The suit is for alleged infringement of the G & J patents.

**Gabriel Selects a Sales Manager.**

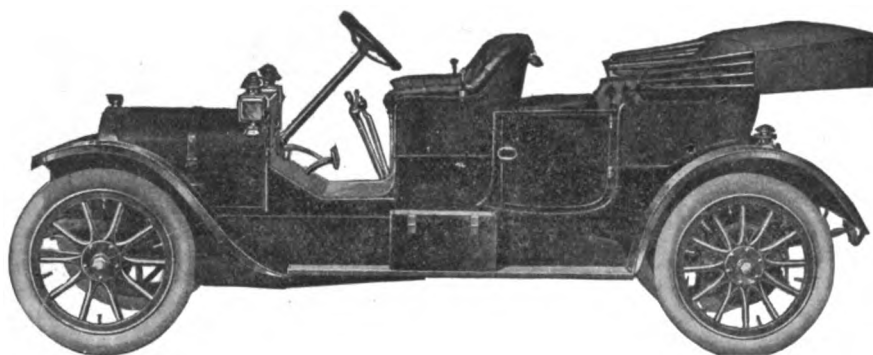
C. H. Foster, of the Gabriel Horn Mfg. Co., of Cleveland, O., has given up the sales management of the business in order to devote more time and attention to the manufacturing end. H. D. Preston has been appointed sales manager.

**Mabley Now in Ball Bearings.**

Carlton R. Mabley, formerly identified with automobile importing interests, has become general manager of the R. I. V. Co., of New York City. The concern handles ball bearings.

# The White Gasolene Car

## is equipped with a Four-Speed Transmission



Do not be satisfied with anything less than a four-speed transmission. Sooner or later, it will entirely supplant the three-speed transmission, just as the latter took the place of the two-speed transmission.

The four-speed transmission is used in practically all cars selling at \$4000 and over, but no other car selling at the White price—\$2,000—is thus equipped. The White is built with a four-speed transmission, because it makes it a better car than if only a three-speed transmission were used. This is typical of the QUALITY of every detail of the White car—for example, a “honeycomb” radiator is used, instead of the cheaper and less efficient tubular radiator; the frame is of crucible chrome-nickel steel, instead of the usual carbon steel; the leather in the upholstery is hand-buffed, instead of the cheaper and almost universally used machine-buffed leather; forty-two days are devoted to painting the car, instead of one-third or one-fourth of that time, etc., etc.

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Write for a copy of our catalog, or, better yet, call on our nearest dealer, so that you may learn the many respects in which the construction of the White is better than ever before found in a car of moderate price.

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Licensed under Selden Patent.

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San Francisco, Market St. at Van Ness Ave.

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CLEVELAND, OHIO**

Chicago, 240 Michigan Ave.  
Pittsburg, 138-148 Beatty St.  
Atlanta, 120-122 Marietta St.  
Toronto, 170 King St., West





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### Calmness While the Fever Rages.

During this era of high and still higher pressure and enormous production, perhaps nothing excited more comment in manufacturing circles than the announcement of a veteran manufacturer of relatively popular priced cars that for 1910 he would turn out only 2,500 cars; as his is a factory of large proportions, his production generally had been estimated at not less than double that number. The resulting remarks chiefly had to do with the "waste" that must ensue.

On the heels of this announcement another old and equally well known manufacturer, whose product sells for higher prices than the other one, tells the Motor World that he is preparing to about halve his output for 1911. This year he will produce 1,800 cars, next year he plans to build but 1,000. His productions generally are reckoned with the tiptoppers, but, good as they are, he means that they shall become

even better; it is his purpose to devote more time and greater pains to each respective vehicle. In effect, it is his purpose to build with an eye to the future rather than with the immediate present in view.

Despite any surprise that may be expressed because of this decision, it is a fact that there are manufacturers who never have permitted the feverishness of the times to enter either their souls or their hands, and, generally speaking, they have commanded high prices for their cars and their reputations now are enviable ones. When one of this class finds it desirable to advertise: "No piece-work; no overtime; no night work; no rush methods," the significance is plain.

The situation is one which well may give pause even to some of those capable of enormous production. While the average man is anxious to make as much money and to get rich as quickly as possible, even that interesting and usually exciting procedure has its disadvantages. There is a future to be reckoned with, and then to have more room and greater facilities than are possible to utilize means more waste and greater loss than now may seem possible. Recovery from a fever usually is a slow process and leaves the patient in a sadly weakened state.

### Concerning Carburetter Design.

While the field of carburetter design at present exhibits quite as much variety as ever it did, it would seem that in one sense at least automobile engineers are coming to a state of positive agreement with regard to the possibilities of carburetter construction. Whereas for a time it seemed that efforts at the production of new types were more in the way of random shots at a mark than well aimed attempts with a common object in view, it now appears that those who have "the heart of the engine" most plainly in their vision have been able to subdivide the general problem involved into two distinct elements, one of which, at least, has pretty nearly ceased to be troublesome.

Obviously it is the double purpose of the carburetter as at present employed, first, to vaporize the fuel, and, second, to give it the proper admixture of air to render it combustible to the degree of explosiveness. Small difficulty is now encountered in atomizing the fuel and thereby reducing it to a point where it can be evaporated

by simple contact with the atmospheric component of the mixture. But in adding that essential quantity of air, varying in proportion to the vapor with every change in operating conditions, no insignificant obstacle must be overcome. Perhaps in just and early recognition of the essential difficulty of the carburetter problem, Charles E. Duryea, the well known pioneer, was moved to term his own devices of this class a "mixer." At all events, it is in the process of mingling the air and gasoline vapor that the greatest divergence of present practice and the widest variety of applied theory is to be found.

In a general way, it would appear that carburetter designers during the past year or so have come to a tacit understanding on one essential point—namely, that it is extremely difficult, if not impossible, to regulate the air inlet by the aid of spring tension alone. In witness whereof may be instanced the relatively great number of devices employing other means of air regulation as compared to those in which springs are employed. As alternatives may be found the weighted air valve with or without partial mechanical control, the hydraulic balance, employed in only one case, so far as is known; and the mechanical interconnection between the jet and air valve or the air valve and throttle. The multiple jet arrangement without provision for extra air introduction may be regarded as another way of admitting the inutility of attempting to govern the mixture by the aid of suction alone, like the mechanical carburetter pure and simple.

Where one carburetter is found to employ a mercury column, the height of which regulates the air opening and itself is governed by the suction; where another employs a positive connection between the throttle and the air inlet, another a series of ball check valves of varying weight, another a series of similar balls, but of the same size and seated over openings of different diameter; and still another the spring seated air valve which has proved so trustworthy up to a certain point—where this much of difference exists in recognized types, it is not to be wondered at that the multiple jet system appears to be gaining ground. However reluctantly the admission may be made, it is conceded by many engineers, moreover, that the latter arrangement, despite its greater complication, is bound to work a little better than the single jet type in its present

form. That this divergence in practice reveals little variety in the form of the jet and its choke tube, however, ably proves the assertion that it is with the mixture, not the vapor, that the real difficulty exists. Also, it goes to show how remote just now is the goal of finality in carburettor design.

#### Possibilities of Body Development.

Perhaps no branch of the automobile industry offers more direct and promising opportunities for development than that of body design. Even granting vast possibilities in the way of mechanical betterments in power plant and chassis construction, it is safe to say that the future will witness most radical changes in conceptions of the purposes and accomplishment of the upper works of the power driven vehicle. So wide and varied are the lines of improvement and expansion open to the body builder, in fact, that it is practically impossible to conceive of their limitations, when the wide range of probable future application of the motor vehicle is considered. In certain more restricted directions, however, it is by no means difficult to indicate ways in which immediate and by no means inconsiderable benefits might be brought about.

To take a single and rather impressive example, the question may be asked: Why is it that the limited traditions of the carriage builder's art should confine the builder of the modern automobile to a body of less width than the wheel tread? For touring purposes and even more insistently for limousine and other enclosed types, the demand is strong for unrestricted interior accommodation. In the direction of the length of the vehicle the passenger space naturally is limited. Beyond a certain point, the rear of the body cannot be extended back of the rear wheels without overstraining the chassis or rendering the vehicle uncomfortable to ride in. In front, present and apparently rational practice places the motor well back of the front axle. Hence, the passenger space is limited in that direction also, save where the general design permits of placing the driver's seat above instead of behind the motor. But in width only a very few vehicles, and those of special types, ever have been brought up to the practical maximum.

An indication of what likely may be expected in future types is to be seen in the wholesome widening of not a few touring

## COMING EVENTS

February 14-19, Buffalo, N. Y.—Automobile Club of Buffalo's eighth annual show in Convention Hall.

February 14-19, Hartford, Conn.—Hartford Automobile Dealers Association's third annual show in Foot Guard Armory.

February 14-19, St. Louis, Mo.—St. Louis Automobile Dealers Association's annual show in First Regiment Armory.

February 14-19, Rochester, N. Y.—Rochester Automobile Dealers' Association's third annual show in Convention Hall.

February 17-19, Grand Rapids, Mich.—Grand Rapids Automobile Club's first annual show.

February 18-22, Fargo, N. D.—Fargo Automobile Dealers first annual show.

February 19-20, Los Angeles, Cal.—Los Angeles Motor Racing Association's track meet at Ascot Park.

February 19-26, Los Angeles, Cal.—Licensed Association of Los Angeles' first annual show in Hamburger building.

February 19-26, Minneapolis, Minn.—Minneapolis Automobile Show Association's exhibition in National Guard Armory.

February 19-26, Newark, N. J.—Associated Automobile Clubs of New Jersey's show in Essex Armory.

February 19-26, Salt Lake City, Utah—Automobile show in Auditorium.

February 21-26, Binghamton, N. Y.—Automobile show in State Armory.

February 21-26, Cincinnati, O.—Automobile Club of Cincinnati's annual show in Music Hall.

February 22, Oakland, Cal.—Automobile Trade Association of Oakland's hill climb.

February 21-27, Cleveland, O.—Cleveland Automobile Dealers Association's annual show in Central Armory.

February 22-27, Milwaukee, Wis.—Milwaukee Automobile Club's second annual show in Auditorium.

February 23-26, Denver, Colo.—Denver Motor Club's annual show in Convention Hall.

February 24-March 3, Toronto, Can.—Ontario Motor League's show in St. Lawrence Arena.

February 28-March 4, Omaha, Neb.—Omaha and Council Bluffs Automobile Dealers' show.

February 28-March 5, Omaha, Neb.—Omaha and Council Bluffs Automobile Dealers' show in Auditorium.

February 28-March 5, Kansas City, Mo.—Kansas City Automobile Dealers Association's fourth annual show in Convention Hall.

March 5, New York City—Annual New York-Boston midwinter endurance run for Perlman trophy.

March 5-12, Boston, Mass.—Boston Automobile Dealers Association's eighth annual show in Mechanics Building.

March 5-12, Cleveland, O.—Cleveland Automobile Club's eighth annual show in Central Armory.

March 5-12, Des Moines, Ia.—Des Moines Automobile Dealers Association's first annual show in Coliseum.

March 17-19, Louisville, Ky.—Louisville Automobile Dealers Association's annual show in Armory.

March 12-19, Syracuse, N. Y.—Syracuse Automobile Dealers Association's annual show in State Armory.

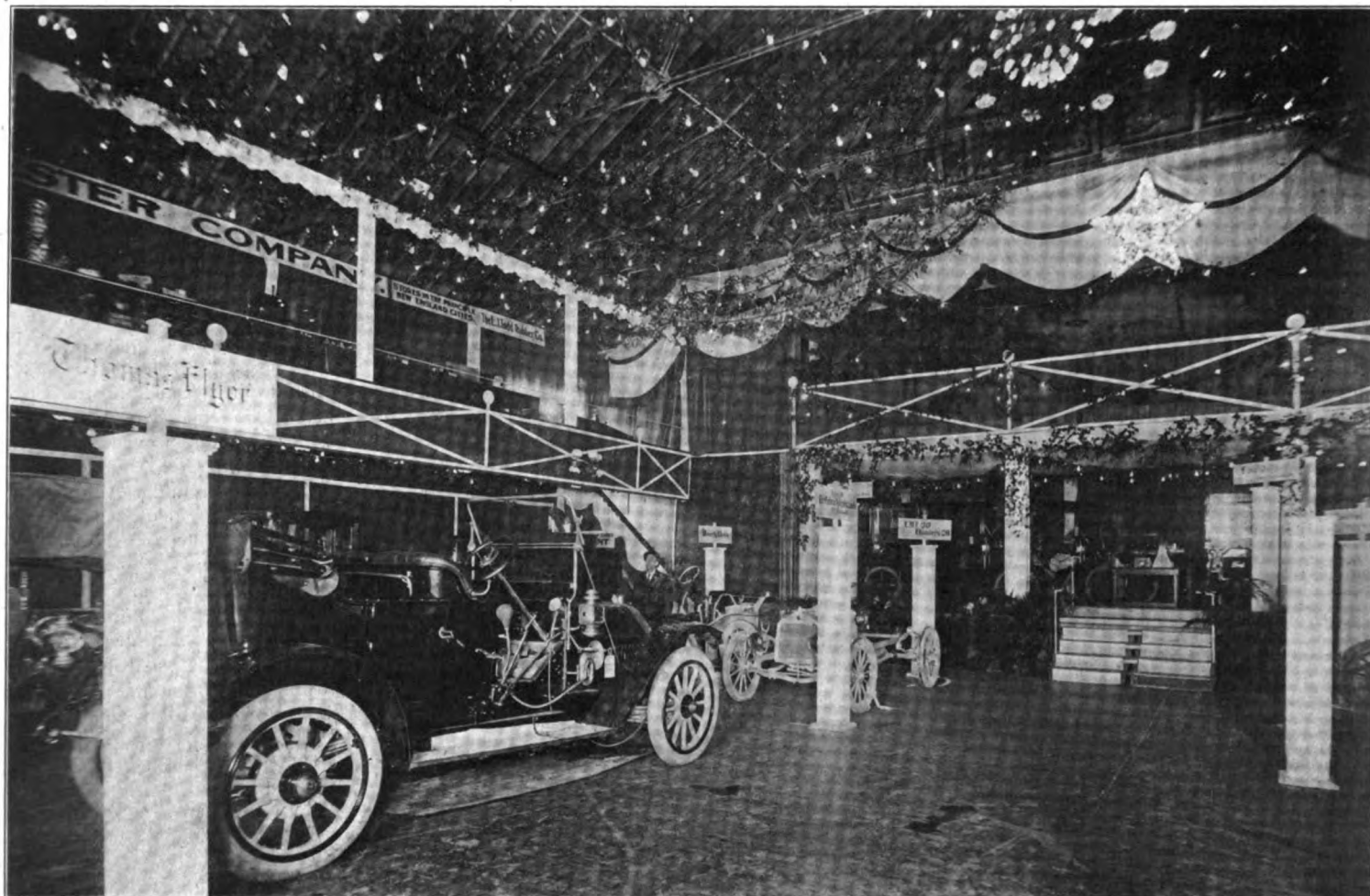
March 20, San Francisco, Cal.—San Francisco Motor Club's hill climb on Nineteenth avenue hill.

bodies this year by the simple device of cutting into the sides in order to form pockets for the wheels, and so lengthening the rear seat. The limit in this direction, however, will not be reached until the total width of the body practically equals the total width of the running gear from outside of hub to outside of hub.

In at least one special touring body deluxe which has been produced in this country, this idea has been carried out successfully. The very respectable addition to the amplitude of the body thus brought about, while contributing largely to its weight, may be compensated for by reducing its length, if necessary. Other objections to it, such as the liability to injury in close running traffic, the implied awkwardness of the entrance and the added

weight above the normal center of gravity, readily may be taken care of by the careful designer in ways which at once suggest themselves upon a moment's thought, and some of which already are in use under different circumstances. Altogether, the possibilities involved appear to be such as cannot readily be overlooked for long, especially when the demand for commodious and comfortable bodies is increasing at its present rapid rate. All that is required in bringing about this and other possible improvements is a disposition to adopt the useful traditions of the carriage makers, along with their skill in construction and art in delineation, without at the same time following too slavishly the traditions which were bred of the older and more restricted conditions of their ancient craft.

## The Five Local Shows that Marked the Week



VIEW OF THE HARTFORD SHOW IN FOOT GUARD ARMORY

### Hartford has a "Big" Show and a "Little" One

Complete to the last detail and surpassing its predecessor in the brilliancy of its decorations and character of exhibits, the third annual show of the Hartford (Conn.) Automobile Dealers' Association was launched under most auspicious conditions in Foot Guard Armory on Monday night, 14th inst., and will continue until the 19th. It is the largest and best motor function that the Nutmeg capital ever has witnessed and reflects great credit on the show committee, composed of F. W. Dart, E. G. Biddle and W. L. Ledger, who worked hard to make the affair a success. The prevailing idea of the decorative scheme is clearly shown in the accompanying photograph and represents the interior of a colonial residence, and to further heighten this effect, the only colors used are red and white. The walls are covered with red and white burlap arranged in panel effect, and the ceiling is hidden by a canopy formed of streamers

of red and white electric lights trimmed with smilax. Over 4,100 lights are used in the illumination scheme, and the decorative efforts represent an outlay of some \$5,000.

Several innovations are introduced this year, among which are a set of cathedral chimes, which ring forth twice each day, accompanied by the turning off of the lights temporarily. One of the striking features of the show is the double decked stage, on the upper portion of which the orchestra holds forth. Although detracted from in effectiveness somewhat by the crowded condition of the stage, where some exhibitors are installed, the vaudeville sketches which are put on each day are a departure which take immensely with the visitors. While at no time suggestive of metropolitan proportions, the attendance was large on the opening night, and bids fair to increase as the show grows more mature.

Considerable ingenuity was required to find room for the 43 exhibitors, and at that not all demands for space were satisfied, several dealers being compelled to hold "private shows" at their salesrooms. There are some 17 exhibitors of cars, who display over 60 machines of various makes and models. Of course, the cut-out chassis operated by electric motors, which are shown at a few stands, are never wanting for attention. Among the newcomers which are seen at a Hartford show for the first time may be mentioned the Lozier, Empire, Flanders, Everitt and Baker electric. What they lack in numbers is more than offset by the accessory men in the wealth of fixings for cars; and the assortment shown by the Post & Lester Co. and Charles E. Miller is well-nigh bewildering. Their displays include practically everything from a cotter pin to a top, and from a tire patch to a wind shield.

The list of exhibitors and their wares follows:

**Gasolene cars**—Elmer Automobile Co., Ford; Reo Automobile Co., Reo and Knox; Brown, Thomson & Co., Stevens-Duryea, Cadillac and Lozier; Palace Auto Station Co., Thomas, E-M-F. and Flanders; R. D. & C. O. Britton Co., Maxwell; Miner Garage Co., Pierce-Arrow and Buick; Kilby & Barrett, Jackson; Dunbar & Mansir, Elmore; Foster & Co., Rambler; Capitol City Auto Co., Mitchell; J. T. Curtiss Co., Inter-State, Velie and Everitt; C. K. Hansen, Hupmobile; S. C. Hutchins, Franklin; Kaeser & Wilbur, Empire.

**Electric vehicles**—Palace Auto Station, Waverley; Electric Auto Station, Baker.

**Motorcycles**—George S. Maslen, Indian.

**Accessories**—Post & Lester Co., Charles E. Miller, Hartford Automobile Boat &

Supply Co., G. W. Fuller Co., Smith-Worthington Co., Holcomb Tire Repair Co., Myhtib Composition Co., Fairbanks Co., H. T. Hart Co.

There really were two shows running simultaneously, although not in opposition to each other. Thus Hartford this week has reached a prominence never before attained in the annals of local shows. In addition to the annual dealers' show in Fort Guard Armory, which is the recognized local motor function of the season, there is another show of lesser size occupying the boards at the Park Casino, better known as the old First Regiment Armory. It is the first effort of the newly formed Connecticut Automobile Show Association, and opened on the 14th in a somewhat incomplete state, several cars having failed to arrive in time. There are some twenty cars on exhibition,

among them the Corbin, Staver, Moline, Jackson, Haupt, Winton and Matheson, several being exhibited by their makers or out-of-town dealers. It is entirely a vehicle show, no accessories being displayed, although it was not because of lack of room, for the spacious building is not in the least tested to its capacity. Resplendent in a coat of white paint and a new floor, the Casino presents a pleasing appearance. The walls are decorated with flags and hanging signs from the ceiling suspended over each booth bear the names of the cars displayed. Streamers of colored electric lights add to the attractiveness of the decorations. While the attendance on the opening night was rather slim, the management hopes for better things during the week. The show will break camp on Saturday night, 19th.

## Stars and Stripes and 65 Exhibitors at Buffalo

To the tune of the Star Spangled Banner and by the pressing of a button by Mayor Fuhrmann, which set over 8,500 electric lights aglow, the annual automobile show under the auspices of the Buffalo (N. Y.) Automobile Trade Association and Automobile Club was inaugurated in the old Broadway Arsenal on Monday night, 14th inst. It will run for the entire week. With the national colors predominating, it is termed the "Old Glory" show, and it is the "largest and best" ever held in the Bison City. Quite different from the outdoor decorative schemes which have been striven for by other show promoters this year, is the Buffalonian idea of a show setting. Under the roof of the big drill shed is a huge American flag, said to be the largest in the world. It is studded with lines of lamps and when illuminated diffuses billows of light from the alternate stripes. There are 48 stars, each set with a lamp, but only 46 are in commission, the remaining two not being connected as the two prospective states, Arizona and New Mexico, will not receive their degree until July. Beneath the flag are 72 tungsten lamps. In the south end of the building is suspended a Curtiss aeroplane, which attracts considerable attention.

There are 65 exhibitors, of whom 38 show cars, there being some 60 makes of

cars on view. Around the side wall are placed shields and rosettes of bunting and at each stand are standards on which are mounted union shields bearing the name of the exhibitor. Of course, home products, as embodied in the Pierce-Arrow and Thomas, are a source of much pride and are centers of attraction. There is a brave showing of accessories and their novel displays and demonstration gather massed groups of interested visitors.

The exhibitors include the following:

**Gasolene cars**: Niagara Motor Car Co., Hupmobile; Joseph B. Schmitt, Lambert; John J. McCullough, Moon; Poppenberg Motor Car Co., Reo; Albert Poppenberg, Overland, Marion, E-M-F.; Densmore Co., Packard; Kane Motor Supply Co., Peerless, Cadillac; Meyer Carriage & Auto Co., Pullman; Franklin Automobile Co., Franklin; Pierce-Arrow Motor Car Co., Pierce-Arrow; E. R. Thomas Motor Co., Thomas; The White Co., White, steam and gasolene; Ralph E. Brown Motor Car Co., Winton and Regal; Mason B. Hatch, Chalmers and Stearns; Centaur Motor Co., Oldsmobile, Oakland and Rapid; Chittenden Motor Car Co., Mora; John J. Gibson Co., Pope-Hartford; J. A. Cramer, Stoddard-Dayton, Mitchell and Courier; Henry Brunn Auto Co., Haynes; Ford Motor Co., Ford; B. & P. Morton Co., Moline; F. A. Sherman,

Inter-State and Empire; Buick Motor Co., Buick and Welch; Co-Operative Motor Car Co., Hudson, Knox and Stevens-Duryea; Maxwell-Briscoe-Buffalo Co., Maxwell; Bison Motor Car Co., Columbia, Abbott-Detroit and Krit; Louis Engel, jr., Cartecar; Dixon Motor Car Co., Velie; G. E. Kibler, Sterling and Black Crow; F. A. Ballou Co., Selden; Windsor Motor Car Co., Kline; Sagamore Motor Supply Co., Ohio; Winter Motor Car Co., Everitt; American Motor Truck Co., American; Victor Motor Truck Co., Victor; Buffalo Maintenance Co., Grabowsky trucks; Powell Motor Co., Rider-Lewis trucks.

**Electric vehicles**: Fargo Electric Garage Co., Detroit; Babcock Electric Carriage Co., Babcock; Brown Motor Car Co., R. & L.

**Accessories**: E. E. Denison Co., bodies and tops; Jaynes Auto Supply Co., supplies and accessories; The Kleinhans Co., motor raiment; P. & F. Electric Co., supplies; Combination Switch Lock Co., accessories; Robertson Cataract Co., speedometers; Iroquois Rubber Co., accessories; F. G. Crone, valve grinding tool; Warner Instrument Co., Warner Auto-Meters and clocks; James G. Barclay, accessories; Cuba Garage Co., accessories.

**Motorcycles**: Emblem Mfg. Co., Emblem; American Motor Co., M-M.

## Patriotic Decorations and 81 Exhibits at St. Louis

Embracing many of the best exhibits shown at Chicago the previous week, the fourth annual automobile show of the St. Louis (Mo.) Manufacturers and Dealers Association was staged in the First Regiment Armory on Monday night 14th inst., and will continue throughout the week. It is the largest and best show that the Mound City ever has seen and is the crowning effort of an indefatigable show committee which set out to eclipse all previous records, and succeeded. The number of exhibitors is more than double that of any

previous exhibition, 66 showing complete cars, and 15 furnishing the accessories that go with them, making 81 all told. Over 200 cars are displayed, representing approximately 90 different brands. Many of these are specially finished machines which were prepared for the Chicago show and subsequently were transplanted, a special train bringing in 40 carloads.

This year's show is being held in the Armory for the first time, which was selected instead of the Coliseum, the scene of previous exhibitions, on account of the

much greater space which it affords. The martial hall has been splendidly decorated, over \$2,000 having been expended to afford an appropriate setting for the exhibits. Red, white and blue are the predominating colors, and the ceiling is concealed by a tent-like canopy. The side walls are decorated with bunting, and flags are employed to relieve the uncouthness of the rafters. Along the sides of the hall are placed large palms, lending a tropical effect to the scene. The floors of the exhibit spaces are covered with white duck bordered with red. This



primping up of the floor, combined with the decorations, serves to produce a most pleasing picture effect. Following is a list of the exhibitors and their offerings:

Gasolene cars—Acme Auto Co., Kisselkar; Bagnell Auto Co., Cadillac; C. F. & J. R. Brown, Peerless; Buick Motor Co., Buick and Welch; Colonial Auto Co., E-M-F.; Dorris Motor Co., Dorris; Ford Motor Co., Ford; Gardner Motor Car Co., Lexington; Halsey Auto Co., Packard and Stevens-Duryea; Kirdell Bros., Reo and Falcarg; Lindsay Motor Car Co., Inter-State; Maxwell-Briscoe Co., Maxwell; Missouri Motor Car Co., American Simplex and Marmon; Moon Motor Car Co., Moon; Olds Motor Works, Oldsmobile and Oakland; Park Auto Co., Chalmers, Thomas and Hudson; Phillips Auto Co., Atlas; Victor Auto Mfg. Co., Victor; St. Louis Car Co., Standard Six; South Side Auto Co., Stanley steamer, Mathewson and Corbin; Sterne Motor Car Co., Great Western, Gaeth and Rider-

Lewis; Swingley Motor Car Co., Stoddard-Dayton; Western Auto Co., Pierce-Arrow; H. F. Van Cleave, Speedwell; McDonald Auto Co., Knox; St. Louis-Stearns Co., Stearns and Brush; White Garage Co., White steam and gasolene; Kingman-St. Louis Implement Co., Rambler; J. Cunningham, Son & So., Cunningham; Darby Motor Car Co., Darby; Petrie-Phillips Auto Co., Parry and Paige-Detroit; St. Louis-Overland Co., Overland; Glide Motor Co., Glide; St. Louis Garage Co., Johnson; Cook Motor Vehicle Co., Krit; Charles F. Luhn, Winton; General Motor Car Co., Hupmobile, Regal and National; Central Garage Co., Sterling; Heler-Royster Auto Co., Apperson, Cartecar and De Tangle; Weber Implement Co., Mitchell; Capen Motor Car Co., Locomobile; John Deere Plow Co., Jackson; Missouri Automobile Co., Westcott; Midland Auto Co., Midland; Eureka Motor Car Co., Empire; Whittaker Motor Car Co., Everitt; Del-

mar Motor Car Co., Buffalo trucks; Haynes Automobile Co., Haynes; Pope-Hartford Auto Co., Pope-Hartford; Franklin Auto Co., Franklin; Springfield Motor Car Co., Springfield; Middleby Auto Co., Middleby; Embree-McLean Carriage Co., Embree.

Electric vehicles—C. F. & J. R. Brown, Detroit; Park Auto Co., Baker; Phillips Auto Co., Babcock; Union Electric Light Co., R. & L., Studebaker; W. C. Lewis, Woods; Priesmeyer-Stevens Co., Waverley; Cook Motor Vehicle Co., Columbus; Oscar Stroh, Broc; Smith Auto & Battery Co.

Accessories—Behen-Faught Motor Car Equipment Co., Western Oil Pump & Tank Co., Phoenix Auto Supply Co., Kupferie Bros., Vehicle Top & Supply Co., H. J. Barton, Henderson Willis Co., Carter Carburetter Co., W. F. Polson, Star Rubber Co., Garage Equipment Co., Lakewood Chemical Co.; F. L. Stewart Building & Realty Co.

## Rochester "Borrows" Grand Central Palace Dressing

With the largest number of exhibitors ever congregated at a local motor exhibition, the third annual automobile show of the Rochester (N. Y.) Automobile Dealers' Association in Convention Hall opened its doors on Monday night, 14th inst., booked for a week's engagement. Although the building has been enlarged during the past year, it was filled to capacity with cars and accessories, and there was the usual proportion of shut-outs who were forced to resort to private shows in their salesrooms. With the acquisition by the alert show committee of the decorations used at the Grand Central Palace exhibition in New York City, and here arranged in much the same manner, the present function easily excels its predecessors in the elaborate nature of its decorations.

Green and white are the prevailing colors, and in the main hall the ceiling is concealed by streamers of the reigning hues extending from the stage to the balcony. Around the balcony runs a series of arches conveying a semi-Oriental effect, while the walls are covered with mural landscape scenes. Dividing the booths are green and white lattice pillars crowned by translucent globes. With about 2,000 electric lights aglow, the hall was lighted more effectively than ever before and added greatly to the splendor of the scene. Of music there was an abundance, no less than three bands, located in different parts of the

building, dispensing melody. On the opening night over 5,000 people attended the exhibition and the box office has continued to do a good business.

There are some 78 exhibitors, 24 of whom show complete cars. Among the latter which are uncovered for the first time are the Cunningham, Brockway and Arnell electrics, all local products. The Cunningham, which is produced by an old carriage firm, is made in one type of chassis only and is built along conventional lines. It has a four cylinder 30 horsepower motor, sliding transmission and shaft drive. Wheels are 36 inches all around. As would be expected from a long established carriage concern, several attractive types of open and enclosed bodies are offered. The list of exhibitors is as follows:

Gasolene cars: William C. Barry, Jr., Selden; Austin F. Crittenden, Haynes; James Cunningham, Son & Co., Cunningham; Franklin Automobile Co., Franklin; Genesee Motor Vehicle Co., Maxwell and Corbin; Gillis-Strickland Co., Locomobile, Hudson and Chalmers; C. E. Hartson, Morra; A. Vernon Hart, Thomas and Oakland; S. J. Macy Co., Palmer-Singer; Arthur McNall, Peerless and Pope-Hartford; Mabbett-Bettys Motor Car Co., Cadillac and Stevens-Duryea; McKenney-Gilpin Co., Overland and Marion; Thomas J. Northway, Oldsmobile and Ford; Oothout & Co., Gaeth; F. W. Peck, Studebaker,

E-M-F., Flanders and Schacht; . H. Rowerdink & Son, Brockway; Rochester Automobile Co., Packard; Fred C. Schutt, Patterson and Middleby; H. E. Tanner, Rambler; W. H. Wilcox Co., Marmon; A. M. Zimbrich, Matheson, Stoddard-Dayton and Courier; Jenkins Motor Car Co., Jenkins; Hollis-Rand Co., C. L. Whiting; Union Motor Car Co., Marsh Walzer.

Electric vehicles: Babcock Electric Garage & Sales Co., Babcock; A. Faber Co., Studebaker; A. V. Hart, Columbus; Max B. Jacobi, Woods; Arthur McNall, Arnell; Sager & Elliott, Detroit.

Motorcycles: A. D. Cook, Curtiss.

Accessories: Rochester Sporting Goods Co., Rochester Rubber Co., Flynn Bros., Beers Bros., Sullivan Bros., Gabel-Hill Co., S. B. Roby & Co., Ideal Carriage Washer & Automatic Water Saver Co., Wheeler-Green Electric Co., Union Oil Works, Charles S. Gibbs, Marks & Fuller, Henry Likely & Co., Rochester Electric Contracting Co., Standard Metal Work Co., George S. Searle, Charles A. Merkel, L. J. Barth, R. Patterson, Sterling Oil Co., Rochester Timer Co., Kimpson Co., F. B. Rae Co., Kellogg Mfg. Co., Rudolph Schmidt & Co., O. J. Garlock, Duffy-McInnerney Co., Harry Harrison, Ward Fisher, Edward J. Geyer, C. P. Smith Co., S. J. Macy Co., Elbridge Engine Co., Horton Boat, Engine & Supply Co., John J. McGreal, Rochester Railway & Light Co.

## Parade Precedes Los Angeles's "Independent" Show

Preceded by a parade of gorgeously decorated cars with over 200 machines in line, the automobile show season in Los Angeles, Cal., was ushered in on the evening of the 7th inst., when the first independent show in the Grand avenue rink, under the sponsorship of the Automobile Dealers Association of Southern California was inaugur-

ated. It was the largest motor exhibition ever held in the Angel City, over 100 machines, comprising some 40 different makes, being exhibited. Although it was termed an "independent" show and most of the cars on exhibition belonged to what is known as the unlicensed division, there were a few licensed cars shown, despite the fact

that the local licensed dealers have arranged to hold a show of their own later. An international flavor was lent to the function by the presence of two well known foreign machines, the Fiat and Isotta, while home prestige was represented by the Durocar and California.

Never before in its history was the in-

terior of the old rink so handsomely embellished with decorations. When the visitors entered the building it seemed like a veritable fairyland, with its thousands of lights aglow. At the intersections of the aisles huge pillars of white and gold were placed, and across the aisles was a trellis hung with mercury wheel emblems. The pillars were wound with smilax and smaller standards were placed at intervals along the aisles. Starting off with a first night crowd of 5,000 people the show proved a good drawing card throughout the week, the total attendance being estimated at 35,000.

Torpedo and gunboat bodies, of which naturally there was a profusion, were, of course, the center of interest. They were shown in several forms and colors, one in battleship gray being particularly attractive. One of the most interesting exhibits in the show was that of the Californio Auto Top Co., where the processes connected with the manufacture of tops were shown. Much interest also was manifested in the electric pleasure cars and commercial trucks, these sections being larger than ever before.

The exhibitors were the following:

Gasolene cars—G. W. Watson, Fiat; California Automobile Co., California, Firestone-Columbus and Monrovia trucks; Standard Motor Car Co., Ford and Velie; American Automobile Agency, American; Burt Motor Car Co., Auburn; Pioneer Commercial Auto Co., Reliance trucks; Williams Auto Co., Petrel; Burkhard-Crippen Motor Car Co., Lexington; Durocar Mfg. Co., Durocar; Vail Motor Car Co., Pennsylvania; W. K. Cowan, Rambler; Jung Motor Car Co., Sterling; Pico Auto & Carriage Co., Paterson and Whiting; Tri-State Motor Car Co., Hupmobile; Fred A. Connell Co., Falcar; Blinn & Kinehan, Welch; Mountain & Carrigan, Royal Tourist and Midland; Angelus Motor Car Co., Rider-Lewis and Lane steamer; W. P. Book, Alco; National Auto Co., National; H. J. Vogel, Great Western; Bosbyshell-Carpenter Co., Dorris; Southwestern Motor Car Co., Badger; Munn Auto Co., Empire; Motor Car Import Co., Isotta and Halladay; M. S. Bulkley, Autocar; Brush Motor Car Co., Brush; W. A. Evans, Waverley; R. & L. Co., R. & L. electric

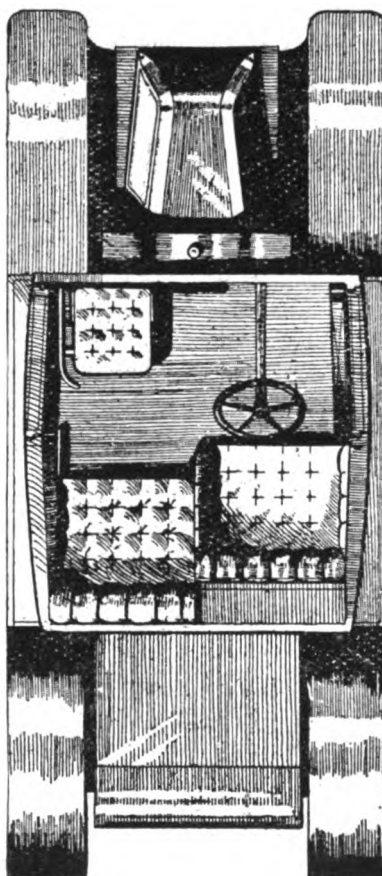
#### Motor Express with Extensive Plans.

Planning to provide motor truck service that will reach not only from New York to Philadelphia, but will take in Long Island, Atlantic City and a territory including a good part of New Jersey and up into New York State as far as Middletown, the Auto Express Co., incorporated in Paterson, N. J., last year with \$2,000,000 capital, is making ready to place in service some 75 vehicles. The president of the concern, George Hardy Paine, indicates that a large central office will be established in New York City and that trucks will run on a regular schedule through Jersey City and Newark to Trenton, where they will connect with others running to Philadelphia.

## MOTOR CAR FOR KINDERGARTEN

For Use in Bad Weather a Smart Little Body Finds Increasing Favor—Idea of a British Builder.

Primarily a wet weather vehicle, the inside driven coupe may be handily termed a doctor's rig, and so has been named by more than one maker. At the same time, its general convenience for users outside the professional class, who wish to use their cars in all weathers and with the same sort of protection against the elements that



DESIGN OF INSIDE DRIVEN COUPE

is granted by the limousine, make it seem almost a reproach even to appear to limit its use by terminology. For the owner of the small and medium sized car, as well as for the owner who prefers to drive his own machine and carry not more than one or two passengers and no chauffeur, it is eminently fitted. For those who, while desiring the comforts of the inside driven vehicle also wish to have the chauffeur along, there is the rear rumble seat design, which has been introduced in one or two instances, and which, while by no means a beautiful affair, yet serves its purpose most admirably.

The accompanying illustration shows a scheme developed by a British builder to satisfy the requirement of the owner whose particular desire is for means to accommodate the inevitable, though occasional

"extra" man—or woman—who may be expected to pop up at any time and demand a ride. By splitting the main seat and placing that of the principle passenger a little to the rear of the driver's position, it will be seen that an unusually liberal amount of floor space has been secured on the left side of the vehicle. This is utilized by fitting a turn down seat for one to the inside of the dash, thus providing for the more or less unwelcome "third party," while at the same time, in his or her absence, guaranteeing ample room for the second passenger. Thus without crowding the driver, or in any way spoiling the exterior lines of the vehicle, an appreciable amount of extra stowage space also has been provided behind the driver's seat, as well, which may be used for tankage, or for storing small articles, according to the circumstances.

The true hybrid of limousine and coupe, though not yet popular, already has made its appearance in this country. It consists of the coupe type of upper body, fitted over a four or five passenger seating arrangement, and is suggestive of a very much condensed Berlin body, save that there is no dividing partition between the front and rear seats. This type may be made as graceful and ornamental as may be desired, and doubtless will serve a useful purpose, and grow in prevalence within a very short time. Like the smaller coupe, it is one of those supplementary features of the general improvement of conditions in body mounting, which is destined to please and satisfy the more exacting and fastidious classes of the trade.

#### "Punishment" and Marmon Features.

Without undue parade of fact or display of needless detail, the pertinent characteristics of the Marmon "Thirty-two" car are concisely set forth in a neat and compact catalogue just issued by Nordyke & Marmon Co., Indianapolis, Ind., manufacturers of the Marmon cars. The details of the oiling system, which provides for the constant flooding of all bearing surfaces by a supply of newly filtered oil, and which has been a Marmon feature for several years; the general details of engine and transmission construction clear through to the staunch little rear axle and the various body shapes provided, all are depicted and explained.

The title "Punishment" affords opportunity to present in extended form an account of the contest achievements of the Marmon cars during the past year. This material, sometimes fitted into overcrowded catalogues, in this case takes the form of a separate booklet which gives in narrative form the story of Marmon performances in the various events in which it has figured so successfully. "Experience and Opinion" is the title of a third contribution to Nordyke and Marmon literature, just issued, and it contains exclusively the views of more than four score Marmon users, who vouch for the success of the car.

### MAKING TOURING LUXURIOUS

**Pierce-Arrow Adds Touring Landau to Its Regular Line—The Many Conveniences Which It Affords.**

Following the recent exhibition in the Madison Square Garden show in New York City of its elaborate touring landau, the

rapidly as the demand for them arises, however, it is not likely that the innovation of a new model brought out in February for summer delivery will be considered the radical enterprise it would have at an earlier time in the history of the industry.

The object of the new design is to provide every possible comfort for the motorist engaged in extended touring. The car

ment giving the full protection of the limousine.

In order to enhance its value from the convertible standpoint, the open effect is accentuated by the elimination of the customary permanent hood or deck over the driver's seat and the fixed glass front. Instead the driver is protected by means of a folding victoria top, while the usual stand-



PIERCE-ARROW TOURING LANDAU



FRONT VIEW SHOWING FOLDING TOP

Pierce-Arrow Motor Car Co., Buffalo, N. Y., has announced a permanent type of vehicle to be made along similar lines and produced in limited quantities for delivery in time for the approaching touring season. In previous years, the announcement of a

is a development of one built last year for the use of a customer who was traveling abroad and in its present form represents one of the most splendid products of the body builders' art yet mounted on an automobile chassis, considering its practical-

ing wind shield is replaced by a folding glass front, set back of the dash. In open form, therefore, practically the only obstruction to the passengers' view is the framework for the front and the door window frames.

Unusually liberal provision for carrying supplies and spare parts is provided by the adaptation of special boxes built into the running boards and extending the entire length of the boards, from fender to fender. As the top of this locker space is higher than the ordinary running board, a special

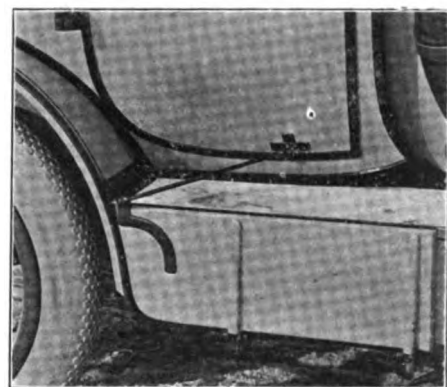


LUXURIOUS INTERIOR OF PIERCE-ARROW

new model just after the conclusion of the Chicago show would have been regarded as most extraordinary. With the absolute elimination of the season idea in marketing cars, which has left manufacturers free to introduce new elements in their lines as

bility as a vehicle as well as the variety of accommodation which it affords. While of the type usually classed among closed vehicles, it is so constructed as to afford practically the advantages of the open car when such are required, the alternative arrange-

form of folding step has been adopted, which is raised and lowered automatically by the closing and opening of the side doors and which, when not in use, lies close up against the tool receptacle and entirely out of the way. Thus relieving the



FOLDING STEP DESIGN

space under the rear seat from its ordinary capacity as spare parts storehouse, that location has been adopted as suitable for the drawers which contain the luncheon kit, which forms a part of the complete equipment of the vehicle.

As facilities offered the tourist at wayside hotels are not always of the best, a folding lavatory of the yacht type is installed at the back of the front seat, the cabinet also including ample space for carrying towels, brushes and other toilet accessories. Water for the basin is supplied under pressure from a tank beneath the car. On either side of the cabinet are robe and coat racks. The upholstery is of tooled Cordovan leather, such as has been used in Pierce-Arrow enclosed cars for several years.

By way of luggage carrying capacity, provision is made for the mounting of three small trunks in the boot on the back of the car, while two others, in waterproof cases, may be carried on the roof. The chauffeur's trunk also is provided for in the space usually devoted to supplies, while some idea of the way in which every spare unit of space has been accounted for may be gained from the method of mounting the gas tank under the body. The special mounting is placed on a 66 horsepower chassis, like all other Pierce-Arrow products, of six cylinder construction.

Owing to the necessity of time for the manufacture of these cars, orders for them will not be accepted after April 1st, deliveries to be made later in the year and in time for the touring season. The price of the car complete, except for special interior equipment, is \$8,250. The trunks, lap robes, towels and luncheon kit, it is assumed the owner would prefer by personal selection. If desired, however, they will be furnished with the car at modest advances of \$200 for the trunks, \$65 for the luncheon kit, \$25 for the lap robes and \$10 for the towels.

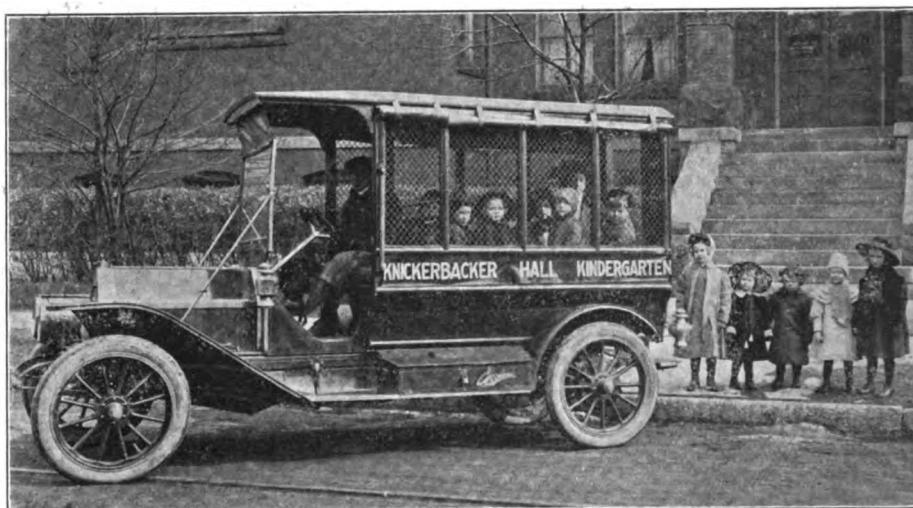
#### Odd Trailer for a Motor Stage.

So many passengers crowded the accommodations of the automobile stage between Sacramento and Folsom, Cal., that the problem of carrying an increased number without overloading the car or the tires was presented to the proprietor in an urgent way, and that he has taken an ingenious method of solving it is disclosed by the accompanying illustration, which shows the "road train" effect which has been accomplished. Attached to the rear axle of the original car is the rear portion of an additional frame and body, mounted on a regular rear wheel suspension, but void of motor or driving mechanism. By the addition of the "trailer" the passenger carrying capacity of the stage line has been doubled. The outfit, which is equipped with Morgan & Wright tires, has been running between the two cities 4,500 miles a month for the past three months, with no trouble from either the mechanism or the tires, and generally giving satisfaction.

## MOTOR CAR FOR KINDERGARTEN

**Specially-Built Vehicle for Unusual Use—  
The Manner in Which It is Employed  
by Indianapolis School.**

Along with the police patrol, the fire hose wagon and the omnibus, various municipal services which used to be inseparably connected with horse traction gradually are being won over by the motor vehicle, and along with them many which are unofficial. In Indianapolis, one of the latest and most approved of local institutions to be modernized in this way is the private transportation service of the Knickerbacker Hall kindergarten. As the picture shows, the



KINDERGARTEN CARRIER IN USE IN INDIANAPOLIS

little tots who are being helped over the first uneven steps along the path of learning now are carried to and from school in most approved and expeditious fashion, much to their own delight and the edification of their elders. The vehicle employed in this novel service was supplied by the Overland Automobile Co., and in general form bears an unmistakable though unintentional resemblance to the conventional motor "hurry-up" wagon. In service the advantage of the motor kindergarten 'bus has proved to be very great. Not only is the work of collecting and afterward distributing the pupils performed in less than half the time each day that was required when horses were employed, but a greater amount of territory can be covered. Pupils now can be reached who before were practically inaccessible, while it goes without saying that the thirst for knowledge among the very young of Indianapolis has been stimulated to a degree that is wholly unprecedented.

#### The Story of the Cramps.

To the younger generation in the automobile industry, which is familiar with the name Cramp chiefly in connection with the production of bearing metals and bronze

castings for axles and other parts, a world of revelation is contained in the recently issued souvenir volume, "Cramp's Shipyard, 1830-1910." The broad scope at present covered by the William Cramp & Sons' Ship & Engine Building Co. is pretty generally known, though its historical significance in connection with the development of the navies and merchant marine of this and other countries is not so widely appreciated. An inkling of its prestige is afforded to those who may have been unaware of it by the long and impressive list of vessels of all types which have been launched from the Philadelphia yards of the company and which, in its entirety, numbers 366.

The business was founded in 1830 by William Cramp, and was incorporated under its present name in 1872. The I. P. Morris Co.

and the Kensington Shipyard Co., the former contributing a large measure of success to the major enterprise in its special work of producing power plants and the general machinery essential to marine transportation, were later acquisitions.

The foundry business was established in 1885 as B. H. Cramp & Co. and was taken over by the present controlling interests in 1892. Originally engaged in the production of specialized castings for consumption at the Cramp yards, its field has been extended by gradual degrees, assuming most important proportions since 1894, when, by arrangement with the Manganese Bronze and Brass Co., Ltd., of Great Britain, it became sole American concessionary for the processes and formulas of that enterprise. Its important service to the automobile industry has been founded upon the privileges thus acquired, reinforced by the clever artistry and ripe experience bred by many years of manufacturing history lived under the close restrictions of shipbuilding tradition. The history of the company, told in brief language in the volume mentioned, is illuminated by photographs of the more important products in marine and stationary engineering lines and tabulated specifications.



## HERE'S THE GAS TURBINE AGAIN

Originates in England and Suggests Real Progress—Cooling Problem Handled in a Novel Fashion.

Although the gas turbine has not yet materialized in marketable form, its theoretical advantages are so great that it acts as an irresistible lure upon many inventors. Encouraged by the remarkable success of the steam turbine in marine and stationary engineering practice, not a few gas turbine projects are being nourished which in process of time may be expected to materialize. One of the first of these to assume tangible proportions is an English device, the invention of R. E. Morgan, of Birmingham. It is designed specifically for automobile use and has just been disclosed as a commercial prospect. Contrary to custom with sundry gas motors which in the past have been heralded as belonging to this class, the Morgan engine is a veritable turbine, and not an engine of the rotary reciprocating type.

The general principle employed is that of compressing pure air by means of reciprocating pistons and of forcing the air through burner jets in common with a spray of liquid fuel. The flame issuing from the jets impinges directly upon the blades in the stationary turbine casing, their energy and that of a small quantity of steam which is generated in connection with the process of cooling the blades imparting the necessary rotary motion to the engine.

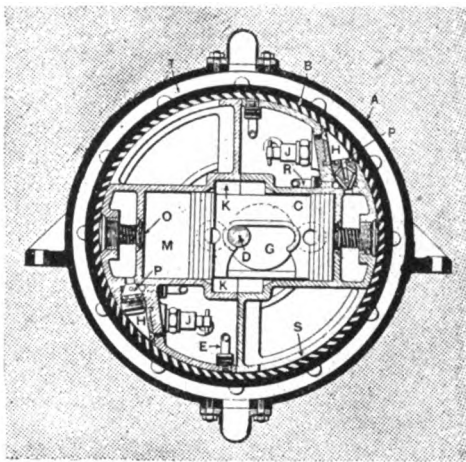
By a rather odd combination of mechanism, the two cylinders which are employed for compressing the air, together with the burner jets, mixing device and a portion of the cooling system, are carried on the rotor member of the engine and with the power shaft and flywheel form its moving element. Reciprocating motion is imparted to the compressor pistons by means of stationary eccentrics.

Such is the arrangement that two charges are supplied to the burners during each revolution of the power shaft, while the combustion is so timed that successive impulses overlap sufficiently to afford a practically unending torque. The same effect also results in ignition of succeeding charges by their immediate predecessors, so that after the first few impulses no outside source of ignition is required.

Referring to the illustrations which are here presented, the Autocar explains the detailed construction of the turbine. The main portions of the engine consist of the outer casing A, on the inner periphery of which the vanes B are cast, and two reciprocating double-ended pistons or pumps C. The shaft D, which is integral with the water lead E and the gasoline lead F, remains stationary when the turbine is run-

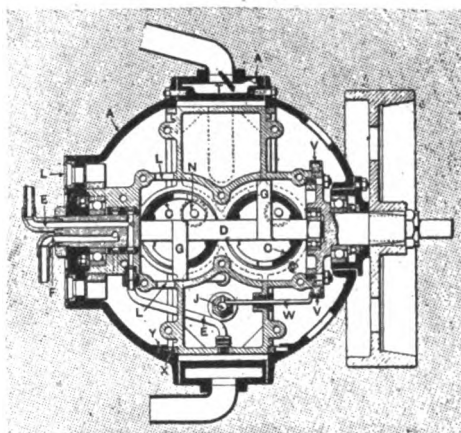
ning, and on this shaft are formed the eccentrics G by means of which the pistons C are operated. The combustion spaces are situated at H, the charge being ignited at these points by the sparking plugs J.

The manner in which the charge of mix-



END VIEW

ture is formed and taken to the combustion spaces is as follows: The spaces K surrounding the pistons have communication directly with the open air by way of port L. When the drum and the flywheel are rotated, the pistons C are moved to and fro in their cylinders by reason of their being coupled to the stationary eccentrics G, and this movement of the pistons causes a partial vacuum in each of the pressure spaces M in turn. This vacuum is filled by air entering through the inlet valves N, which air is, during the succeeding stroke, compressed in the spaces M and driven through the automatic outlet valves O when a certain pressure is exceeded. The air thus expelled under pressure escapes by way of



SIDE VIEW

the jets P, carrying with it gasoline which is brought to this point by way of pipe R. The resultant mixture, issuing under pressure from the jets, or burners as the inventor prefers to call them, is ignited in the space H by a spark at the usual type of sparking plug J. The force of the en-

suing explosion, or rapid expansion, acts upon the vanes B and reacts upon the angle of the space H, rotating the whole of the enclosed mechanism and the flywheel.

The burnt gases remain in between the vanes until in due course they are free to escape by way of ports S to the open air through the opposite end of the outer casing to that through which the air entered. Water cooling of the outer casing is effected by means of water jackets T and a radiator in accordance with standard practice, but the inner drum and the vanes are cooled by fine internal sprays. The water is introduced and sprayed at the rim of the drum by centrifugal force by way of pipes E, the steam escaping by the exhaust ports with the burnt gases.

There are two double-acting pistons supplying two combustion spaces, separate and distinct charges will be generated at each space twice in each revolution, so that almost as soon as the pressure from one charge has fallen, another charge is forced through the burner. It is claimed that within a short time of starting the engine the heat of one charge ignites that which follows, so that the electric ignition may be switched off. A regular ignition system is embodied in the standard motor, however, for starting purposes. The high tension current is collected by the insulated disc V and taken along leads W to the plugs. Leakage of gases between the revolving drum and the outer casing is prevented by means of the split rings X, which expand radially, and are pressed laterally by small helical springs Y.

### Explaining a Taximeter Overcharge.

A Rhode Island man visiting New York encountered an experience with a taxicab which opened his eyes to taximeter possibilities. He did not submit as peacefully as some victims, however.

"I ordered on the telephone a taxicab to call for me at Columbia College," he relates, "to take me to the Hotel Plaza, and was told that the price would be 50 cents for the first mile, and at the rate of 40 cents for succeeding miles, the distance to be measured by 20 blocks to the mile, north and south, and seven blocks to the mile east and west. My charge was \$2.10, while it should have been \$1.50. I obtained a receipt from the driver and gave him a quarter tip. In my ride back in another taxicab the charge was \$1.60.

"I wrote a letter of complaint to the bureau of licenses, at City Hall. There it was decided that the charge should have been \$1.50 and the taxicab company was ordered to refund 60 cents. This the company did by sending me coupons which I could cash by calling at its office."

He received the 60 cents after two more letters had passed between himself and the taxicab company. The latter put all the blame on the chauffeur, claiming he was a "green" one and left the meter running while pumping up a tire.

## WHERE EXPORTED MOTOR CARS GO

**Markets in Which the Five Big Automobile Producing Countries Find Customers—Immensity of the Shipments.**

According to a special compilation just made by the Bureau of Statistics of the Department of Commerce and Labor shows that the value of automobiles and parts of exported in 1908 from France, the United States, the United Kingdom, Italy, and Germany, the five leading countries engaged in their manufacture and sale, aggregated more than \$45,000,000, against \$9,000,000 in 1902, a growth of 400 per cent. Automobile exports from the four foreign countries named, taken as a whole, increased from \$8,000,000 to \$39,000,000, a gain of 385 per cent, while those from the United States increased from \$1,000,000 to \$5,500,000, a gain of 450 per cent.

The exportation of automobiles from the United States has developed chiefly in the last ten years, the first record thereof having been made in 1902, when the total was \$1,069,782. By 1905 the annual export had increased to nearly \$3,000,000; by 1907 to \$6,000,000, and in 1909 was nearly \$9,000,000. The foregoing figures include the shipments to the noncontiguous territories and relate both to automobiles and parts thereof sent out of the country.

Meantime importations of foreign-built automobiles have decreased. In 1906, the earliest calendar year for which details are available, the total imports of automobiles and parts thereof aggregated \$5,000,000, but since that time have fallen to \$4,000,000 in 1907, \$3,000,000 in 1908, and \$4,000,000 in 1909. In the four-year period 1906-1909, inclusive, imports of automobiles aggregated \$16,000,000, and domestic exports thereof \$25,000,000, an excess of exports over imports of \$9,000,000, of which excess \$5,000,000 developed in the calendar year just ended.

France, Italy, Germany, and the United Kingdom are the chief sources of the automobiles imported into the United States. Of the importations of 1909, valued at \$3,071,002, France is credited with \$1,670,900; Italy, \$689,454; Germany, \$321,033, and the United Kingdom, \$23,383.

France leads the world as an exporter of automobiles, with the United States second in rank. Statistics compiled from the official publications of the countries named show that the exports of vehicles of this class in the latest year for which details are at hand were: From France, in 1908, \$24,569,000; the United States, in 1909, \$8,667,397; the United Kingdom, in 1909, \$7,610,267; Italy, in 1908, \$5,533,000; and Germany, in 1908, \$3,031,000.

The wide distribution of the automobiles exported from these manufacturing nations offers indirect evidence of improved meth-

ods of travel and transport in various parts of the world. The United States, while exporting most of its automobiles to Canada, the United Kingdom and Continental Europe, sends considerable quantities to its several contiguous territories, and to the West Indies, South America, Australia and various countries of Asia, Africa, and Oceania; while France, Great Britain, Italy and Germany, in addition to their exports to the United States and Europe, send automobiles to many of their colonies, to numerous tropical communities, and to South America.

Of the \$8,667,397 worth of automobiles shipped from the United States in 1909, \$7,750,000 went to foreign countries and \$880,780 to its non-contiguous territories. Of the exports to foreign countries, nearly \$2,500,000 worth went to British North America, \$2,000,000 to the United Kingdom, \$486,136 to France, \$494,238 to Mexico, \$337,414 to the West Indies and Bermuda, \$303,452 to British Australasia, \$240,453 to South America, \$224,068 to Italy, \$181,087 to Germany, and \$209,731 to various countries of Asia and Oceania. The shipments to the non-contiguous territories included \$614,424 to Hawaii, \$249,713 to Porto Rico, and \$16,643 to Alaska.

France's exportations of automobiles, valued at \$24,569,000 in 1908, were distributed as follows: To the United Kingdom, \$11,784,000; to Belgium, \$2,229,000; the United States, \$2,124,000; Germany, \$2,018,000; and Argentina, \$837,000, while Algeria and other French colonies, India, Egypt and European countries received practically all of the remainder.

Italy exported most of her automobiles to European countries: To the United Kingdom \$1,297,000; to Switzerland, \$985,000; and to Germany, \$556,000; while to the United States the exports were valued at \$664,000 and those to Argentina \$571,000, these five countries representing nearly four-fifths of the entire automobile exports of Italy during the year 1908, valued at \$5,538,000.

From the United Kingdom the exports of automobiles in 1908 were valued at \$6,124,000; \$1,859,000 representing parts of automobiles, and \$4,265,000 complete machines. Of the latter, \$592,000 worth went to British India, \$573,000 to New Zealand, \$176,000 to the United States, and \$123,000 to Canada.

Germany in 1908 showed a total export of automobiles valued at \$2,936,000, exclusive of parts of automobiles to the value of \$95,000. Of the automobiles exported in the complete form, those to European Russia were valued at \$567,000; France, \$512,000; Austria-Hungary, \$474,000; the United Kingdom, \$448,000, and to Italy, Switzerland, Roumania, Argentina, Belgium and the United States, in the order named, in amounts ranging downward from \$80,000 to \$65,000.

Though Russia is not mentioned in this report, it is confidently asserted that it will become an important factor before long.

## CANADA NEEDS MORE MOTOR CARS

**Consul-General at Winnipeg Declares the Demand Exceeds the Supply—Great Prosperity Creates a Big Market.**

The great demand for medium priced automobiles in western Canada is made the subject of a report sent by Consul-General John E. Jones, of Winnipeg, to the State Department. In this report the Consul states that dealers have found it impossible to meet the rapidly growing demand, and that American manufacturers should endeavor to exploit the new market. There are 26 makes of automobiles represented in Winnipeg at the present time, but the possibilities of the motor car in Canada are so great that every farmer in Manitoba will shortly possess at least one car, and probably two or three.

"Up to a year ago automobiles were regarded as a luxury," says Consul Jones, "but the great prosperity of the Canadian West during the past year has changed this to a necessity. The farmers are buying automobiles and motor-driven vehicles, and the situation is propitious now for the exploitation of this market. In Winnipeg there are over 500 automobiles, and during the past year the Canadian Pacific and Canadian Northern railroads have installed motor-driven trucks. The five-passenger touring car with a 4-cylinder engine seems to be the favorite pattern. There are a few electrics and there is an increasing demand for them.

"A car that costs between \$1,200 and \$2,000 finds the readiest sale, although the higher priced cars find a good market here. There is a duty of 35 per cent. on automobiles, which would seem almost prohibitive, and a number of American cars are being manufactured in Canada to overcome this handicap. These are the cars that the people generally patronize."

### Winter Motoring Gains in Volume.

Many observers have commented on the extensive and growing use to which automobiles are being put in the winter months, as made evident since last fall, and Benjamin Briscoe, president of the Maxwell-Briscoe Motor Co., has discovered further confirmation of winter motoring activity in the fact that concerns making fur coats and other winter garments for automobilists say that business is far better than in any previous winter. Proprietors of small hotels in the outlying districts, he declares, are jubilant over the increased winter patronage, all of which goes to prove, it is pointed out, that the automobile has become a year round vehicle. The fitting of landaulet, brougham, coupe and limousine bodies has contributed immensely to winter motor traffic, but the use of open cars is increasing as well.

## STERLING CLUTCH DEVELOPMENT

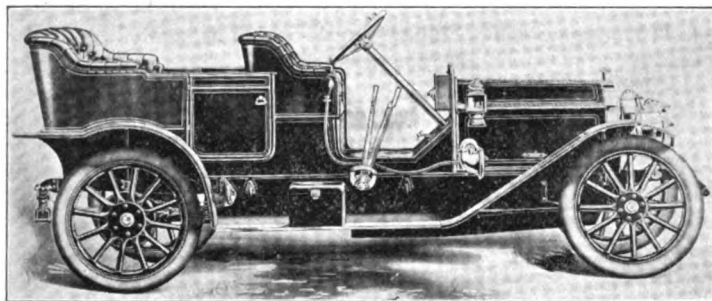
**Ingenious and Unusual Combination of Well Known Principles—How It is Done, and Effect Obtained.**

Among the new things brought out at the recent Chicago show in connection with the hitherto unexhibited cars, it is safe to say that none was more out of the ordinary than the clutch which is embodied in the new Sterling car, produced by the

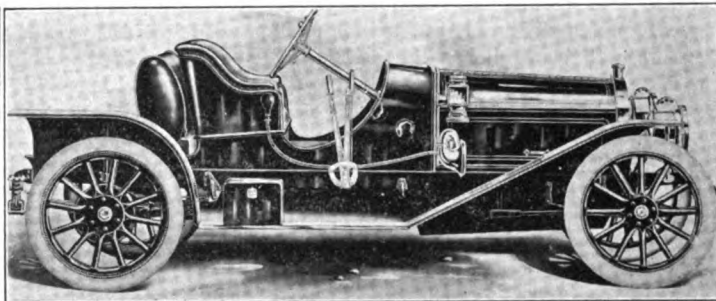
central driving shaft and also to overcome the effect of centrifugal force. The inner and base surfaces of the wedges are shaped to form a conical surface into which fits the male sliding member by which they are expanded and which is actuated by direct spring thrust along the line of the driving shaft and controlled by the pedal as in the ordinary forms of clutch.

The accompanying illustration shows to good advantage the general idea embodied in the design. The fly wheel A is bolted to the flanged crank shaft B in the usual

are keyed to turn with the shaft D and which are convexed on their opposing surfaces. Within the double conical recess thus formed lie the four segmental wedges J-J, which are grooved on their apices to receive the spring wire K, whereby they are normally held in their retracted position. As the wedges exactly fit the recess between the two discs I-I, their expansion by the axial movement of the conical sleeve L, which is forced along the shaft under spring pressure or withdrawn by pedal movement through the collar M, serves to



STERLING MODEL "O" TOURING CAR



STERLING GENTLEMEN'S SPEEDSTER

Elkhart Motor Car Co., Elkhart, Ind. This device may be classed as a combination in principle of the multiple disc and floating ring types, since it combines the general form and small diameter of the former with the three essential elements and simplicity of active parts which are peculiar to the latter. Furthermore, it embodies in engaging mechanism a remarkably powerful wedging action giving the effect of long leverage and thereby reducing the necessity of employing a heavy spring with its end thrusts to be absorbed and the necessity which it involves of providing heavy actuating gear together with slow-acting pedal movement.

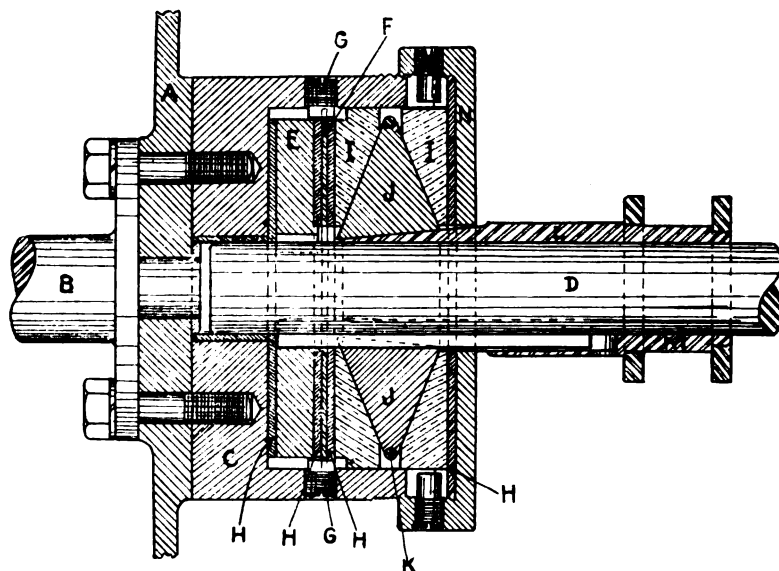
As briefly explained in the Motor World's story of the Chicago show, the method of engagement employed is that of pinching a single flange which is virtually integral with the driven shaft between the body of the clutch and a single thin floating disc. Save for the small effective diameter of the three working members thus employed, which is  $5\frac{3}{8}$  inches, the arrangement is much the same up to this point as that employed in the floating ring or triple plate type of clutch. The actuating mechanism, however, which must be far more powerful than that of the ring clutch in order to compensate for the reduced diameter, is entirely original with the designer.

In order to force the floating disc toward the clutch base and thus squeeze the single driven member a set of wedges is employed which is composed of two bronze discs flat on their outside surfaces, but on their opposing faces convexed; and a set of four segmental steel wedges formed to fit the conical depression between the two discs. A loop of spring steel wire fitted into a notch in the outer edges of the segments tends to force them in toward the

way, the retaining studs being tapped into the clutch body C, thereby securing it to the face of the fly wheel. The body also furnishes a forward bearing, properly bushed, for the transmission driving shaft D, upon which the thick disc E is keyed. This forms the driven member of the clutch. In action it is pinched between the face of the clutch body C and a single saw blade disc F, which is compelled to turn

separate the discs or to permit them to approach one another.

It will be seen that by rotating the cover plate N, which is secured in position by means of set screws, it is possible to adjust the clutch members for clearance under ordinary circumstances, and thus to compensate for wear in the fiber discs. Also it is evident that by removing the cover plate altogether and uncoupling the universal



NEW STERLING CLUTCH CONSTRUCTION

with the clutch body by means of the key studs G-G, which engage serrations in its edge. To prevent abrasion of the active clutch members and also of the engaging mechanism fiber discs are interposed between all live surfaces as indicated at H.

The method of engagement is perhaps the most novel feature of the system. It comprises the two bronze discs I-I, which

joint in the propeller shaft, it is possible to dismantle the clutch with very little labor. The clutch body is filled with ordinary oil and, as in the case of the multiple disc clutch, it is fully enclosed and protected from the inroads of dust and mud.

With only a 30 pound spring, it is claimed that this clutch will drive the car under all conditions without any slipping ten-

gency. Furthermore it is claimed that a peculiar effect is secured in some rather mysterious and unexplained way, whereby the action of engagement instead of being sudden is graduated by the automatic progression of the segmental wedges under the action of the spring. When first engaged, it is said that the clutch sleeve does not slip into its final position at once, but creeps slowly into place, observation of its action when striking a sudden incline or a sandy spot in the road revealing its tendency to be drawn into more complete engagement than exists under light loads. Naturally this results in considerable resistance to disengagement, but actual trials with the clutch have shown the pedal linkage to have sufficient leverage to enable the resistance to be overcome without any difficulty.

The general specifications of the Sterling car in other respects are not extraordinary. The engine is of the four-cylinder vertical pattern, water cooled and with the exhaust valves mounted in the heads. Its cylinder dimensions are  $4\frac{1}{4}$  by  $5\frac{1}{2}$  inches, and its power rating is 28.9 by the A. L. A. M. formula. Certain models also are listed with a 4 by 5 inch motor of the same general design. The floating type rear axle with change speed gear integrally mounted is standard with all models, and the outward proportions both as to chassis and body design are of the approved order.

#### Paris Flood Affects Automobile Factories.

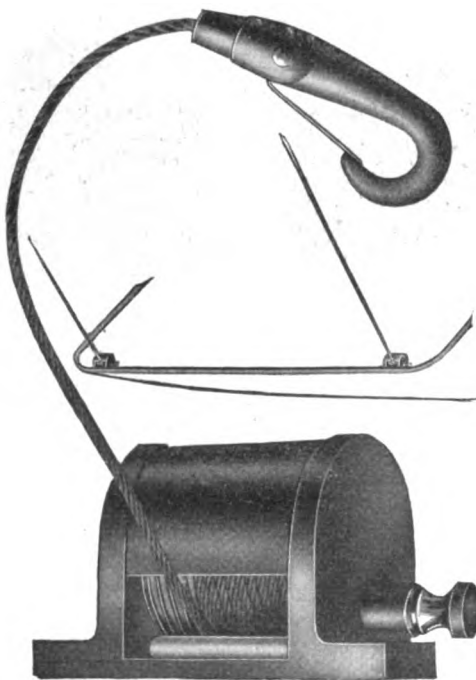
Great damage was done to the French automobile industry by the disastrous flood of January 26-February 3, which inundated practically one-fourth of the country. The center of the motor car industry is Paris and its vicinity, and almost all the principal factories were invaded by the flood. The Renault, De Dion, Brasier, Gobron, Clement, Delaunay-Belleville, Darracq, Mors, Vinot-Deguingand, E.N.V., Unic, Saurer, and other factories all were stopped by the water, which in some of them stood many feet high. It is impossible to say when the tens of thousands of workmen thus thrown out of employment will be able to resume their places in the factories, or to form any estimates of the delays which must necessarily occur in the delivery of cars.

#### Lumber for Bodies Very Scarce.

According to General Manager Holmes, of the Jackson Automobile Co., the increased cost of the lumber of which automobile bodies are made is one of the hitherto unremarked things that has added to the expense of production. Poplar and ash, which should sell at about \$75 per thousand feet, is now held, he says, at about \$125, and is not always easy to procure even at that figure. Mr. Holmes cites the case of a manufacturer who, anticipating a large contract, purchased 1,000,000 feet of such lumber and who, although he could have resold it at a profit of \$50,000, refused to part with it.

#### Automatic Reel to Replace Straps.

As an improvement over the long leather straps which commonly are used from the front of the frame of the car to brace the extension top, a unique device, called the Universal top cable reel, has been brought out by the National Sales Corporation, of New York City. Unlike the leather straps, which are awkward to stow away when the top is lowered, the reel automatically winds up the phosphor bronze cable which supplants the straps, and when the top is up an even tension is preserved on the forward extending cables, eliminating the adjust-



ments which are necessary with the straps. The reel, as shown in the accompanying illustration, consists of an oxidized metal case, housing a threaded drum on which the cable is wound. The drum is controlled by a spring acting through a gear, giving a constant tension. A locking pin is provided to hold the drum securely in any position. In putting the top up a little extra length of cable is unreel and the fastening hook is snapped into position, after which the locking pin is released and the cable automatically reels up to tension. When the top is lowered the cable is unhooked and permitted to wind itself up entirely within the reel case. The reel is declared to fit all sizes and types of extension top, being capable of taking the place of all the different lengths of straps that ordinarily are required to meet the needs of various top equipment.

#### New Telephone Device for Limousines.

Should a pedestrian come upon a limousine car the driver of which is apparently saying sweet nothings to the empty air, it would be rash for him to assume that the driver is mildly crazy or is discoursing just to hear the sound of his own voice, for it is possible that the car is fitted with

what the manufacturers of the device call the "Auto-Auristophone passenger-driver service system." In effect it is a "loud talking" electrical telephone system installed in the car, with a transmitter and reproducer set placed in the passenger compartment and a corresponding set outside for the driver. By means of the system the speaking voice is magnified so that passenger and driver may talk without difficulty in even a noisy thoroughfare. The megaphone transmitter beside the driver's seat permits him to have his voice reproduced electrically inside the limousine in even louder tones than he himself uses. The system, which is made by the H. G. Pape Electric and Mfg. Co., of Buffalo, N. Y., also contains an electric buzzer system, operated by signal buttons, by which the person at either end of the line indicates his desire to communicate, the talking circuit being established by means of the "talking button." It is claimed that a 6 volt battery is ample as a current source.

#### For Protection Against Stone Throwers.

Luckily for the American tourist who patronizes the roads of his own country, hoodlums and urchins in the "States" are not so much given to the pernicious habit of bombarding the motorist with handy-sized rocks as their prototypes in Sunny Italy. There the practice has become so common that J. Wollman, an automobile agent in Padua, representing a German factory, has recently devised an arrangement which protects the driver and passengers of motor cars when passing through districts known to be infested with stone throwers. It consists of wire netting similar to that used on bird cages in the zoological gardens, fitted to four upright tubes and joined to the wind shield, the glass plate of which it helps to protect. The device is not patented, is said to be of very light construction, and has saved Wollman many of the troubles and dangers which formerly he suffered from the malicious stone throwers when driving along the roads at night.

In the tropics the wire net may be made so fine as to exclude the bothersome insects.

#### Five "Girls" from Two Tire Companies.

Girls—good looking girls—always have been favorite subjects for tire manufacturers—that is, for publicity purposes, of course. It is not strange, therefore, that the Firestone Tire & Rubber Co. should have "adopted" not one but three winsome "creatures." The "triplets" make their appearance tiptoeing on the edge of a Firestone tire and form the eye-tickling part of the new Firestone wall calendar, which is of generous size and pleasing coloring. The Ajax-Grieb Rubber Co. has had several "girls," but the newest of them—there are two—are seated in an automobile, which is "going some." They also constitute the basis of a calendar, which is of the expensive cut-out, standing type.



**DURYEY DEFENDS THE MOTOR BUGGY**

**Says the Proper Kind has Merit, "and Merit is Immortal"—His Definition of What is the "Proper Kind."**

A distinction embodying a difference of perhaps greater importance than at first might appear to be the case has arisen between the vanishing motor buggy so-called and a related type of vehicle at present being produced by a limited number of makers. While from a certain point of view the type in question is identical with the motor buggy of a year or two ago, close observers are able to notice significant points of difference. Thus the modern vehicle which has replaced the high wheeled buggy in its pristine form instead of being a more or less crude assemblage of a motor and a horseless buggy, is a veritable automobile in the sense of having all its parts designed for the express use to which they are to be put; while even its wheels differ, now being smaller and more stockily built.

Recent editorial expressions in these columns to the effect that the motor buggy as such rapidly is passing out of existence have stimulated Charles E. Duryea, the veteran inventor and designer, himself the producer of a solid tired vehicle of the carriage type, to analyze the situation and incidentally to distinguish between the real motor buggy and its immediate successor, of the ultimate success of which he is supremely confident. Referring to the Motor World's characterization of the motor buggy as a "vanishing type," Mr. Duryea says:

"If you consider only the motor buggies of short wheel base and similar horse vehicle characteristics you are undoubtedly right. But if you include motor buggies built with an automobile experience and using such automobile features as are proper to use in such structure, then I believe you are wrong.

"As a builder of a rig of this type I undoubtedly get expressions which one not directly in the business cannot get. I have kept an eye on this class of goods ever since I began the first one finished in 1892. It was a horse buggy pure and simple, with a motor for propulsion. It had faults. Gradually we learned them, and gradually the conventional automobile was developed. But at the same time a new class of buyers were developed, and the class for which the original buggy was created way back in 1891, was not taken care of by the new vehicle. The motor buggy buyer still remains, and will remain so far as I can see, for years to come. In fact his tribe is increasing.

"He is the man who does not want to bother with the horse, or who desires better than horse service, and yet does not want the complication and maintenance cost of the automobile. He is the man who wants

a rig for business day and night, the year around. He wants the buggy type because the buggy stands for the simplest and lightest vehicle in the world of the carriage type. He wants to get rid of the mud throwing ability of the large tire; likewise its road rolling, tack finding propensities; to get free from the jolting of the small wheels without having to bother with rubber air bags; to get up out of the mud and dust; to ride above the water of the creeks he must ford; and to carry the mechanism above the rocks of the road. In fact there are many potent reasons why he likes the buggy type. An experience of three seasons with this type has given it a place in my affections which the presence of an air tired low wheeled rig of admitted excellence, idle in the stable, cannot overcome. The proper motor buggy does have merit, and merit is immortal.

"The faults of the motor buggies that have gone, were the faults of my earliest creation. The wheel base was too short; the complication too great, and the weight too heavy. A rig that is pushed and steered must be longer than one drawn by a horse. Its length depends on its speed, but it must be longer than a horse vehicle quite a little. A rig that carries its mechanism on solid tires must be better built, or better designed, than if air cushions interpose between the fragile mechanism and the hard knocks of the road. In many motor buggies the reverse was true. Failure only was to be expected and it is no surprise that it came. The buyer who expected simplicity got practically as many pieces as if he had bought a conventional car, and they were not so well made. No wonder they rattled badly and crystalized quickly. The weight was far from buggy weights. A buggy and a motor hung together with a few bolts do not make a practical motor vehicle. Buggy makers found this out. They added more weight and each addition simply sent the breaking points somewhere else. In despair and their inexperience they had to go to the air tire and the developed construction.

"But this simply proves the incompetency of the builders; not the failure of the type. The buyer is still waiting for the motor buggy of decent base, light weight and parts so few that they can be well and strongly made instead of being flimsy. And it can be given him. These things I can demonstrate from my order book and my product."

**Lops \$125 Off the De Tamble Price.**

Reduction in the price of a De Tamble car this week was announced by the Car Makers Selling Co., of Chicago, Ill., sales managers for the De Tamble Motors Co., of Anderson, Ind. A conference of large distributing agents of the De Tamble line with E. D. De Tamble, president of the De Tamble Company, on the 11th inst., resulted in the 34 horsepower four cylinder touring car being reduced from \$1,400 to \$1,275.

**FRANKLIN ON "SIXES" AND "FOURS"**

**Declares Chief Advantages Claimed for "Sixes" are Erroneous—Heavy Fly Wheels Cause Much Trouble.**

Arguments over the relative advantages of four and six cylinder motor construction for automobile work have ceased to have their former power to excite the respective parties to the one-time heated controversy. But it is needless to suggest that a recent pronouncement issued by H. H. Franklin, president of the H. H. Franklin Co., Syracuse, N. Y., who may be supposed to be equally interested in the fortunes of both types, since he is a producer of both, at one time would have called forth endless expressions of criticism both favorable and adverse. It is Mr. Franklin's opinion that in hill-climbing power and slow-speed throttle running, the six is not superior to the four, despite its oft-claimed advantages in these respects.

"Contrary to popular impression, the six-cylinder automobile will not climb hills any better than a four-cylinder, nor will it run slower on the throttle," says Mr. Franklin. "True, these are the main features claimed by most makers. But they misunderstand six-cylinder construction. The properly designed six-cylinder automobile is lighter per horsepower than the four, smoother in operation and easier on tires. It does not require the heavy fly wheel required for a four-cylinder engine of high power. In four-cylinder construction as power is increased the weight of the fly wheel has to increase more than the power, and therefore the weight in the whole vehicle must be increased, else the vehicle will not long withstand the power of shocks.

"Heavy flywheels are very hard on the driving mechanism. In fact, heavy flywheels cause more trouble to driving mechanisms than anything else.

"The properly designed six-cylinder motor is more scientific than a four. It is a lightweight, highly balanced power plant. Instead of the heavy flywheel required on the four-cylinder motor the flywheel, because of steady engine torque, can be very light. The power plant is easy on the whole automobile from the tires to the engine. When riding or driving you can readily recognize its superior smoothness over the high-powered four."

**No Change in Price of P-S Six.**

Although the Palmer & Singer Mfg. Co. prides itself on giving remarkable value in the P-S cars, there never was a time when it was able to offer a \$3,500 six-cylinder car for \$2,500, despite the fact that their ad. in last week's Motor World made it so appear. The \$2,500 price was a slip of the ad. writer's pen, as the car still lists at \$3,500, and will remain at that figure.

**"CHRISTENING" A NEW GARAGE**

**Brooklyn Dealers Make the Occasion a Notable One—Vaudeville and Champagne Further the Ceremony.**

Few motor car emporiums have been housewarmed and placed in commission with such elaborate ceremony as that which inaugurated the Kenny Motor Car Co.'s new Rambler garage, at Bedford avenue and Sterling place, Brooklyn, N. Y., last week. Lavishly decorated and illuminated with bunting and electric lights both in-

are frequently negligent in handling fire near automobiles and that there is much danger of the explosion of gasoline in the tanks attached to automobiles. Other garages are located in old sheds and shacks is the very heart of the city and thus endanger their locality. Modern garages are well protected from this danger, but the old livery stable garage combination will have to conform to the new fire regulations or go out of business.

**Detroit Dealers Discourage Sunday Work.**

As a day for demonstrating and selling cars, Sunday has been found by many agents the best of all from a business stand-

**MIRRORS TO PROMOTE SALES**

**Chicago Dealer Believes They Exercise Psychological Effect and Equips His Salesroom Accordingly—His Views.**

Mirrors as an aid to making retail sales of cars are being employed experimentally in Chicago, with the idea that they exercise a certain valuable psychological effect on prospective customers. Unlike the big mirrors which sometimes are placed underneath show chassis to reveal the bottom view of the mechanism without requiring that the investigator stoop or crawl under the car, the mirrors employed in the Chicago experiment are principally for reflecting the images of the prospective customers themselves.

"There is no question in my mind," says the agent who espouses the scheme, "that people like to see how they look to other people when they are in an automobile. When we are demonstrating cars we notice that people are continually looking at plate glass shop windows in order to get a view of themselves. It is human nature, just as it is human nature for a man or a woman to look into shop windows or full length mirrors when they are wearing new clothes. There is a distinct feeling of pride and satisfaction to many people in seeing how well they look sitting nonchalantly in a car, and it is while that feeling is strong that there is excellent opportunity for closing a sale. For this reason we are establishing an immense mirror space at one side of our salesroom, so that when people get into our cars they may bask in the contemplation of how aristocratic and opulent they look."

**"Esperanto Cab" Makes Its Appearance.**

One of the new motor cabs to appear in the streets of Paris after the flood is the Esperanto cab. It is so called, however, not on account of its brand, but because its driver is able to converse in the "universal language," as fervid admirers of Esperanto call their favorite tongue, and because it bears a sign denoting the fact. As the Esperanto societies claim a membership of nearly half a million people, it is possible that "cabby's" enterprise may attract patronage to him.

**Hunting Car Built for Lady Watts.**

Specially built cars for special purposes are continually making their appearance, usually showing great ingenuity in providing for all possible contingencies. One of the latest of the sort is the touring car built for Lady Watts by the Armstrong-Whitworth Co. in which she will hunt big game in Africa. The car is of 22 horsepower and can be converted into a tent, and contains a cupboard, lavatory, trunks, hand basin, refrigerator and baggage room.



KENNY GARAGE "ALL LIT UP" FOR ITS "CHRISTENING"

side and out, the establishment, as the accompanying photograph shows, presented a handsome appearance and was visited by large numbers of motorists. One of the features of the occasion was an exhibit of Rambler cars, which was tastefully arranged. The formal exercises in connection with the opening were held in the large repair shop on the second floor, at one end of which a temporary stage draped with flags was erected. The program consisted of speeches and a vaudeville entertainment, winding up with a midnight supper at which champagne flowed. Situated in the heart of Brooklyn's motor car district, the establishment, which will be the local home of the Rambler cars, is conceded to be one of the finest in the Metropolitan district. Its owners are well known contractors, and they did not spare their experienced hands,

**Condemns Garaging in Livery Stables.**

Livery stables are not the best place in the world to keep automobiles stored, according to the opinion of the Louisville (Ky.) Building Department. It is claimed that there are many garages located in stables where horses and mules are kept, and that employes in this class of garages

point, but not a few of the veterans are beginning to feel that it is no little hardship to give up "the day of rest" to the strenuous pursuit of customers, and in Detroit they are taking steps to call a truce for Sunday.

At a meeting of the Detroit Automobile Dealers' Association a resolution was unanimously adopted favoring the closing of the sales departments of the dealers' establishments on Sunday, and it was further voted that the public should be requested, through the press, to ask for no Sunday demonstrations in the future.

The action of the Detroit dealers does not apply to the garage and repair departments. It is recognized that these properly are open on Sunday to take care of the motorists who use their cars on that day. But the sales departments are to be kept closed from Saturday to Monday, and the giving of demonstrations on the Sabbath is to be curtailed to the minimum. The public, of course, will have the final word to say in the matter, and as the man who is able to buy a motorcar also usually is able to "take a day off" when he feels like it, the innovation may not be seriously protested.

**ABOUT MIXING OIL AND GASOLENE**

**Pioneer Who Long Has Employed Such Lubrication Defends Its Use—What His Tests Demonstrated.**

Whether a mixture of gasoline and lubricating oil is reasonably stable or whether it tends to stratify owing to the difference in specific gravity of its constituents, is a question which has been raised in consequence of an automobile expert's condemnation of the method of lubricating internal combustion engines by mixing oil with the fuel in the tank. In an article recently printed in these columns, an opinion on this system was quoted which criticised it on the ground that despite its simplicity and apparent practicability, it was unsatisfactory owing to the tendency of the oil and gasoline to separate. As naturally might have been expected, Charles E. Duryea, the veteran expert and inventor, has risen in defense of a system which he has used quite extensively but, it would appear, without encountering any of the difficulties which an unstable mingling of the fuel and lubricant would be expected to produce.

"Gasoline, kerosene and lubricating oil it mixed will not separate and exist, 'as clearly defined strata in the container,'" he says in contradistinction of the assertion referred to. "Anybody can easily try this, but for those who will not go to this bother a few facts will be welcome.

"If these constituents of crude oil had any tendency toward separation worth while it would not be necessary to distil them to get them apart at the refinery. They would exist in 'clearly defined strata' in the earth and the pump pipe could be put down to the desired stratum at will. Surely this is evident. They will not separate, but tend to mix all the more evenly. In real cold weather I use gasoline to thin my lubricating oil, so that it can be handled easier. If not properly mixed the lighter liquid will remain on top of the stiff oil for days, but once let the heavy oil get warm or thin enough to permit ready motion and they mix with apparent perfectness. Nor will they separate afterward, so that I have ever noticed it. My fuel tanks are about 9 inches deep and I chanced to have one that has been standing filled for three weeks or more without being disturbed. I have just carefully syphoned a test tube full of this mixture from the bottom, and another from the top. The hydrometer shows no difference in density. The cylinder oil I use is a very dark green color, commonly termed black. It colors the fuel very perceptibly—so much so that we roughly estimate whether there is sufficient oil in the fuel by looking at the color. These two samples show no difference in color.

"But even if they did, what of it? The very first jolt which the automobile gets

will toss the liquid about in the tank and insure perfect mixing. So I am compelled to brand the statements made in the article as absolute fabrications.

"The tendency of mixable things seems to be to automatically mix and seek an equilibrium of perfect mixture. The air we breathe has the same proportions miles above the earth that it has at the surface. Glycerine and water are of quite different densities and when the water is first added to glycerine it will remain on top in a clearly defined layer, but soon begins to mix, and in a few days will have perfectly mixed and thinned the glycerine accordingly. In this case the mixing process can be seen and there is no doubt about the lighter liquid going down into the heavier in spite of gravity.

"I have used cylinder oil mixed with the fuel for automobile engine lubrication for years. Think I was the first to use it so commercially, and I am sure it is the coming method for lubricating two cycle engines."

**To Test Chicago's Taximeters.**

Accuracy of the meters on Chicago taxicabs is to be put to the test by City Sealer John Kjellander. His investigation is the result of numerous complaints made by "taxi" passengers that they were overcharged. The test of the meters will be made with a mechanical device designed for the purpose. After a meter has been found to be correct or has been corrected, if found faulty, it will be sealed. A second seal will be placed on the flexible rod which works back and forth in the meter, and a third will go on the rod from the meter to the wheel. While Kjellander does not believe there is an intentional effort on the part of cab owners to overcharge their customers, he says that a broken seal will mean a prosecution, and a penitentiary sentence in case conviction is obtained.

**How to Test Wheels' Alignment.**

Lengthy and rather complex rules for determining the correctness of the alignment of the four wheels of a car frequently are given, but none which equal in simplicity the handman's rule for which a foreign expert is to be thanked. His method is to jack up all four wheels and to paint the tires liberally with a coat of thin white-wash. The wheels afterward are set spinning rapidly, the result being a spattering of the floor in the plane of their rotation. Subsequent testing of the lines so made, by the aid of a straight edge, enables the investigator to obtain a very accurate index of the truth of the wheels and axle alignment.

Knoxville, Tenn., is contemplating an automobile factory as a pleasant possibility "in its midst." Charles Du Fource is named as the promoter of the enterprise, which is to make commercial vehicles only and of which he is to be the manager.

**DAIMLER'S "TRACKLESS TROLLEY"**

**Features of the System in Use in Austria—How It is Operated and the Running Cost.**

For heavy traffic in crowded streets the trackless trolley invented by Ludwig Stoll, an official of the Daimler Motor Co., appears to be a happy compromise between the motor 'bus and the regular trolley car, according to a report to the State Department by Consul-General R. W. Heingartner, of Vienna.

"The system has for some time been worked successfully near Vienna and elsewhere in Austria-Hungary," he says. "Current is taken from the overhead positive wire by flexible cables, and not by a pole or boom. Instead of an underrunning wheel or overrunning shoe, the head or actual current collector is a frame with two small grooved wheels on each side. One pair of wheels runs on the positive, the other on the negative wire, and the cable is suspended from the center of the frame, from which point also is suspended a weighted pendulum, which keeps the wheels well pressed down on the wires. The wheels (or pulleys) run on ball bearings. The trolley runs without sparking. The pull of the cable acting on a very short lever arm, and the center of gravity of the trolley being low, no deviation of the trolley is possible, even in strong transverse pulls. The conducting cable can be lengthened to follow the car by two appliances—an upper sliding knot tied up on the pendulum weight and stretched by a string in the latter, and a cable roller (on the left) with 10 to 12 yards of cable, which can be rolled up or let out by a spiral spring. Thus the car is allowed to run on any part of the road, to overtake other carriages, or to turn anywhere, accommodating itself to all kinds of traffic.

"When two cars running in opposite directions meet, the drivers interchange the trolley conduits by detachable contact boxes, an important advantage over a tram line with one track, on which the loss of time in waiting at passing places is sometimes considerable. The vehicle having this flexible means of taking the current can, it is stated, move as far as 20 meters (65 feet) away from the wire, and thus has powers of adaptability which would be rarely exercised to the full extent.

"The chassis of the vehicles for transport of passengers or goods is made of pressed steel and is supported on the axles by springs. The brakes act on the back wheels. The electrical part comprises a controller of tramway pattern, resistance, and two motors of 20 horsepower each, which really form an integral part of the driving wheels themselves on the Lohner-Porsche principle. There are no other mechanical

parts of control or transmission; it is, therefore, very simple. Hardly any lubrication is required, all the parts of the wheels and motors running on ball bearings. Further, the elasticity of the vehicle itself is considerable, as the springs support only the chassis, the body and the passengers, but no engine, batteries, or transmission gear, there being none of these mechanical complications. The suspension, therefore, is perfect, and notwithstanding the imperfections of the road, gives the impression of moving on rails. Vehicles carrying 3,000 kilos (6,600 pounds) and over have back wheels with iron tires. The cable transmitting the current passes through the interior of the axle. The armature of the motor is fixed by means of keys on the axle itself, and so acts as the nave of the wheel. The rest of the wheel is mounted on an ordinary motor on ball bearings, and is completely protected from dust. The cover serves to hermetically close the motor, as well as to fix it on the axle. Solid rubber tires are fitted to absorb the inequalities of the road."

Not only is the installation of such a service much cheaper than the building of a trolley line, but the cost of operation is also very low. Consul Heingartner gives the following figures as representing the cost of running a car 75 miles daily:

Current (1 cent per kilowatt-hour) .....	\$0.40 to \$0.60
Tires (total load 4.2 tons) .....	1.50 to 2.00
Wages (driver only, also for tickets) .....	1.60 to 1.80
Garage .....	.30 to .40
Taxes, management, insurance ..	.80 to 1.20
Repairs, painting, renewals of cars, and conductors .....	.60 to .80

Total running costs ..... \$5.20 to \$6.80

"This figures out 7 to 9 cents per mile. The line is 2.2 kilometers (1 1/3 miles) long. It passes through narrow streets and around narrow and sharp corners on a continuous steep gradient up and down, the steepest being 10 per cent for a long distance. In order to meet the extraordinary requirements of an intense summer and Sunday traffic, two separate aerial lines are provided to let the cars pass without stopping. The positive pole of each conduit is connected with the conduits of the city tramways, and the negative pole with their rails. At both termini loops are arranged, so that the cars are continually running round. Four elegantly fitted cars, each for 24 passengers, are in service on this line."

#### Rubber in Lubricant for Springs.

For lubricating the leaves of leaf springs and also to prevent the encroachment of rust, a compound consisting of grease, graphite and rubber has been recommended. Heated and properly mixed while in solution, the proportion of the ingredients should be, roughly, two parts old rubber, in the purest form obtainable, and one part each of grease and flake graphite.

## PUTTING OILERS TO THE TEST

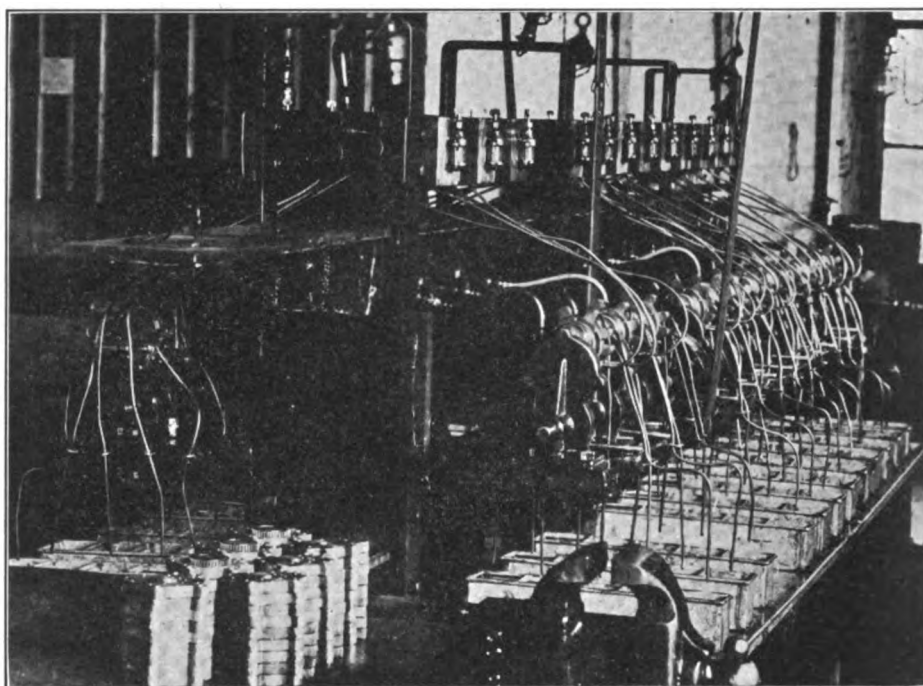
How They are Tried Out in Maxwell Factory Before Being Installed on Cars—

Advantages that Accrue.

It is characteristic of the methods of the more modern automobile manufacturers that steps are taken to reduce the cost of testing the mechanical portions of the product to its lowest terms and also of eliminating waste as far as possible by the simple expedient of group assemblage and group testing of the various units. In the earlier stages of the industry it was customary to assemble the entire car and then to sub-

Maxwell oilers is carried out. As recently told in these columns, the Maxwell-Briscoe Motor Co., Tarrytown, N. Y., this year has introduced into all its models a multiple, pressure feed oiler of original design and construction.

After the completion and testing of each of the individual parts which go into this device, each oiler is mounted on the test bench along with a large number of similar devices, and is connected with its own individual supply tank, and driven from a special line of shafting. The feeds from the several oilers on the bench are conducted into pans which are divided into measured compartments. Therefore, the exact quantity of oil fed from each delivery tube can be ascertained with close accuracy merely



ARRANGEMENT OF MAXWELL OILERS UNDER TEST

mit it to a gruelling test, in which every component was subject to close inspection and adjustment, necessitating frequent replacement of parts.

The more recent and approved way is to permit no single part, however small and insignificant, to pass from the department in which it is made until it has been subjected to rigid inspection and test both as to strength and size. Similarly the individual parts are assembled into complete groups or units, which, in turn, must be tried out under operating conditions before being passed on to the final assembler. The result is that such faults as arise are checked in season to curtail any expense in replacement, while the amount of time and labor consumed in the final tryout of the vehicle is reduced to a minimum.

A good illustration of the scrupulous way in which this principle is applied is furnished by the accompanying picture, which shows the testing bench upon which the final inspection and adjustment of the new

by noting the depth of oil in the several compartments at the end of a stated period. Should an oiler fail to deliver the required amount it is at once examined, and if not subject to adjustment is discarded without causing the final tester any anxiety or endangering the condition of any "green" bearings in the new car.

#### Drastic Remedy for Stuck Valve Cap.

No small difficulty frequently is encountered in removing the caps which in common practice are used to cover the valves of automobile engines. Where these are of countersunk form an effective if somewhat hazardous method of loosening them is to run the engine until it is thoroughly warmed and then to pour a small quantity of cold water into the depression. The shrinkage thus occasioned will tend to cause a separation between the threads on the cap and those on the larger body of metal in the cylinder, which is not so readily cooled by water.



### FIVE CLUBS CHOOSE OFFICERS

**Jersey Association Selects Wood for President—Berger Heads the Quakers—Three New Organizations.**

Delegates from automobile clubs throughout the state were present at the annual meeting of the Associated Automobile Clubs of New Jersey held in Newark last week and the following officers were elected for the ensuing terms: Joseph H. Wood, Orange, president; J. H. Edwards, Jersey City, first vice-president; E. H. Radel, New Brunswick, second vice-president; H. A. Bonnell, East Orange, secretary and treasurer. Action was taken on the request of the New Jersey Automobile and Motor Club that the by-laws of the state association be so amended as to permit of the clubs throughout the state paying a per capita tax only after the end of their fiscal year. Heretofore the clubs have paid at the beginning of the year, and frequently have included payment for some members who would drop out of the club shortly after payment was made, and for these no rebates were available. The by-laws were accordingly amended as requested by the local club, and in this way the possible contingency of the latter organization withdrawing from the state body has been avoided.

Officers for the ensuing year were elected last week by the Quaker City Motor Club, of Philadelphia, as follows: L. D. Berger, president; G. Douglas Bartlett and J. Fred Betz, 3d, vice-presidents; H. C. Harbach, secretary; Arthur T. Stewart, treasurer; board of governors, G. Hilton Gantert; F. C. Dunlap, A. G. James, Frank Hardart, R. E. Ross, A. E. Maltby, George M. Graham, Paul B. Huyette and Evans Church.

The San Marcos, Tex., Automobile Club perfected their organization last week and elected the following officers for the ensuing year: R. E. McKie, president; H. N. Hefferman, secretary and treasurer. There are sixteen members in the club, and application has been made for affiliation with both national and state organizations.

Motorists of Belleville, Ill., have formed the Belleville Automobile Club and elected the following officers: August H. Barthel, president; A. Albert Muren, vice-president; I. H. Wangelin, secretary, and Frank B. Smiley, treasurer. It was voted to affiliate with the state and national associations.

Thirty-eight motorists of Rockford, Ill., signed the charter list of the Rockford Motor Association at the organization meeting last week, and the following officers were elected for the ensuing term: C. J. Lundberg, president; I. L. Cutting, first vice-president; G. K. Barnes, second vice-president; W. E. Dewey, financial secretary; H. H. Havens, corresponding secretary,

and W. F. Woodruff, treasurer. One of the important aims of the new organization is to co-operate with the police and endeavor to secure fair treatment for law-abiding motorists, who, it is claimed, have been persecuted by the bluecoats in the past.

### Visiting a Lighthouse per Motor Car.

All that is necessary to make an automobile run as well on water as on land is to have the water frozen hard enough, as a mock serious investigator has discovered, and this condition having been brought about so far as the Hudson river is concerned, a number of machines have taken to the ice for short excursions. Of all the



CRUISING ON THE HUDSON

places along the Hudson where cars essay trips over the frozen surface, probably none finds more machines on the river than Tarrytown, N. Y., where the Maxwell-Briscoe Motor Co. has its home and where a lighthouse stationed in the river makes a popular objective point for such journeys. The light house is so tightly frozen in that a machine can be driven right up to it, as shown by the accompanying illustration of Berry Rockwell, of the Maxwell advertising force, and a companion, who accomplished the feat in a Maxwell car without difficulty. Indeed the lighthouse people themselves have in some instances been among the earliest discoverers of the possibilities of making automobiles a means of communication with land. Captain A. Kelberg, in charge of the lighthouse in Tappan Zee Bay, and an enthusiastic motorist, put his car into commission promptly, as soon as he found the ice solid enough to carry the machine, and has been running it back and forth between the shore and the lighthouse regularly. With ice-yachts skimming past at a mile-a-minute clip, the trips are full of excitement.

### WHEEL TAX LISTS MANY MOTORS

**Chicago's City Collector Exacts Tribute from 7,171 Machines—His Figures Show a Gain for Automobiles.**

Owners of no less than 7,171 automobiles paid for the privilege of using Chicago's streets last year, according to a report of E. J. Magerstadt, City Collector of Chicago. This money was collected under the provisions of the now famous wheel tax ordinance of 1908, to which the automobilists of the Windy City submitted after a long and losing fight, despite the assertion of the city collector that the automobile owners "paid the tax very cheerfully."

The total revenue derived from the wheel tax ordinance last year was \$501,836.77, according to the official report, and for the year preceding \$438,856.92, or \$940,693.69 for the two years. During the two years the city has expended \$945,155.91, which shows that Chicago's streets must have been in a very bad state of repair.

The city collector's figures are interesting and they show a noticeable increase of motor vehicles during the year. The total number of automobiles of all kinds taxed in 1908 was 5,577, and in 1909, 7,171, an increase of 1,594. The report follows:

	1908	1909
1-horse vehicles .....	37,086	39,826
2-horse vehicles .....	17,109	17,484
3-horse vehicles .....	391	357
4-horse vehicles .....	41	39
6-horse vehicles .....	3	2
Automobiles seating two ..	.....	2,423
Automobiles seating more than two .....	.....	4,339
Automobile trucks .....	.....	409
Total automobiles .....	5,577	7,171
Total .....	60,207	64,879

### Dragging Brakes Cause Loss of Power.

Rather a peculiar case of lost power in a machine which was in the hands of its owner recently was traced to an unusual condition in the brakes which, since it might arise in any one of a number of machines now on the road, is worth taking note of. On investigating the cause of the weakness, an expert discovered that the rear wheel brakes were not developing their full power when the lever was placed in the "on" position, and this discovery led to the final location of the original trouble. As in many other instances of the sort, the difficulty lay, not in the engine at all, but in the brakes, which were dragging. The small cam device whereby the brake shoes were expanded had, in some way, worked loose so that it stood at an improper angle to the rocker arm through which the brakes were actuated. The result was that the complete release of the brakes occurred only when the lever was in mid position, while at both the "on" and "off" extremes the brakes were partially, but not fully, applied.

### One Advantage of Joint Ownership.

The severity of the decision of the Pennsylvania State legal authorities that every person driving an automobile which is not his own personal property is a chauffeur within the meaning of the law and must have a driving license, has been somewhat softened by an opinion given to State Highway Commissioner Hunter by Assistant Deputy Attorney-General William H. Margest. Mr. Margest's opinion is that no driving license is required when one or more persons are joint owners of a registered motor vehicle, as the law exempts owners of cars from taking out driving licenses. Thus a husband and wife and others of a family can sign an application for a car registration as joint owners of the machine and be exempt as individuals from securing driving licenses. Meanwhile some of the Pennsylvanians who are unwilling to be mistaken for professional drivers will test the new State automobile licensing law for the purpose of securing a judicial interpretation of the word "chauffeur." Stanley F. Cooper, a member of the Quaker City Motor Club, was arrested last week for operating an automobile without a driver's license. He was operating his sister's car at the time for the purpose of testing the law against a person operating an automobile not his own.

### How Tar on Roads Helps Health.

The health authorities of an English city who investigated complaints they had received from residents along highways that had been sprinkled with tar to prevent dust being raised, have reported that not only does the tar act as a preservative for the road surface and prevent dust being raised by the wheels of automobiles and carriages, but that it is highly beneficial owing to its disinfectant properties. The number of cases of infectious diseases in the past five years along the highways that were not tarred averaged 12 per mile, while the average along the tarred roads was only four per mile.

Aside from its value as a disinfectant, there is not the least doubt that tar is a cure for the dust evil. It provides a surface which is not reduced to powder by wheel friction or the hammering of horses' hoofs. Advocates of tar sprinkling for roads declare if it is generally adopted the time will come when, save for the dust that may be blown on the roads from neighboring fields, the only source of trouble will be that which is due to the passing of animals along the highways.

### Surgeons Find "the Chauffeurs' Fracture."

Surgeons have discovered a new disease caused by the slipping of the crank handle of an automobile, and have named it "the chauffeur's fracture." It is distinctively an occupational ailment and consists of a peculiar and complicated fracture of the bones of the forearm which, though not very painful at first, is extremely dangerous and dif-

ficult to heal. Dr. William S. Thomas, of New York, who reported upon this new disease to the Medical Society of the State of New York, told of several cases where chauffeurs with dangerous fractures from being struck by a crank handle have driven their machines for miles after the accident without knowing that they were badly hurt. A feeling of numbness in the forearm was the first indication they had of anything having happened to their bones.

### Could Judge Horseflesh, but not Cars.

"How to buy an automobile for \$20" is indicated by the experience of a purchaser at an auction sale that was held at a big New York livery stable. A number of buggies, a surrey, two sleighs and a brougham, the last bringing \$227.50, were disposed of. Then an electric runabout was placed under the hammer. It was the first sale of an automobile by these horse dealers. The auctioneer asked for a bid.

"Ten dollars!" There was a pause. None knew the value of an automobile in this emporium of horses. They wondered if the ten-dollar man was stuck. Then came a cry of "Twenty dollars!"

The machine went for this, the lucky purchaser being Paul C. Kaminsky. He carefully examined his property. "I wonder if it's worth it," he said.

An automobile dealer, happening in, looked it over. The tires were worth twice \$20, the new body of the machine was worth \$200, the five extra batteries amounted to another \$20, the meter was worth \$50, and the rest of the machine would bring another \$100.

### Cause of Flickering Headlights.

Flickering of acetylene headlights frequently is not only annoying, but a source of danger. It may be avoided by a correct arrangement of the piping. The latter should slope directly down from the generator to the lowest point of the system. Here a pocket should be arranged to hold moisture carried over with the gas and condensed in the cold piping. From this point the piping ought to slope continuously upward toward the lamps, or at least for a distance of 20 inches or so, in order to drain any moisture carried past the lowest point back into the pocket. Wavy piping of soft copper and small diameter cannot be expected to render perfect service, and it is advisable to use brass tubing of at least 1/8 inch inside diameter, properly supported and perfectly jointed.

### Fender Idea Finally Reaches Tacoma.

The dear old idea, fenders for automobiles, has been resurrected in Tacoma, Wash., and apparently has hit the town hard. The type of fender, or "cowcatcher," to be used has not been finally decided upon, but several examples were shown at a recent meeting of the city council, which may or may not enact the necessary legislation.

### Perlman to "Settle" Momentous Question.

L. H. Perlman, of New York, who used to style himself the "Motor King" and who was more or less responsible for about the unholiest road scorches that ever masqueraded as contests, has broken out in a new place. This time he has "thought up" something real sweet—a "popular car voting contest," which, however, does not mean that the cars will vote; for they will leave New York at 6 o'clock A. M., March 5, and finish at the automobile show building in Boston at 9 o'clock that evening, or, at least, the "polls" will close at that hour. The distance is, roughly, 240 miles. The "ex-king" expects to have newspapers in five cities en route print ballots, and any manufacturer or dealer or owner who solicits or buys the largest number of ballots will, of course, have the most "popular car." The privilege of being voted for will cost \$50 per car and the one receiving the most votes will obtain a trophy given by Perlman. Of course, a pacemaker will be provided and no speed law will be violated, for Mr. Perlman hopes that this suffragetish contest will "mollify" the legislators and "reflect credit on the trade."

### De Palma and Robertson are Matched.

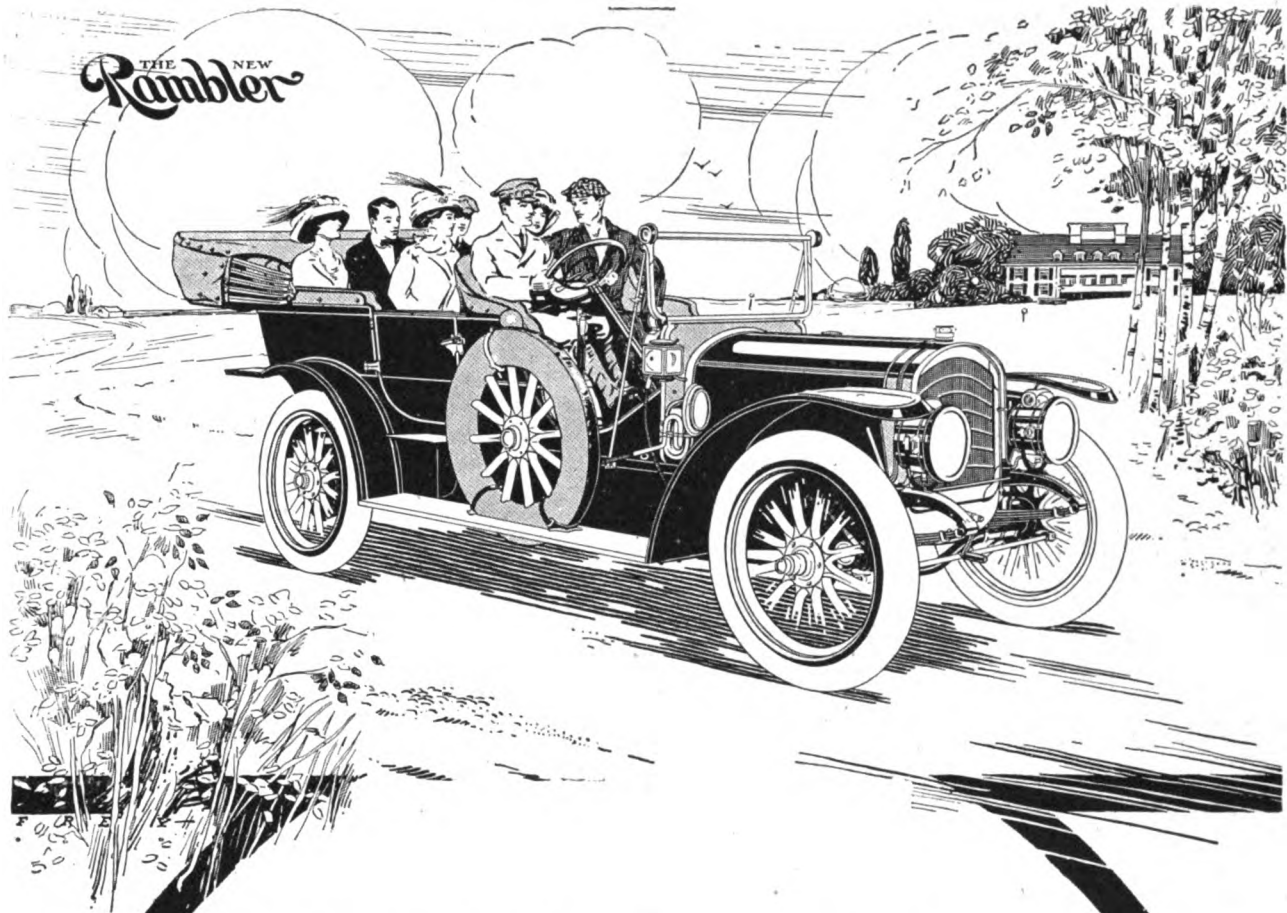
Homer C. George, the New Orleans man who promoted and conducted the recent Mardi Gras meet in that city, has become a matchmaker. As the result of discussion growing out of that affair, he says that he has offered \$5,000 for a match race between Ralph DePalma in his Fiat and George Robertson in his Simplex, and that both men have signed the necessary articles of agreement. Each will receive \$1,000 as appearance money, and the remaining \$3,000 will be awarded the winner of the race. No date or track has been yet selected, but George says the match will be decided at a two days meet and will be run in three and five mile heats on the first day.

### This Magistrate was Accommodating.

By holding court in the open street to dispose of a speed case, Magistrate Steinert, of the West Side Court, New York, last week established a precedent. Court had adjourned and the magistrate and his probation officer were walking homeward when they saw a motor car in charge of a policeman come along. The magistrate was hailed by the policeman on the front seat, heard the case, paroled the prisoner in the custody of his employer until the next day, and everyone went away rejoicing.

### Germany Promotes International Test.

An international endurance test for light cars will be held in Germany this year, on May 1st to 4th. The route is to be: Berlin-Bielefeld (May 2d), Eisenach (May 3d), Rothenburg (May 4th). Only entries of three-car teams will be received, the entry fee being \$300. The contest is being promoted by the Kaiserlicher Automobile Club, 16 Leipziger Platz, Berlin W.



**T**HE new Rambler, because of its quiet ease of motion, reserve power, and dignity of comfort, affords to the busy man pleasing relaxation and healthful recreation with family or friends at the end of the day. For satisfactory operation in crowded city traffic, on boulevard, or country road the new Rambler, because of the offset crank-shaft, is capable of three or sixty miles an hour, on high speed, climbing any hill with gratifying ease. The Spare Wheel obviates tire trouble. With straight-line drive, big wheels and tires, and new expanding clutch the new Rambler is superior to all in efficiency and better than any in quality, silence, and comfort.

Rambler automobiles, \$1,800 to \$2,500

**Thomas B. Jeffery & Company**  
Main Office and Factory: Kenosha, Wis.  
Branches: Chicago, Milwaukee, Boston, Cleveland and San Francisco

## RECENT PATENTS.

942,124. Internal Combustion Engine. Charles G. Wridgway, New York, N. Y. Filed Dec. 31, 1908. Serial No. 470,201.

1. In an internal combustion engine, the combination of a piston cylinder having a port for both inlet and outlet; and a rotary spherical valve for said port, whereby one valve man control both the inlet and outlet at said port.

942,219. Vehicle. Albert F. Rockwell, Bristol, Conn., assignor to The New Departure Manufacturing Company, Bristol, Conn., a Corporation of Connecticut. Filed May 11, 1905. Serial No. 259,860.

1. In a vehicle, a supporting base, a body having movement with relation thereto, means for maintaining parallelism between said base and said body, said means including rockable elements connected to said base and said body, rock arms upon said rockable elements, a cylinder adapted to receive a fluid cushion, and pistons in said cylinder and connected to said respective rock arms; substantially as described.

941,015. Resilient Tire for Vehicles. George O. Draper, Hopedale, Mass. Filed April 5, 1909. Serial No. 487,922.

1. The combination with a wheel rim provided with shoe-clamping means, and a shoe connected with the rim by said means, of a core for the shoe, comprising a holder and a series of inflated balls mounted therein, the normal cross sectional arc of the core being greater than that of the interior of the shoe, whereby the balls and adjacent portions of the holder are compressed by and within the shoe when the latter is acted upon by the clamping means.

941,056. Transmission Gearing. Albert R. Behne, St. Paul, Minn. Filed April 9, 1909. Serial No. 488,793.

1. A transmission gearing, comprising a differential gear mechanism and shaft or axle sections connected therewith, a disc secured to said differential gear, a series of pins arranged in concentric circles in the face of said disc, a fixed gear centrally mounted with respect to said disc, a drive shaft parallel substantially with the plane of said disc, an idle gear thereon normally meshing with said fixed gear, and a series of pinions slidably mounted on said drive shaft, one of said pinions being adapted to engage said idle gear and temporarily lock it on said drive shaft, or move out of engagement with said idle gear and engage the pins of the inner circle on said disc, substantially as described.

941,101. Differential Mechanism. David E. Ross, Brookston, Ind., assignor to Ross Gear and Tool Company, La Fayette, Ind., a Corporation of Indiana. Filed April 24, 1905. Serial No. 257,255.

1. The combination of a power or drive shaft, driven gears, a shaft intermediate said power or drive shaft and said driven gears, driving gears on said intermediate shaft, and differential mechanism comprising compensating gears mounted on said intermediate shaft, said compensating gears being driven by said power or drive shaft, substantially as specified.

941,124. Ignition System for Internal Combustion Engines. Charles B. Askew, Chicago, Ill. Filed Nov. 14, 1907. Serial No. 402,064.

1. In an ignition system for internal com-

bustion engines, the combination with an engine providing sparking appliances, of a suitable circuit breaker therefore, a plurality of battery cells connected in series relation with each other, and means comprising a switch and a governor, responsive to the speed of the engine for varying the number of cells in circuit to increase or decrease the electro-motive force of the ignition current with the increase or decrease in speed of the engine.

941,157. Spark Plug. Charles A. Martin, Racine, Wis. Filed March 21, 1908. Serial No. 422,380.

1. In a spark plug, the combination of an outer casing adapted to be screwed into the cylinder wall of an engine, the inner end of said casing provided with an inwardly extending ledge or flange, said ledge or flange provided with recesses, an insulating tube extending inwardly into the casing to a desired extent, a guard or deflector, the end thereof being in the form of an outwardly extending cone and having the apex thereof pointing toward the casing and apertured, the said end provided with arms extending toward the casing, the ends of the arms being bent outwardly to form internal projections which are adapted to be passed through the recesses of the ledge or flange of the casing and to thereby detachably engage above said ledge or flange, and an electrical conductor extending through the insulating tube, and having its inner end in close proximity to the aperture.

13,045. Protector for Rubber Tires. Herbert R. Palmer, Cleveland, Ohio, assignor, by mesne assignments, to Frederick E. McEwen. Filed Jan. 6, 1905. Serial No.

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(32)

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because they take all of the jars and bumps out of automobile riding. Simply iron out the rough spots. They allow free action of the springs over smooth roads and only get busy when you strike the bumps.

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Branch: 1926 Broadway, New York City



239,908. Original No. 717,263, dated Dec. 30, 1902. Serial No. 110,510.

1. A protecting covering for a vehicle tire consisting of a flexible backing carrying flat-headed rivets whose heads are on the outer side of the backing and are in staggered position and nearly abut, but do not overlap, and whose shanks extend through the backing and are upset on the inner side thereof, substantially as described.

941,406. Carburetter. Julius H. Cooper, Rochester, N. Y. Filed March 27, 1908. Serial No. 423,697.

1. A carburetter of the class described, comprising a wall portion forming a mixing chamber, said chamber having an outlet, a conical base carried by the wall portion, a fuel passage communicating with said chamber through the apex of said conical base, said base having a peripheral series of air inlets therethrough, a piston engaged slidably in the chamber, and having a conical recess in its base arranged to engage closely with said conical base, said piston being arranged to close said air inlets when so engaged, said piston having an upwardly flared opening concentrically therethrough, a needle valve seated upon the apex of said base, means for operating said valve to admit fuel to the chamber, operative connections between said piston and the needle to raise the piston for the admission of air in fixed ratio with respect to the quantity of fuel entering the chamber, and means for adjusting the connections between the needle and piston to vary the said ratio.

941,407. Transmission Controller. Claude E. Cox, Indianapolis, Ind. Filed June 10, 1908. Serial No. 437,639.

1. A controller for automobiles comprising a lever adapted to be moved in either direction from a medial position, means connected to said lever for connection with two speed controlling members of a transmission mechanism to alternately operate said two members by opposite movement of the lever, and means for normally yieldingly holding said lever in medial position, said means comprising a stationary abutment, a pair of fingers engaging said abutment on opposite sides thereof, means for yieldingly holding said fingers in engagement with the abutment, and a member connected to the lever and lying between said fingers for the purpose set forth.

941,517. Motor Vehicle Construction. Emil Gruenfeldt, Cleveland, Ohio, assignor to The Baker Motor Vehicle Company, Cleveland, Ohio, a Corporation of Ohio. Filed Jan. 23, 1908. Serial No. 412,235.

1. In a motor vehicle construction, the combination of a vehicle frame mounted upon springs; a fixed axle member upon which said springs are mounted; a motor connected with the live member of the axle, and yieldingly supported upon said frame; and means rigidly secured to said fixed axle member and loosely connected with said motor.

941,574. Pilot Light Shifting Attachment for Vehicles. Ernest E. Hampton and Cicerio G. Smith, Palisade, Colo. Filed Sept. 11, 1907. Serial No. 392,314.

1. In an automobile or similar vehicle, the combination of a steering rod, a worm wheel on said rod, a gear in connection with said worm wheel, connections comprising a lever and shaft therebetween and the wheels for changing the angular position of the latter, a plurality of lamps, a rotatable upright on which each lamp is mounted, connections between said lamps, an arm fixed to one of said uprights, and connections between said worm wheel and arm, comprising a rod and a lever on said shaft to which the rod is connected, whereby said lamps are moved angularly concurrently with the angular movement of the wheels.

941,654. Automobile Buffer Bar. James H. Sager, Rochester, N. Y., assignor to J. Sager Company, Rochester, N. Y., a Corporation of New York. Filed Oct. 18, 1909. Serial No. 523,367.

1. In automobile buffer-bars, the combination with a cross rail to receive the shock, or similar, separated sleeves attached thereto and projecting at right angles therefrom; rods adapted to slide within said sleeves, respectively; springs interposed between said rods and cross rail; means for attaching said rods to the automobile frame; and means adjustable at right angles to said rods for bracing said rods horizontally and vertically; substantially as shown and described.

941,739. Operating Device for Vehicle Lamps. John P. Stein, Reading, Pa. Filed March 29, 1909. Serial No. 486,240.

In an operating device for vehicle lamps, the combination of a steering apparatus comprising in its makeup a transverse rod, with two rotatably mounted lamps, brackets on which said lamps are supported, oscillating holders in which said lamps are mounted, a rearwardly extending arm formed on each of said holders, a second transverse rod pivotally connected at both of its ends to the ends of rearwardly extending holder arms, and a pair of stringers rigidly secured to said second transverse rod and to the transverse rod of the steering apparatus, so that both said rods will move exactly the same distance when the steering apparatus is operated.

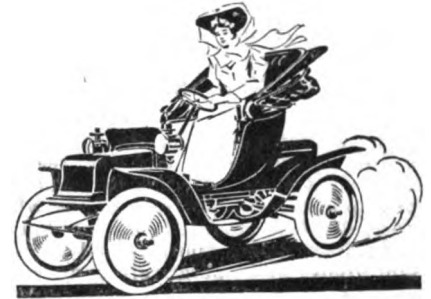
941,983. Vehicle Seat. Frank J. Elsner, Racine, Wis. Filed June 30, 1908. Serial No. 441,070.

A supplemental seat for automobiles comprising in combination, a supporting bracket having a vertical socket, a seat-support-

## Babcock Speaks:

**Buffalo Manufacturer Throws Down the Gauntlet.**

MR. F. A. BABCOCK of Buffalo, N. Y., manufacturer of the famous Babcock Electric says: After reading the catalogues for 1910, of the eight leading manufacturers of "Electric" automobiles, it is self-evident that some of them are either mistaken, or



guilty of misrepresentation, for their respective claims all read alike, and it is obvious that only one "Electric" can be the "best."

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which says that the "Babcock" has won every stock contest in which it has been entered;

That it has made the fastest time both on the level and on the hills of any stock "Electric" yet constructed;

That no other stock "Electric" has made as many miles on one charge, under the same conditions, and had its run certified to by creditable and disinterested witnesses;

That no other stock "Electric" runs so fast either on the level or up hill;

That no other stock "Electric" is so safe, easy to operate and economical.

Eight Perfectly-appointed Models.

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Buffalo, N. Y.

If you are interested in Motorcycles

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# F & S

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Sole Importers

TIMES BUILDING, NEW YORK

ing arm having a vertical pintle at one end slidably fitted and journaled in said socket and having means to interlock therewith to prevent the arm from turning, an upwardly extending stud at the other end of said arm, a collar at the base of said stud having the periphery thereof notched, a hinged seat embodying a bottom cross bar having a central opening receiving said stud whereby the seat may be turned around said stud as a center, and a locking finger on the seat bottom adapted to engage any one of the notches of said collar when the seat is lowered.

941,993, Anti-Slipping Tread Attachment for Motor Vehicles. Michael Jensco, Butler, Pa. Filed Nov. 13, 1908. Serial No. 462,476.

1. In a motor vehicle, the combination with the vehicle body, and the rear axle thereof, of wheels carried by said axle, guides upon the rim portions of the wheels, sleeves slidably mounted on the hubs of the wheels, gripping spurs radially movable in said guides and operatively connected to said sleeves for projection and retraction by reverse movements thereof, pivoted operating levers connected with the sleeves, reversely arranged bell crank levers connected with said operating levers, a link connecting the bell crank levers, and a main operating connection coupled to one of said bell crank levers.

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## DENIES WHEELER AN INJUNCTION

**His Effort to Control a Carburetter Situation Meets with Set-back—Patent Which He Tries to Exploit.**

Claiming patent control over carburetters that have the air inlet and the throttle outlet interchangeable, Wheeler & Schebler, of Indianapolis, Ind., have brought suit against the Generator Valve Co. and the Monarch Valve Co., of Brooklyn, N. Y., but in an attempt to obtain a preliminary injunction against these companies the Indianapolis firm on Saturday, 19th inst., met with defeat. The hearing took place on Friday, the day preceding, in the United States Circuit Court for the Eastern District of New York, sitting in Brooklyn, and Judge Thomas I. Chatfield, in denying the Wheeler & Schebler petition prepared his decision in so short a time that he will take further occasion to go over it before publishing it, although its general character was made known to the attorneys and the orders for the denial of the injunction were executed.

It was due to the fact that trouble threatened several of the exhibitors at the motor boat show now current in Madison Square Garden, New York, that the court was induced to take action on short notice.

Such infringement as is alleged to exist is based on one patent, No. 806,434, dated December 5, 1905, and in the motion for a preliminary injunction the issue is confined to the first claim. This claim is for the combination, with the main casing of a carburetter, of an air inlet attachment and a throttle valve attachment, and means for securing these attachments to the main body of the casing so that they may be interchanged in position. The arrangement permits the inlet to be secured at the top and the throttle at the side, or the throttle at the top and the inlet at the side. The attorney for the defense, Henry D. Williams, of New York, indicates that a search

at Washington has disclosed eight prior patents, each of which completely anticipates this idea, and many others that approach it closely.

### Two Cities Seek Outdoor Shows.

Rivalry between Detroit and Indianapolis for a gigantic outdoor automobile show of some kind has resulted in the filing of two applications with the National Association of Automobile Manufacturers by the respective cities. The Detroit application was made by the Detroit Automobile Dealers Association and that for Indianapolis was filed by Carl G. Fisher, one of the directors of the Motor Speedway. In each case it is aimed to have the exhibition national in character. The applications have been referred to the show committee of the association for consideration.

### Clifton Sails South for Rest.

Charles Clifton, president of the Association of Licensed Automobile Manufacturers and treasurer and general manager of the Pierce-Arrow Motor Car Co., of Buffalo, N. Y., on the 21st inst. sailed with Mrs. Clifton on the steamship Moltke from New York for a month's cruise to the West Indies and the Spanish Main. The trip to the Caribbean will include a visit to the Panama canal district.

### Bump Leaves Franklin for Owen.

F. R. Bump has been made sales manager of the Owen Motor Car Co., of Detroit, Mich. He has been with the H. H. Franklin Mfg. Co., of Syracuse, N. Y., in a similar capacity for the past six years. His departure from Syracuse was marked by a banquet given by the local dealers' association.

### Toepfner Quits Before Commencing.

The Toepfner Motor Car Co., of Bay City, Mich., which was organized to build motor trucks, has "seen the light" and will not enter the field of automobile manufacture. The money has been returned to the purchasers of the stock.

## GARDEN SHOW TO RUN TWO WEEKS

**First Week for Pleasure Cars, Second Week for Commercials—Dates Chosen and More Space Arranged.**

Solving the situation arising from the passing away of the American Motor Car Manufacturers Association and the great increase in the list of licensees under the Selden patent, the Association of Licensed Automobile Manufacturers has completed plans for a two weeks 1911 show at Madison Square Garden, New York City; the first week for pleasure cars, and the second for commercial vehicles. The dates selected are January 7 to 14, and 17 to 24. Although the tentative plans in this direction have been discussed freely with the car and accessory manufacturers for several weeks past, the actual decision on the part of the Association was not reached until last week, when Charles Clifton, president of the Association, signed the contract with the Madison Square Garden Co. before leaving on a southern trip.

Quite different from anything before seen at the Garden, the arrangements which are to be made for accommodating 80 pleasure car exhibitors will entail a radical rebuilding of the structure's interior. By extending the elevated platform so that it will be 50 feet wide, with another platform overhead, at least 20,000 square feet more will be available than the maximum at any previous Garden show. In addition to the 80 car exhibitors, there also will be accommodations for 27 exhibitors of motorcycles and for 300 motor and accessory manufacturers.

Work is to commence early in July on the preparation of the interior construction, which will be made in sections to permit rapid installation. When the pleasure vehicle show closes on Saturday night, the 14th, the cars will be removed and their places taken by the commercial vehicles.

The signs and carpets also will be changed, but the main decorations will be carried through both exhibitions and will be found standing when the commercial show opens on Tuesday, the 17th of January.

While the present licensees under the Selden patent number in the seventies, further increases are to take place shortly, which will probably make more than 80 pleasure car exhibitors desiring space in the first week's show. No more than 80 can be provided for in the first week, and a few may be content with space the second week among the commercial exhibits. It will be optional with the accessory and motorcycle exhibitors whether they exhibit for one week or for both. While the present list of concerns in the Licensed rags who are making commercial vehicles also does not appear impressively large, it is officially stated that "many members of the Licensed Association are now turning their attention toward commercial vehicles and will have their products ready for the fall trade and for exhibition at the January show."

#### **"E. V." Receivers Ask for Discharge.**

Although the Electric Vehicle Co., of Hartford, Conn., was recognized last June as the Columbia Motor Car Co., the receivers have not been discharged as yet, but steps toward this end have been taken in the issuance of a notice for a hearing concerning their application for an approval of the sale of the assets and the acceptance of final account. The application was filed in the Superior Court of Hartford county, at Hartford, on the 18th inst., and the hearing itself is set for March 4. The receivers, Halsey M. Barrett and Henry W. Nuckols, state in the application that they have sold and conveyed the assets and property of the Electric Vehicle Co., have completed their administration as receivers and have filed their final account.

#### **Wyandotte Secures Another Plant.**

Having secured a magneto factory, Wyandotte, Mich., has undertaken further to enlarge its list of new enterprises by obtaining an automobile building plant. The concern will be known as the Swift Automobile Co., and will have its factory on Mulberry street, adjoining that of the Whistler Mfg. Co., the magneto manufacturers. The land has been paid for in stock of the company and concessions have been made in the way of free water and exemption from taxes for five years.

#### **Crescent Evolves Into Walker-Stoops.**

The Crescent Auto Top Co., of New York City, has consolidated with Alfred J. Walker and has moved to a new fireproof building at 218-20 West Sixty-fifth street. Hereafter it will be styled the A. J. Walker-Stoops Co., Inc., its officers being A. J. Walker, president; James C. Stoops, vice-president, and A. J. Walker, Jr., secretary.

## THE CHIEF CAUSES OF FAILURE

### **Bradstreet's Says There Are Eight of Them, Insufficient Capital Being First—The Record for 1909..**

Dealing with the subject "Why Men Fail," Bradstreet's says: "Many years of experience have shown that eight leading causes are subjective and attributable to those who fail, while three others exert their influence from circumstances existing without the individuals themselves. These causes are grouped as follows:

"Due to faults of those failing—Incompetence, irrespective of other causes; inexperience, without other incompetence; lack of capital; unwise granting of credits; speculation, outside regular business; neglect of business, due to doubtful habits; personal extravagance; fraudulent disposition of property.

"Not due to faults of those failing—Specific conditions, disaster, etc.; failure of others, of apparently solvent debtors; competition.

"In 1909, 81 per cent. of the failures were attributed to the faults of those failing, grouped under the above eight causes, as against 77.5 per cent. in 1908, 81.1 per cent. in 1907, and 79.7 per cent. in 1906. The three causes classed as beyond the individual's control accounted for 19 per cent., as against 22.5 per cent. in 1908, 18.9 per cent. in 1907, and 20.3 per cent. in 1906. There is here indicated something like a return to normal in 1909 as regards predisposing causes. In 1908, it will be remembered, the returns indicated the effects of the 1907 panic strain projected into the succeeding year, the effects of the panic trouble not becoming visible, as regards the number of failures, until 1908, because of the occurrence of the trouble in the last quarter of 1907.

"As regards liabilities, it might be noted that 72.5 per cent. of the failure damage in 1909 was attributed to the faults of those failing, as against 62 per cent. in 1908, 44.6 per cent. in 1907, and 72.9 per cent. in 1906. Causes outside of the individual's control were responsible for 27.5 per cent. of the liabilities in 1909, as against 38 per cent. in 1908, 55.4 per cent. in 1907, and 72.1 per cent. in 1906. It will be recalled that very large suspensions in the last quarter of 1907 swelled the aggregate of failure damage very largely, and to this cause is to be attributed the large increase in the percentage attributed to specific conditions, under which head panic strain and unsettlement naturally come as a cause beyond individual control.

"Lack of capital, as usual, looms up as the most notable single predisposing cause of failure, the proportion last year being 34.5 per cent., as against 34.2 per cent. in

1908, 37.1 per cent. in 1907 and 35.9 per cent. in 1906."

#### **Another Injunction Against Graham.**

Suit for infringement of patent, brought by the Supplementary Spiral Spring Co., of St. Louis, Mo., against John Hector Graham and his supplementary spiral spring enterprise in New York City, has resulted in a decision and injunction against him in the United States District Court for the Southern District of New York on the 16th inst. No defense being made, he was declared guilty of infringement "pro confesso." The New York decision is in the nature of a sequel to similar litigation in Boston, where Graham's boldness in appropriating the St. Louis company's name and trademark resulted in a sweeping injunction and reproof by the court.

#### **More Cars to be Built in Anderson.**

Anderson, Ind., has promise of an addition to its automobile manufacturing activity in a project backed by W. S. Poling and Guy Derthick, who are preparing a factory on Jackson street for the production of Stanley gasoline cars. The latter previously were manufactured in Troy, O., by a company which has just dissolved, and the plans and patterns to which the Anderson enterprise has fallen heir provide for a \$1,000 and a \$1,600 model.

#### **Fire Damages Abbott's New Factory.**

Fire damaged the new plant of the Abbott Motor Co., of Detroit, Mich., on the 12th inst., causing a loss estimated at \$3,000. The building, which is located near Hendricks street, between Meldrum avenue and the belt line, is almost completed and the fire will not delay the company's removal from its present manufacturing headquarters on Champlain street.

#### **Omaha Supply House in Trouble.**

The Western Automobile Supply Co., of Omaha, Neb., has confessed judgment for \$23,293 in favor of Attorney George E. Pritchett, whose son has been interested in the business and who has lent it \$23,000 since last July. The partners in the concern include John W. Madden, William H. Horn and Harold L. Pritchett.

#### **Atwell Gets a Michelin Branch.**

J. A. Atwell has been appointed manager of the New York City branch of the Michelin Tire Co., of Milltown, N. J., succeeding J. Wilbur Hobbs, who recently resigned. For a long time Atwell has been a special factory representative of the Michelin company.

#### **Warner Again Enlarging Its Factory.**

The Warner Instrument Co., of Beloit, Wis., has broken ground for an addition to its factory. The new building will be 100 x 32 feet and will house the plating and polishing room together with a brass foundry.



**BRAZING PROCESS CAUSES TRAGEDY**

**Terrific Explosion Results in Death, Injury, Fire and Wreckage—"Home-Made" Oxygen Used in the Process.**

A somewhat mysterious explosion occurred on Washington's Birthday in Alton Laine & Co.'s automobile welding and repair plant at 351 East 74th street, New York City, and resulted in the death of one mechanic and serious injuries to another, as well as in the demolition of the building. The whole neighborhood was thrown into a panic, and it took five fire companies and the police reserves of two stations to put out the resulting fire and restore order.

Arthur Cormier, the dead man, and his brother, Henry, were at work together in the welding room brazing an automobile engine, while two other employees were in the main office, some distance away, when suddenly an oxygen tank 4½ feet high and 20 inches in diameter exploded, shot through the roof of the working shed, hurdled the main building and came down on the other side of the street. The roof of the shed collapsed from the force of the explosion and the glass rattled down from the rear windows of three First avenue tenement houses overlooking the plant. The windows on the east side of the Bohemian Presbyterian Church, adjoining the welding plant on the west, were shattered, while the church furniture within was thrown into disarray.

The manager of the concern states that in their autogenous welding process "home-made" oxygen was employed, which might account for the explosive power manifested by the gas. Oxygen, manufactured under such conditions, occasionally contains impurities which, with the addition of gasoline fumes, acetylene and other carbon hydrates, as well as carbon monoxide, form exceedingly dangerous explosive mixtures. The acetylene tank standing a few feet from the oxygen receptacle did not explode, but contributed to the subsequent fire.

**Mertens Returns to Columbia Cars.**

Eugene R. Mertens, who for the past month has been superintendent of the Whitlock Coil Pipe Co., of Hartford, Conn., has resigned to return to the Columbia Motor Car Co., in the same city. He formerly was assistant superintendent at the Columbia plant, but now returns with larger powers and duties than before.

**True Blue Runs up Colors in Detroit.**

Another automobile manufacturing concern has been organized in Detroit, Mich., to be known as the True Blue Motor Car Co., and its capital has been placed at \$100,000. Edmund M. Coombs, of the Michigan Top Co., and the Coombs-Gilmour Co., the Mitchell distributors, is in the enterprise, together with Maurice Wolf and

Wallace E. Brown, of the Michigan Gas Mantle Co. It is proposed to build a \$1,300 car, but as yet the first car has not been completed and the matter of a factory location has not been decided.

**Two Plants for Detroit Body Builders.**

In line with the expansion spirit pervading the manufacturing side of the industry in Detroit, Mich., the Briggs Mfg. Co., of that city, making bodies, trimmings and the like, has purchased an additional plot of ground and is erecting a four story brick building which will give an estimated capacity of 120 bodies per day. The new plant will be operated in addition to the Boulevard plant now running, and is made necessary by largely increased business. Walter O. Briggs, president and general manager, will continue to direct the destinies of the B. F. Everitt Co., of which he also is the head.

**Court Appoints Receiver for Pierson.**

As a result of the bankruptcy petition filed against it in January, a receiver has been appointed for the Pierson Motor Supply Co., of 43 Cortlandt street, New York City, the proprietor of which, Walter G. Pierson, died a few days before the filing of the petition. Judge Holt has named William Henkel, Jr. The liabilities are about \$10,000 and the assets \$4,000.

**Eagle Prepares to Fly Higher.**

The Eagle Mfg. Co., of Appleton, Wis., which is capitalized at \$6,000, is to be reorganized as a \$200,000 company for the manufacture of automobiles, according to Saiberlich brothers, its proprietors. It will change its name to the Eagle Automobile Mfg. Co., and will make a \$2,000 car. W. D. Legge has been engaged to handle the mechanical end.

**To Reproduce Swiss Truck in Chicago.**

An American reproduction of the Saurer truck, a Swiss product, is to be manufactured in Chicago, Ill., by a company headed by W. M. Thompson, president of the Chicago Iron Store. Associated with him in the enterprise are A. B. Scully and W. D. Sargent, together with "a number of other prominent capitalists."

**Superior to Build Big Factory.**

The Superior Motor Vehicle Co., recently incorporated in Buffalo, N. Y., and of which J. Willis Lansing is the president, has announced plans for a four story factory, 70x400 feet. The structure is to be on Elmwood avenue, at the junction of the New York Central belt line tracks.

**To Manufacture Tops in Omaha.**

Automobile tops are to be manufactured in Omaha, Neb., by the E. W. Reynolds Mfg. Co., which has started operations at 1008-10 Jackson street. E. W. Reynolds, of Kansas City, is the president and general manager, while George Dupy has charge of the mechanical department.

**TAXICAB COMPANIES GET TOGETHER**

**Organize and Incorporate Association to "Secure Freedom" and "Reform Abuses"—Friction Over Accident Claims.**

So many difficulties and troubles assail the companies operating taximeter cabs in New York City that several of the larger concerns, including the New York Taxicab Co. and the New York Transportation Co., have formed an organization which is to be known as the New York Motor Cab Owners' Association. The association was incorporated last week under New York state laws, its incorporators having been approved by Judge Amend of the Supreme Court, and its objects, as stated in its charter, are "to foster the interests of those engaged in owning or operating motor taximeter cabs and to reform abuses relating to the business of persons so engaged; to secure freedom from unjust and unlawful exactions; to obtain and diffuse accurate information on matters relating to the business, and to procure uniformity and harmony between employers and employees."

Indicative of the extent of the legal side of a cab company's troubles, action was brought last week by the New York Taxicab Co. for the recovery of possession from Lewis D. Mooney, an attorney, of papers in 200 accident suits now pending against it. It transpired that there are actions for more than \$1,000,000 pending against the Taxicab company in the Supreme Court and for more than \$70,000 in the City Court. The Taxicab people carry liability insurance with a London company, and it is alleged that during the past few weeks the insurance people have refused to approve claim adjustments of \$10,000 arranged by Mooney and have withdrawn approval of \$2,000 in claim adjustments previously approved.

**Waterloo Woos Dart from Anderson.**

Waterloo, Ia., has wooed the Dart Mfg. Co., which manufactures commercial and farm vehicles, from Anderson, Ind., and in the Iowa city the company will be reorganized with \$250,000 capital. Like the Maytag-Mason Automobile Co., which was drawn from Des Moines to Waterloo, it is to receive financial encouragement from the citizens of the latter place.

**Gramm to Operate Two Factories.**

The Gramm Motor Car Co., which has been making commercial vehicles in Bowling Green, O., is to have a plant in Lima, O. The latter will be the main factory, the establishment in Bowling Green being continued as auxiliary.

**Burke Leaves the Mora Service.**

W. W. Burke, manager of the Mora Co.'s New York branch, has resigned that office. He has not yet indicated his next move.

**The Week's Incorporations.**

Milwaukee, Wis.—Buick Motor Co., Flint, Mich., under Wisconsin laws, with \$500,000 capital; to do business in Wisconsin.

Chicago, Ill.—Auto Specialties Mfg. Co., under California laws with \$50,000 capital; to manufacture automobiles, appliances, etc.

Milwaukee, Wis.—Kopmeier Motor Car Co., under Illinois laws, with \$100,000 capital; to deal in automobiles and accessories.

Albany, N. Y.—Fort Orange Garage, under New York laws, with \$5,000 capital. Corporators—John, John J. and Elizabeth E. Snyder.

Altus, Kan.—Altus Motor Car Co., under Kansas laws, with \$8,000 capital. Corporators—E. E. Hilmeyer, D. G. Norris, Altus; Tom R. Moore, E. H. Vox, Olustee.

Cleveland, O.—Auto Plating & Mfg. Co., under Ohio laws, with \$10,000 capital. Corporators—T. S. Hammer, Emmett T. Dowling, Ida L. Brunst, Harry Ochs and Fred Enter.

Fitchburg, Mass.—Fitchburg Cab & Automobile Co., under Massachusetts laws, with \$50,000 capital; general automobile business. Corporators—S. M. Nathan and others.

Glens Falls, N. Y.—Co-Auto Service Co., under New York laws, with \$50,000 capital; to deal in automobiles and supplies. Corporators—C. H. Peddrick, Jr., G. Tait, B. G. Higley.

Boston, Mass.—Manhattan Motor Truck Co., under Massachusetts laws, with \$10,000 capital. Corporators—Alphonso E. Kenney, Medford; William H. Britton and Philip Dooskin.

Cincinnati, O.—Queen City Motor Car Co., under Ohio laws, with \$10,000 capital. Corporators—Samuel A. Cantelon, Albert A. Degenhart, H. C. Busch, I. M. Boring and Robert Cantelon.

New York, N. Y.—Vetter Auto Top Co., under New York laws, with \$10,000 capital; to manufacture automobile tops and appliances. Corporators—Wm. Vetter, F. E. Stoll and May Baker.

Knoxville, Knox county, Tenn.—Knoxville Auto & Garage Co., under Tennessee laws, with \$50,000 capital. Corporators—H. H. Thrasher, J. R. Irby, W. H. Gass, N. B. Kuhlman and J. E. Suty.

St. Louis, Mo.—Michelin Tire Co., under Missouri laws, with \$10,000 capital; to deal in automobile tires. Corporators—M. A. Wilson, E. M. Gough, J. O. Wilson, S. T. L. Dyer and A. J. Goodbar.

Pittsburg, Pa.—Silent Motor Car Co., a Delaware corporation with \$300,000 capital. Corporators—J. Sturtevant, New Kensington, Pa.; J. W. Waesch, Beaver Falls, Pa.; C. C. Conkle, Pittsburg, Pa.

Cleveland, O.—Goby Engine Co., under Ohio laws, with \$100,000 capital. Corporators—Christian Girl, Lewis W. Thomas, George G. Cockburn, Clifford S. Goby, John B. Hull and J. M. Frederick.

Dayton, O.—Geyer Sales Co., under Ohio laws, with \$10,000 capital; automobile manufacturers sales agents. Corporators—Carl F. Geyer, E. D. Hinsley, D. J. Smith, Edgar Daniels, Albert McCray.

Vincennes, Ind.—Vincennes Motor Mfg. Co., under Indiana laws, with \$5,000 capital; to manufacture gasoline motors and motor vehicles. Corporators—W. T. Havill, M. E. Hunter and C. H. Huston.

Memphis, Tenn.—Jerome P. Parker Co., under Tennessee laws, with \$100,000 capital; garage business. Corporators—Jerome P. Parker, Maxwell P. Patterson, J. E. Squire, Christopher Kastner and J. B. Parker.

Lebanon, N. H.—Lebanon Automobile Co., under New Hampshire laws with \$15,000 capital; general automobile business. Corporators—E. Bertram Pike, Pike; Dr. Frank A. Smith and Henry F. Knapp, Lebanon.

Providence, R. I.—Fiat Automobile Co. of Rhode Island, under Rhode Island laws with \$10,000 capital; general automobile business. Corporators—Jefferson K. Crawford, Frank R. Hunter and Edward R. Bancroft.

Los Angeles, Cal.—Los Angeles Motor-drome Co., under California laws, with \$250,000 capital. Corporators—F. E. Moskovice, R. A. Rowan, F. W. Flint, Jr., H. D. Lombard, H. W. Keller, H. G. Gerard and Frank Garbutt.

Bristol, Conn.—Connecticut Cab Co., under Connecticut laws with \$500,000 capital; to manufacture taxicabs. Corporators—Albert F. Rockwell, Ernest R. Burwell, Charles T. Treadway, Ira Newcomb and T. H. Holdsworth.

St. Louis, Mo.—United Electric Storage Battery Co., under Missouri laws with \$10,000 capital; to deal in motor vehicles. Corporators—Edgar Leussier, George A. Clark, Paul W. Deichman, John J. Langton and August J. Gernhardt.

Jamestown, N. Y.—Lilly Engine Co., under New York laws, with \$150,000 capital; to manufacture and deal in automobiles, motorcycles, motors, etc. Corporators—C. H. Henderson, J. R. Graves, Corry, Pa.; G. H. Monroe, Jamestown.

Wabash, Ind.—Standard Automobile Co. of America, under Indiana laws with \$500,000 capital; to manufacture automobiles. Corporators—G. J. Kobusch, W. S. McCall, A. R. Walton, W. B. Phelps and F. D. McMahon, St. Louis, Mo.

Louisville, Ky.—L. W. Thompson Co., The, under Kentucky laws, with \$5,000 capital; to deal in automobile accessories etc. Corporators—L. W. Thompson, J. F. Ecker, Louisville; R. P. Thompson, Gallipolis, O.; James Fintze, Newark, O.

Hinsdale, N. H.—F. F. Cameron Co., under New Hampshire laws with \$20,000 capital; to manufacture ball bearings. Corporators—W. N. Pike, H. W. Taylor, James O'Brien, G. S. Smith, F. A. Davis and R.

D. Taylor, Hinsdale; John O'Brien, Bernardstown, and F. F. Cameron, Beverly, Mass.

New York, N. Y.—Belnord Automobile Storage and Supply Co., under New York laws, with \$10,000 capital; to deal in rubber tires, operate storage houses and garages. Corporators—I. Irving Cohn, Henry M. Flateau and Joseph Marx.

Jersey City, N. J.—Marion Acetylene Specialty Co., The, under New Jersey laws with \$25,000 capital; to manufacture articles employed for the working, control and operation of automobiles. Corporators—E. C. and A. Bournonville, all of Jersey City.

Detroit, Mich.—Michigan Motor Truck Co., under Michigan laws, with \$1,000,000 capital. Corporators—Herbert M. Thomas, James C. Brown, Frank C. St. Aubin, Charles N. Bristol, Francis X. Petz, W. D. Clizbe, Frank Ford, Carl G. Granacher and Harry G. Pullman.

**Increases in Capitalization.**

Racine, Wis.—Racine Mfg. Co., increases capital to \$400,000.

Indianapolis, Ind.—Airless Tire Co., from \$225,000 to \$250,000.

Paterson, N. J.—Auto Express Co., from \$15,000 to \$2,000,000.

Cleveland, O.—Derain Motor Car Co., from \$30,000 to \$60,000.

Portland, Me.—Taxicab Co. of Maine, from \$25,000 to \$100,000.

Waukesha, Wis.—Waukesha Motor Co., from \$25,000 to \$100,000.

Sheboygan Falls, Wis.—The Falls Co., increases capital from \$15,000 to \$150,000 and will engage in the manufacture of spark plugs.

**"Standardized" Rims Definitely Shelved.**

As a sequel to the setback which the United Rim Co. received from the tire committee of the Association of Licensed Automobile Manufacturers, when the latter refused to accept the "standardized" types of demountable rims offered by the former, a meeting of the rim patents holding company was held in Akron, O., on Friday last, at which it was decided to abandon the "standardizing" movement. The various tire companies composing the United Rim Co. could not come to any definite agreement regarding the future of the corporation, which probably will dissolve, but the meeting had the effect of leaving all free to disregard the "standard" forms and use whatever rims they like.

**Nebraskans to Make Tire Protectors.**

Puncture-proof tire protectors are to be made in Grand Island, Neb., by the newly formed Simpson Auto Co., which has been organized by W. E. Sampson and W. H. Sampson. The concern is beginning operations at 312 West Third street, where it has established a small factory.

## IN THE RETAIL WORLD.

Caldwell, Idaho, is to have a modern garage; L. Adams and S. H. Grimmert are building it.

Louis Hicks & Son are making ready to open a garage in Fargo, N. D. They will handle the Halladay cars.

The C. F. Jackson Co., Norwalk, O., will have a new garage, to be built on South Hester street; it will be a brick structure.

The Campbell Auto Co., Fort Dodge, Ia., which maintained a branch in Des Moines, has removed its principal office to the latter city.

George S. Brewer, Athol Center, Mass., has embarked in the automobile business and is erecting a garage; it will be placed in commission in the spring.

Broadbrooks & Werner, Attica, Ind., have leased the Toms property, on Main street, for garage purposes. They will erect an addition to the present building.

A new garage, to cost about \$10,000, is being erected at the corner of Adams and Dot streets by Frank R. Buchholz, in Green Bay, Wis. It will be 40x100 feet.

The Wilder Motor Co. has opened a garage with all modern improvements in Grand Rapids, Minn. It is the third automobile concern to open up in the village.

The Randolph (Vt.) Inn Garage was destroyed by fire on the 6th inst., together with three cars stored therein. The cause of the fire is unknown; the loss was \$1,200; uninsured.

The Straeffer-Arterburn Motor Car Co. has been formed in Louisville, Ky., and has taken temporary quarters in 1103 East Broadway. It is handling the Parry and Krit cars.

A. B. Bean, a hardware dealer in Pocatello, Idaho, is building a garage at the corner of West Center street and Grand avenue. He will handle the Thomas, Ford and Buick cars.

F. C. Wilbur & Co. is the new name over the door at 1233 Michigan avenue, Chicago, Ill., where Metz cars will be handled. F. C. Wilbur, the head of the firm, hails from Waukegan, Wis.

Nicholas Zuzulin, Minot, N. D., an enterprising local smithy, has had plans drawn for a building to be erected at Fourth and Ward streets, which will be used partly for garage purposes.

Douglas Darby, of Westfield, N. J., has bought the property now occupied by Quackenbush's garage. In company with George W. Frederick he will continue the automobile business.

The Bender Garage Co., Utica, N. Y., a new concern, has opened a garage at Elizabeth street and Park avenue. Among the cars which it represents are the Stoddard-Dayton and Hupmobile.

The Western Automobile Co., with temporary quarters in the Newlander building

on West avenue, has been organized in Holdrege, Neb. It will distribute Velie cars in the adjacent territory.

The Gramm-Logan Motor Sales Co., Kansas City, Mo., has been established at 3328 Main street, under the management of L. B. Solether. It will be a southwestern distributing base for Gramm-Logan trucks.

John F. Fleming, of Brookline, Mass., has bought a site on Washington street near the Brookline transfer station, comprising some 10,600 square feet and intends to erect a large garage on the property.

J. R. Tate, Manitou, Col., has purchased a lot on Manitou avenue on which he will erect a garage. The structure will be of brick, two stories in front and one in the rear, and will be the home of the Victor car.

L. E. Parker, of Aurora, Ill., has opened a general repair shop for automobiles and bicycles in his home town at 88 Main street. He was for a time mechanical inspector at the engine factory, at Goshen, Ind.

Lawrence & Stanley's garage, Columbia Road and Hancock street, Dorchester, Mass., was destroyed by fire last week. The blaze started in the early morning, and but a few of the many cars in storage were saved.

Exclusively for the housing of electrics, the Toledo Auto and Garage Co. is erecting an addition, 80x220 feet, to its present garage. Five expert electricians have been engaged by the company to attend to the new department.

Gage & Sullivan, Le Roy, N. Y., who conduct a plumbing establishment, have purchased of Charles S. Morris the garage connected with the Eagle Hotel. In addition to their new venture they will continue their plumbing business.

Backus & Hunt is the title of a new firm which has entered the automobile business in Waterbury, Conn. They will erect a garage on Main street and in addition to representing the Mitchell and Ford cars will conduct a livery business.

The O. M. Dale Co., Franklin, Pa., has leased the garage occupied by the Franklin Motor Co., and taken over the business of that concern. The new owners propose to remodel the establishment thoroughly and will install a charging plant for electrics.

George H. Stowe, who has been prominent in the Boston retail field, has been appointed sales manager of the Carl H. Page Co., the New York City distributors for Chalmers cars. His move from the Hub to the Metropolis takes place immediately.

The Sweet-Edwards Automobile Co., Omaha, Neb., is the possessor of a new garage recently completed on Farnam street, the local "automobile row." It was appropriately housewarmed last week, and is

considered one of the best appointed establishments in the city. The American, Moon and Parry constitute the line of cars handled.

The Jewell-Melbert Garage, Galveston, Tex., have increased their floor space to double its former size and now occupy the entire building at 2210-14 Mechanic street. Coincident with the acquisition of more "elbow" room much new equipment has been installed.

J. W. Reid, of Ottawa, Kan., has given up his position in the Peoples National Bank at that city, and removed to Kansas City, where he has gone into the automobile business. He has obtained the agency for the Glide and Westcott cars, which he is displaying at 720 East Fifteenth street.

The Southern Automobile Co. is the name of a new concern which has opened temporary quarters in Louisville, Ky., at 417 West Green street. The company is composed of W. H. Lansing, W. H. Montgomery and William A. Baker. At present it is handling the Broc electrics, Ohio gasoline cars, and the Acorn line of motor trucks.

E. A. Brown & Co., Paterson, N. J., have completed plans for the erection of a garage at 359-361 Market street. It will cover ground 66x188 feet and will be a one-story affair. One of the features of the new establishment will be separate locked stalls for cars, which are expected to prevent machines being taken out by unauthorized persons.

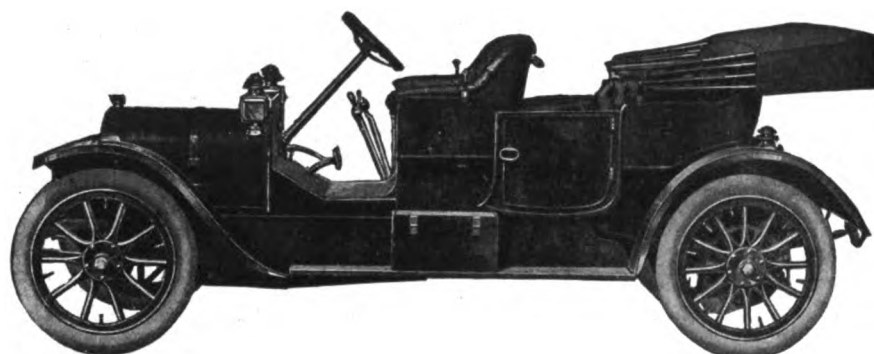
George W. Houk, who, after returning from several years of foreign experience in the automobile field, not long ago assumed charge of the Cadillac business of Alvan T. Fuller in Boston, Mass., has been made manager of the Olds-Oakland Co., of Boston, and will direct the sale of Olds and Oakland cars for all New England with the exception of Fairfield county, Connecticut. Louis J. Sackett succeeds Houk in the management of the Cadillac department of the Fuller business.

John M. Kirkwood, of Gotebo, Okla., has purchased the business of the Star Automobile Co., at 137 North Market street, Wichita, Kan. With the business and good will of the former owners, Houston, McGregor & Roberts, he gets the agency for the Overland and E-M-F. cars. He will be the Southwestern distributor for these two cars and will establish agencies throughout the Southwest.

L. H. Fawkes, of the Fawkes Automobile Co., has purchased two lots on Hennipin avenue, Minneapolis, Minn., and will erect thereon an electric garage and automobile warehouse. The building will be at the corner of Harmon place and extend 150x155 feet. It will be designed principally for the storing of electric vehicles of the Lowry Hill district and be equipped with the latest improvements for the recharging of batteries. Its cost will be \$45,000.

# The White Gasolene Car

## is equipped with a Four-Speed Transmission



Do not be satisfied with anything less than a four-speed transmission. Sooner or later, it will entirely supplant the three-speed transmission, just as the latter took the place of the two-speed transmission.

The four-speed transmission is used in practically all cars selling at \$4000 and over, but no other car selling at the White price—\$2,000—is thus equipped. The White is built with a four-speed transmission, because it makes it a better car than if only a three-speed transmission were used. This is typical of the **QUALITY** of every detail of the White car—for example, a “honeycomb” radiator is used, instead of the cheaper and less efficient tubular radiator; the frame is of crucible chrome-nickel steel, instead of the usual carbon steel; the leather in the upholstery is hand-buffed, instead of the cheaper and almost universally used machine-buffed leather; forty-two days are devoted to painting the car, instead of one-third or one-fourth of that time, etc., etc.

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Write for a copy of our catalog, or, better yet, call on our nearest dealer, so that you may learn the many respects in which the construction of the White is better than ever before found in a car of moderate price.

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### The A. A. A. and the Stock Car.

While the revised contest rules of the American Automobile Association make for distinct improvement it is regrettable that it was found inadvisable to eliminate the "freak car" or racing monster, the chief purposes of which have been to promote "barnstorming," to set up false standards and generally to undermine and cause belittlement of the bona fide stock car. The rules, or rather many rules evolved to define the latter suggests great travail and labor, and though any improvement is better than none, the fact that the new regulations permit practically everything except valves, frames and wheels to be altered or tinkered with, cannot but provoke smiles.

While changes in the valves have constituted one of the commonest forms of "faking" the stock car, boring out the cylinders has been an even more general offense, and as both are of the same order of deception, why the A. A. A. and the Manufacturers

Contest Association should disapprove of the one and countenance the other is not easily comprehended. Lacking other information, it would seem that rigid adherence to catalogued engine dimensions should be about the very first requirement of any definition of a stock car. The reason for placing a ban on adulterated or "doped" fuel is more readily understood, but as the so-called adulteration is the least of the evils and is within the reach of all, it is a fair question whether its prohibition is not an obstacle to desirable experimentation and a hindrance to discovery.

### Mounting Accessories on Cars.

Continued and rapid multiplication in the number of makes of cars on the market and also in the number of different styles of accessory fittings has resulted in a somewhat vexing state of affairs with regard to the mounting of such attachments. Despite the efforts of the accessory people to accommodate their products as uniformly as possible to the conditions existing on different machines, the fact remains that in many cases considerable work has to be done in order to so install a speedometer, wind shield or spare tire as to carry it on a car in a perfectly satisfactory manner.

The evil involved becomes apparent when the attachment is made at a garage or by the employes of the dealer when the entire range of conditions involved in the satisfactory working of the accessory is not invariably taken into account. Slipshod work, the marring of finish and even the drilling of holes in parts where the metal cannot be spared are apt to be the result. Nor is the tendency obviated by the general increase in the amount of equipment supplied by the maker with the stock product. For although a large proportion of the automobile manufacturers now include practically all that is essential to the operation of the vehicle in the regular purchase price, the fact remains that few cars go out of the retail store without one or two more or less important additions to or changes in the equipment.

That these added luxuries, as they are in many cases, frequently are a source of considerable annoyance to the operator is an unfortunate fact which not even the most consistent efforts of the accessory makers thus far have succeeded in obviating. Long since, it has been the custom of the car builders to iron their standard bodies for tops, whether the specifications

call for such equipment or not, and the evils which used to result from improperly constructed and attached lamp brackets now have been overcome to a large extent as well. But save in only one known instance, the makers have not yet come to take cognizance of the importance of providing for the mounting of other attachments. In the instance in question, the maker regularly provides for the careful and reliable installation of a speed indicating device, where the purchaser's specifications require it.

The obvious remedy which suggests itself for car designers to provide regularly for the mounting of speedometer driving gears on steering arms, to arrange brackets of standard form for the mounting of wind shields and other contrivances such as more commonly are used, thus reducing the labor involved in fitting them. The situation calls for the general adoption of certain conventions—for once to dodge the overworked term standardization—conventions of such a nature that the accessory people might work to them in designing attaching lugs and brackets and thus eliminate the burden which now rests upon the more considerate members of their class who are seeking to provide attachments suitable for every known make of car. Such a movement would require a greater amount of co-operation than now exists, but it would provide for so much better service on both sides of the field that it is likely little difficulty would be encountered in carrying the work along, were proper initial steps taken by one or another of the several organized bodies most interested.

### Professionalization of the Trade.

Of all the new A. A. A. rules, none strikes so severely home to the men in the trade as that which places each and all of them, without any distinction whatsoever, in the professional class of sportsmen.

To deny to any man who makes or sells a car, a tire, a chain or even a spark plug, the right to be considered an amateur and to make mere identification with any branch of the trade a badge of professionalism, is a radical, if not repulsive, move and one not easy to defend. Of course, it greatly simplifies the administration of the amateur regulations, but it is not fair nor just and the administrators of such rules have no right to evade responsibility and trouble by making a man's occupation the measure of his sportsmanship, when that occupation

does not consist of the pursuit of sport for the sake of pecuniary gain. The rule denying amateur registration to men identified in any way with the production or sale of cars, tires, spark plugs, or gaskets means that they cannot compete in the same class with even the members of their own club. They must compete with and as professionals or not engage in competition at all.

The full effect of this rule should be made widely known, for the Amateur Athletic Union of the United States having ruled that any person who competes for cash or with professionals, even in automobiles, thereby automatically becomes a professional, the man who so competes becomes a professional in all sports; and as amateurism is a condition of membership in the New York Athletic Club, the Chicago Athletic Club, the Detroit Athletic Club, and nearly all other high class athletic organizations, the man in the automobile or automobile accessory trades who, for mere love of the sport, engages in an automobile contest and the non-tradesman who competes with him, thereby will forfeit their memberships in those clubs.

The price which the new A. A. A. rule exacts is a high one and whether it will be relished by those whom it affects, and whether it will be permitted to remain, once its import generally is recognized, remains to be seen. There's as much merit in the new rule as there would be in one making the manufacturers and salesmen of dumbbells or running shoes professional athletes.

#### The Subject of Suspension.

Continued reflection upon the subject of automobile suspension systems is apt to lend color to the notion that in the use of either some liquid or of compressed air lies as good a way out of a serious difficulty as any. It is true that by comparison with older types the spring suspensions of the present day are almost wholly satisfactory. At the same time the aching bones of long-distance motorists, and the bent and broken parts of cars which have seen much road service attest that a great deal remains to be done in this as in other sorts of development before the truly satisfactory car shall have arrived on the scene.

Just now increasing stress is being laid upon the pneumatic suspension. The Olympia show of last fall afforded British motorists an opportunity to view a system of the sort which was rendered particularly in-

teresting by reason of the fact that it provided automatic compensation for alterations in the loading of the vehicle. Two or three years ago a system was brought out in this country in which the work of the springs was reinforced by a set of pneumatic cushions interposed between the springs and the axles. At the present time it is known that at least two systems of pneumatic suspension are under experimental test here, in neither of which are springs employed. The summary of an extended treatise on the subject from still another inventor, an Englishman, which is printed elsewhere in this issue, focusses attention upon his cause just now.

While the use of air and also of liquids has become thoroughly familiar as applied in spring dampening and shock absorbing devices, their use as a substitute for springs or as a direct auxiliary to them remains to be thoroughly investigated. Although mechanical obstacles arise when the precise method of applying either of these two mediums is considered, the extreme flexibility and mobility which they share in common, as well as the almost perfect elasticity of the air, leads to the belief that the principle involved in applying them is a correct one. Indeed, the excellence of the pneumatic tire itself is sufficient guarantee in the case of air to furnish a fine basis for investigation and invention.

Like all other problems incident to the design of the motor vehicle, spring suspension embraces much involved theory and necessitates a bewildering amount of compromise. As engineers are becoming more familiar with the purposes of the various elements entering into the complete machine it is becoming possible to isolate the various parts to such a degree that their work can be studied independently to some extent. One time this was done with disastrous effect. But that was before the day of the unit power plant, the axle mounted transmission and the interchangeable body. Better understanding of what is involved now renders it possible to design the individual units in a measure independent of one another and yet to have them go together and work together harmoniously. The same progress in automobile knowledge is destined to be of great benefit in perfecting the successful suspension system. And the logical advantages of the pneumatic and hydraulic systems, singly or in combination, would seem to indicate that they may receive successful attention.

## COMING EVENTS

February 21-28, Omaha, Neb.—Omaha and Council Bluffs Automobile Dealers' show.

February 24-March 3, Toronto, Can.—Ontario Motor League's show in St. Lawrence Arena.

February 28-March 5, Kansas City, Mo.—Kansas City Automobile Dealers Association's fourth annual show in Convention Hall.

March 1-5, Sioux City, Ia.—Sioux City Automobile Club's first annual show in Auditorium.

March 5, New York City—Annual New York-Boston midwinter endurance run for Perlman trophy.

March 5-12, Boston, Mass.—Boston Automobile Dealers Association's eighth annual show in Mechanics Building.

March 5-12, Cleveland, O.—Cleveland Automobile Club's eighth annual show in Central Armory.

March 5-12, Des Moines, Ia.—Des Moines Automobile Dealers Association's first annual show in Coliseum.

March 12-19, Syracuse, N. Y.—Syracuse Automobile Dealers Association's annual show in State Armory.

March 17-19, Louisville, Ky.—Louisville Automobile Dealers Association's annual show in Armory.

March 19, Altadena, Cal.—Annual Pasadena-Altadena hill climb.

March 20, San Francisco, Cal.—San Francisco Motor Club's hill climb on Nineteenth avenue hill.

March 21-26, Indianapolis, Ind.—Indianapolis Automobile Trade Association's first annual show.

March 26-April 2, Montreal, Can.—Fourth National Automobile and Sportsmen's show.

March 26-April 2, Pittsburg, Pa.—Pittsburg Automobile Dealers' Association's annual show in Duquesne Garden.

March 28-29, Savannah, Ga.—Savannah Automobile Club's 675 miles endurance run to Jacksonville, Fla.

April 8-17, Los Angeles, Cal.—Inaugural meet on the new Los Angeles Motordrome.

April 23-29, Bangor, Me.—Eastern Maine automobile and motor boat show in Auditorium.

June 1, Berlin, Germany.—Start of Prince Henry tour, finishing at Homburg on 8th.

June 11, Wilkes-Barre, Pa.—Wilkes-Barre Automobile Club's annual hill climb on Giant's Despair, Wilkes-Barre Mountain.

July 2, Wildwood, N. J.—North Wildwood Automobile Club's roadability run from Philadelphia to Wildwood.

July 4, Wildwood, N. J.—North Wildwood Automobile Club's annual beach races meet on Ocean drive.

**BUILDING THE FIRST BOARD TRACK**

**Work on Los Angeles's Mile Course Well Advanced—Will be Ready for Opening Meet on April 8th.**

With a force of 100 men working daily, the one mile board track near Los Angeles, Cal., is assuming definite shape, and is expected to be completed by March 25th, in order to allow the drivers who will com-

being put up at Los Angeles. Prince, who has built more board bicycle tracks than any two men living or dead, already had constructed two motorcycle tracks, one at Los Angeles, which measures  $3\frac{1}{2}$  laps to the mile; the other, 3 laps, at Springfield, Mass., upon which all the world's records have been broken. The latter track is a true circle, and Prince reasoned that a similar track, built especially for automobile racing, would surpass any other automobile race course in the world.

house the men and teams that are required for the construction work.

The surface of the track, which will measure 5,281 feet in circumference, three feet from the pole, will be composed of 2x4 inch strips laid on edge. At the pole, where the first supports are located, the posts are 2 feet 10 inches apart, with a cross piece in between for additional strength. The track is banked to 18 degrees all around, and the width will be 45 feet, with a running board 30 feet wide for



CONSTRUCTION OF THE TRACK SUFFICIENTLY ADVANCED TO SHOW THE STRAIGHT LINE EFFECT IN THE GRADUAL CURVE

pete at the first meeting on April 8th, ample time to accustom themselves to driving around a saucer banked to 18 degrees all the way around. It will be the first track of the sort ever constructed and its use will be followed with almost absorbing interest.

The progress in automobile track construction within the last few years has been remarkable. Less than five years ago one mile dirt tracks, and even half mile ovals were the only courses available for automobile racing. The first specially constructed automobile course was the famous Brooklands track, at Weymouth, England; it is constructed of cement and is over two miles in circumference. Last summer the Indianapolis Speedway was completed, but before it was opened to the public, work already had started upon a similar course at Atlanta, Ga. The Indianapolis speedway was surfaced with crushed rock and cement, which afterwards was replaced with brick paving. The course is  $3\frac{1}{2}$  miles around. The Atlanta track, also banked, measures two miles.

It remained for Jack Prince, however, to secure sufficient financial backing to erect a mile board track—the one that now is

The course is situated about a mile and one-half from Playa del Rey, a short ride on the Los Angeles Pacific line from Los Angeles. More than a million feet of lumber is on the ground, and big army tents

starting purposes. For night racing the track will be lighted by 70 arc lamps of 4,000 candlepower each, placed 40 feet high, and overhanging the track.

Three cemented subways will connect the arena parking space with the outside, two of these being for machines and the other for pedestrians. Seating arrangements for 20,000 persons have been planned, the covered box seats on the homestretch side accommodating 3,000, the remaining 17,000 to be taken care of in bleachers located on the north side of the saucer. C. S. Warner's electrical timing system will be installed in time for the opening meet.

The opening meet will last from April 8th to 17th, dates having been arranged with the American Automobile Association for April 8, 9, 10, 13, 15, 16 and 17, a 24-hours race on April 30 and May 1, and again for May 29, 30 and 31, July 2, 3 and 4, and on Labor Day.

The program for the first week's racing is an extensive one, consisting of 37 events, and in variety for all classes of cars as recognized by the contest board of the American Automobile Association. The longest events will be 100 miles—four in number—for that number of classes of cars,



VIEW FROM THE TOP OF THE BANK

and a two hours race for stock chassis, 600 cubic inches piston displacement. According to the program for the first meet 30 silver trophies will be awarded, besides \$6,575 in 53 cash prizes. The richest first prize will be a trophy and \$1,000 in gold to the winner of the 100 miles race for cars between 451 and 600 cubic inches piston displacement.

The Los Angeles Motordrome will be controlled by the Los Angeles Motordrome Co., which has been incorporated for \$250,000. F. E. Moskovics, who formed the company, has been elected vice-president and treasurer; H. G. Feraud, secretary, and R. A. Rowan, Henry Keller, Fred Flint and Harry Lombard, directors. Frank A. Garbutt will be the president.

#### Californians' Easy "Endurance" Run.

What undoubtedly was the easiest contest ever held in California was the second annual "endurance run" of the Automobile Dealers' Association of California, held on Sunday, February 18th. The run comprised 200 miles of roads between San Francisco and Oakland, with an hour for lunch-eon at the latter place.

Ten hours were allowed for the trip, with two and one-half minutes leeway at each end of the trip. Of the fourteen starters but two failed to finish the easy run within scheduled time. The Haynes car, driven by E. P. Eppinger, was penalized 21 points for crossing the finishing line at the Oakland control 21 minutes ahead of time, while a Brush runabout, in charge of W. H. Richards, lost points for not making the course in time. The latter made the course in good shape and but for losing the road near Oakland would have come in with a perfect score.

Last year when the run was held the roads were in terrible condition, so that the contest was dubbed a "mud plug." It had been expected that the same conditions would prevail this year, but the contrary proved the case. But for a short stretch of highway in San Mateo county, the roads were all that could be desired. In fact, the only disagreeable feature of the occasion was the dust.

Just why there were so few starters the promoters are at a loss to explain. The event had been well advertised and it was expected that at least half a hundred dealers or private owners would be anxious to put their 1910 machines through their paces. Contrary to expectations, however, only fourteen persons put in appearance at the starting point at Van Ness and Golden Gate avenues, and all but two of that number earned perfect scores, as follows:

W. M. McDonald, Hupmobile; E. G. Sewart, Crawford; Ivan DeJungh, Velie; William Powers, Buick; Frank Murray, Buick; John H. Engal, Studebaker; Al. Whitehead, Corbin; Walter C. Morris, Autocar; Wagner Reniff Motor Car Co., Auburn; Standard Motor Car Co., Ford and Paterson.

## MARCH MEET FOR FLORIDA BEACH

### Oldfield, De Palma and Robertson Named as Probable Race Contenders—Tardy Announcement of the Plans.

There will be an automobile racing carnival upon the Florida beach this season, according to a belated announcement from the Florida East Coast Automobile Association, which has most of its members and a clubhouse at Daytona, Fla. It will take place on Tuesday, Wednesday and Thursday, March 22, 23 and 24, and T. E. Fitzgerald, secretary of the local club and publisher of the only daily paper in Daytona, will manage the affair.

For the reason that no announcement had been made until within a few days ago, it was supposed that the Florida club would "pass up" the annual meet this year. Had it not been for the motorcycle and bicycle contests of last year's carnival that would have proved a dismal failure. At that time it was stated that the next carnival would take the form of a general sports meeting, with automobile racing as only one of the features, and that W. J. Morgan, who has managed all previous meetings upon the beach, would be in charge. It is apparent that Morgan and the Florida East Coast Automobile Association could not come to a financial agreement.

Whether the proposed meet will be successful or not is problematical, with the chances that it will not. Local owners of stock cars may arise to the occasion with sufficient entries to fill the events, but in the absence of sufficient well known drivers and speedy cars, the carnival is apt to encounter a severe frost, and frost in Florida has been known to do more damage than to ruin the orange crop.

Although the proposed meet is less than a month distant, Barney Oldfield is the only driver of renown that has signified his intention of competing. It was announced that Ralph DePalma's 200 h.p. Fiat will be among the contestants, but this has been denied, as DePalma contemplates driving the big car at Los Angeles. Fred Shaw, who has been batonstorming with Oldfield on the Southern circuit, was expected to enter, but Shaw broke his leg in two places and suffered other injuries last week while driving a racing car over the roads from New York to Springfield, Mass. Shaw, of course, will not be there.

George Robertson, of national fame, also has been spoken of as a likely contender against Oldfield, and if he decides to have another try at the Florida beach records, some of which he already holds, he will pilot Walter Christie's car. The entries of just Robertson and Oldfield will not make the meet one of international, or even national importance, however. The promoters have hopes of securing additional entries

between now and March 22d. The date for closing the entries is not stated.

#### Lowell to Promote no More Races.

Two attempts to make it pay expenses having proven unsuccessful, it is likely that the Lowell (Mass.) road race will be abandoned as the business men of the city who have been appealed to to give financial assistance to the project, with vivid recollections of the two previous deficits, have failed to develop any enthusiasm for a third running of the affair. Although conceded to be a great success from a sporting standpoint, the Lowell carnival on both occasions of its running has been a white elephant financially and the liquidating of the expenses of the first race nearly swamped its promoters. John O. Heinze, of the Lowell Automobile Club, was the founder of the race and worked untiringly to make it a success, but the financial handicap has proven too great for him to overcome.

#### To Require Mirrors on Covered Vehicles.

While some manufacturers have anticipated ordinances calling for the fitting of mirrors in front of the driver of limousines and landaulets, there is liable to be a sudden shortage in these mirrors in Los Angeles. The municipal authorities of that city have passed a drastic ordinance making it compulsory for the drivers of all covered vehicles, whether motor or horse driven, to fit their vehicles with mirrors, which will permit them to see behind them. The remarkable part of the ordinance is its application to horse-driven vehicles as well as to motor cars. Usually the automobile is discriminated against in traffic regulations, but in this case the older vehicles were treated with the same severity.

#### All-Connecticut's Ambitious Contest.

Should there be any residents of Connecticut who have not yet seen an automobile they will have ample opportunity to do so on May 19, 20 and 21, when the All-Connecticut endurance run of the Automobile Club of Hartford is held. Never has any commonwealth been so thoroughly explored by motor as will be the Nutmeg state on those days, for the gasoline caravan will pass through practically every one of the 168 cities and towns in the state. It is the most ambitious undertaking ever promoted by the Hartford club and calls for daily runs of over 200 miles, the total distance being 615 miles. Each day's run will start from and finish in Hartford.

#### Oklahomans Elect Officers.

The Oklahoma Automobile Association has elected the following officers for the ensuing year: A. O. Campbell, president; Guy E. Blackwelder, vice-president; C. H. Everest, treasurer; J. W. Densford, secretary, all of Oklahoma City. The association now has 130 members in the state, and according to Secretary Densford, will have 500 within the next few months.



# The Effort to Lift the White Man's Latest Burden

A. A. A's National Legislative Convention at Washington Proves a Notable Occasion, but Fate of Federal Registration Bill is in Doubt—Two Congressmen Deliver Stirring Speeches in its Favor; Some Others Cry "State Rights" and are Evasive.

In some respects the most remarkable feature of the national legislative convention of the American Automobile Association, held in Washington, D. C., on February 15, 16 and 17, was Allen M. Fletcher of the Automobile Club of Vermont. Presumably he was sent to the meeting because of belief that he was in sympathy with its purpose to promote uniform legislation and assist the passage of the pending Federal automobile registration bill; but instead of doing anything of the sort he lifted his voice to declare that "it is dangerous to advocate such a measure" as the bill in question. He thought that though "the constitution does confer the power to regulate interstate traffic" it "cannot be construed to mean that automobiles are as yet to be considered common carriers and as such subject to the laws under such a ruling." Later, however, Mr. Fletcher obtained an enlightenment which materially altered his views.

The convention was marked by considerable talk about "states rights" and by evasive and non-committal speeches by several members of Congress, but there were a few of the latter who did not hesitate to speak their minds and to declare their belief in the necessity for a Federal law such as the automobilists desire and in the justice and constitutionality of the measure.

Representative William G. Brantley of Georgia, a member of the Judiciary Committee of the House, and considered one of the ablest constitutional lawyers in that body, was of this number. His address was in striking contrast to that of the delegate of the Vermont automobile club and really was the feature of the convention; it aroused those present to a tumult of enthusiastic cheering and applause.

Representative Brantley opened his remarks with the statement that he is a states' rights man, and also a United States rights man, and that he believed that Congress had a right to pass any law it desired relative to the traffic of automobiles.

"Two years ago," he said, "the bill for a federal license was referred to the Judiciary Committee. Now it has been referred to the Committee on Interstate and Foreign Commerce. It occurs to me, in view of this reference of the bill, that some power must have determined that no constitutional question is involved in the proposed law, and in that I concur. As the states delegated the power of regulating in-

terstate commerce to the general government, it seems to me to be an additional reason as to its legality.

"The United States Supreme Court has held in the case of an interstate bridge that when citizens walked across that bridge they were engaged in interstate commerce, just as much as if they had crossed the bridge with their arms full of merchandise. And so when an automobile passes from one state into another it, too, is engaged in interstate commerce and can be regulated by the government.

"You say that Congress has the right to pass this law. I say to you that if that be true then the state regulations which impede interstate traffic of automobiles are unconstitutional.

"Whatever appeal you make to Congress," Mr. Brantley advised in concluding his address, "should be predicated upon the right of Congress not only to protect and regulate but also to restrain and properly control the growing commerce of the country."

The convention, which was held in the red room of the New Willard Hotel, was called to order by President Lewis R. Speare, of the American Automobile Association, who, after outlining its purpose and pleading for legislation that would enable automobilists to go from state to state without becoming lawbreakers, surrendered the chair to Charles Thaddeus Terry, of New York, chairman of the A. A. A. Legislative Board. John Bancroft, of Delaware, acted as secretary. In taking the chair, Mr. Terry delivered an address that, as usual, was logical, vigorous, clear headed and to the point.

"We are here in the cause of a Federal registration bill and to raise our voices," he said, "against the provincialism of some states, in placing laws on their statute books which, in my mind, unlawfully and unjustly tax the automobilist; but we are also advocating the good roads question. That means more tourists, and more tourists mean a greater following in our cause."

He then clearly pointed out the features of the Federal bill, laying stress on the fact that it did not interfere with the police powers of the states but, while relieving a great and growing class of citizens of intolerable interference with their right of travel, yet answered the one great question, that of identification. "States rights" was the specious structure behind which the states hid, "and yet," said Mr. Terry, "all that the

automobilists ask for is the same rights that are accorded the man with a horse and buggy. As citizens of the United States we believe we are entitled to them.

"If we are really a nation, if this whole country belongs to us, if there are certain rights which every citizen of this country may exercise, then the right of free and unrestricted intercourse by any vehicle which is lawfully upon the highways is one of such rights."

Chauncey M. Depew, the venerable Senator from New York, was the first of the regularly listed speakers. He first dealt with ancient history and with statistics of the automobile industry, showing its growth and present importance, and then reached the heart of the subject.

He said:

"Two interesting questions have arisen by this enormous expansion of the automobile. One is intrastate and the other is interstate. Nothing which has occurred in recent years has done so much to stimulate an interest in good roads.

"But the compelling question now is legislation. Not only the railroads but the users of the railroads have found that the only way in which they could escape intolerable conditions which interrupted travel was to get under the wing of the national government.

"An automobilist starts from New York for Washington, and New Jersey, Pennsylvania, Delaware, Maryland and the District of Columbia each halts him for a license or tax, and the journey becomes intolerable.

"It is not the mission of this convention, as I understand it, to interfere with the laws of the states or with local communities. It is the business of the automobile associations in the several states to see after their state laws and their local regulations. But the hope of this convention, with delegates from all the states, is to secure, as has been done for the boats traveling on inland waters and crossing state lines and for continental railroads, a federal recognition which will permit free and unobstructed travel across state lines. It is not for the government to interfere with state regulations upon purely intrastate travel. As it is now, the tourist finds that every state has different regulations and different restrictions, and what is permitted in one state is a crime in another.

"It is entirely within the constitution for Congress to enact a law by which there

can be a federal license. In that law can be placed such safeguards as to the marking and identification of the machine as will make its identity known to the local officials wherever it may go. Under such license the industry, which has grown so rapidly, would grow more rapidly; the machines would become cheaper; they would become less a luxury and more a necessity, and a new bond would still closer bind the different sections of our country."

After Senator Depew came Senator Robert M. Taylor of Tennessee, who declared that he was a state's right man, cracked a few jokes, "hurrahed" for good roads and then bowed himself out. The man who followed Taylor, however, was of a different sort. He was Representative Burke, of Pennsylvania, whose address shared honors with that of Representative Brantley, delivered the next day.

Mr. Burke arraigned the states for perverting the purposes of the constitution by "enacting laws which put everything at odds," and keep the people of the country further apart, rather than bring them closer together.

"Why are the states bound by one constitution?" asked Mr. Burke. "Is it not to form a more perfect union and to work in better harmony with one another?"

Enthusiastic applause greeted his announcement that he was among those "who believe that no government, town, city, state or national, has the right to impose a tax upon the owners of vehicles for the use of the highways.

"The highways belong to the community," he said, "and have so belonged from the first. Government has no right to impose a tax on the use of what is inherently the privilege of its citizens."

Representative Cocks of New York, who introduced the Federal registration bill, spoke in its favor, intermingled his remarks with good roads talk and a quasi-defense of Speaker Cannon.

Logan W. Page, director of the United States bureau of road inquiry, talked of roads of the future, and W. D. Sohler, a State Highway Commissioner from Massachusetts; Arthur T. Fifoot, representing the Secretary of State of Connecticut, and Gray Bailey, Secretary of State of Vermont, threw verbal bouquets at the automobile laws of their respective commonwealths. W. S. Schutz, of the Hartford (Conn.) Automobile Club, was the last speaker on the first day. He argued for an "honor system"—a higher standard of personal conduct on the part of owners and drivers and greater observance of public sentiment.

Representative Brantley's vigorous utterances constituted the feature of the second day's proceedings, although in point of personal prominence Hon. N. J. Batchelder, former Governor of New Hampshire and present master of the National Grange, was the most conspicuous figure. He said, among other things:

"The one subject above all others in

which the farmers of the country are vitally interested is that of replacing our alternately muddy and dusty trails, called by courtesy roads, with a system of permanently improved highways. The farmers have for a long time been trying to impress upon our national legislature the necessity for federal aid for road improvement. The coming of the automobile has had the effect of opening the eyes of the public to the inferior character of most of our roads, and if the enactment of a Federal registration law by making it easier for automobile owners to visit sections of the country hitherto unknown to them will aid in awakening public sentiment on this important question, it will be a valuable educational influence in favor of the policies of road improvement unanimously indorsed by the farmers of the entire country."

Other speakers were L. H. Kittredge, president of the National Association of Automobile Manufacturers; George Lyman Rogers, of Boston, counsel for the Metropolitan Park Board of that city; Osborne L. Yellot, of Maryland; William A. Thibodeau, of Boston, counsel for the Automobile Legal Association; S. Boyer Davis, of Philadelphia; Charles P. Allen, State Highway Commissioner of Colorado; James H. Wood, of New Jersey; I. C. White, of West Virginia; James T. Drought, of Wisconsin, and Major Richard Sylvester, superintendent of the District Police, who, among other things, stated that at the last convention of police chiefs each member was asked to contribute his ideas of fair and equitable automobile regulations.

After the speechmaking the following resolution, which had been drafted by a committee named by the chairman, was adopted:

"Whereas, There are 23 states having general motor vehicle statutes, no two of which are alike, and the provisions of which are so dissimilar as to create confusion, and are unwarranted to users of motor vehicles engaged in interstate travel; and

"Whereas, The conditions of the highways in the various states are not so dissimilar but that a motor vehicle law, adequate for the protection of the traveling public in one state would be equally adequate in another state; therefore, be it

"Resolved, That it is the sense of this convention that the motor vehicle laws of the various states should be made uniform; and that all the energies and influences which can be legitimately brought to bear should be exercised persistently to accomplish the enactment in each state of the uniform law, which has been the subject of consideration and discussion at this convention.

"Whereas, The bill providing for Federal registration of motor vehicles, known as H. R. 5176, introduced by William W. Cocks, of New York, and now pending before the Committee on Interstate and Foreign Commerce of the House of Representatives, meets the approval of all who have given the matter careful considera-

tion and the prompt enactment of such a law is necessary for the unhampered development of interstate commerce and travel by motor vehicles;

"And since it is only through Federal legislation that the unjust and unwarranted burdens now imposed upon such interstate commerce and travel can be removed; be it

"Resolved, That the national legislative convention of the American Automobile Association held in Washington February 15 to 17, 1910, does urge the speedy passage of this measure and hereby pledges itself to use every honorable effort to accomplish its enactment."

The committee which drafted the resolution was as follows: James T. Dought, of Wisconsin, chairman; Theodore H. Curtis, of Kentucky; L. H. Kittredge, of Ohio; Joseph H. Woods, of New Jersey; Dr. William P. Richardson, of New York; Dr. A. B. Heyl, of Ohio; Walter S. Schutz, of Connecticut; Frank C. Battey, of Georgia; A. M. Fletcher, of Vermont; Robert F. Hooper, of Pennsylvania; S. L. Haynes, of Massachusetts; Dr. C. B. Brown, of Oregon; George S. Walker, of Wyoming; the Hon. Neal Brown, of Wisconsin, and T. Edward Bryan, of Florida.

The third and last day of the convention (Thursday) was devoted to a hearing on the Federal bill before the House Committee on Interstate and Foreign Commerce, which at first appeared hostile, some of its members being doubtful as to the constitutionality of such a law on account of its supposed interference with the police powers of some of the states and because they suspected it would be the means of decreasing the state revenues, at the close of Mr. Terry's argument, and as a result of private conversations subsequent to the hearing, they showed particular interest in a proposition that the funds derived from federal registration should go to the Good Roads Bureau of the Department of Agriculture and should be returned to the various states for good roads purposes under such conditions as Congress should direct.

The argument before the committee was presented by Messrs. Spear, Terry and Neal Brown, the latter representing the Automobile Association of Wisconsin. Mr. Terry bore the brunt of the fray and was made the target for a volley of questions. Chairman Mann of the House committee asked Mr. Terry why, if the states interfered with automobilists under other than their police powers or were unjust in the exercise of those powers, the motorists did not take the matter into the state courts. Mr. Terry replied that in such an event the same cases would have to be fought out all over the country and that a federal registration law would clear up the whole situation at once. Mr. Terry held that Congress had as much right to pass an interstate automobile act as it had to control water traffic, but the chairman disagreed with the lawyer on that point.

The main purpose of the bill, declared Mr. Terry, was identification. It would clear up that vexatious question, he said, and would be a real assistance, more especially to state officers in charge of the public highways.

"Aside from what you term the principle of the thing, as regards your rights as a citizen and the constitutional privilege to travel where you will throughout the country, the mere payment of the fee demanded by the state does not matter so much, does it?" inquired Mr. Mann.

"No," replied Mr. Terry; "it is our rights and privileges that we are jealous of, and every time we must stop and procure an additional license we feel that we are humiliated in this respect."

Mr. Mann, however, questioned whether Congress has the authority to enact a law which should grant one man the privilege of interstate travel dependent upon his having complied with the laws of a single state, as provided in the bill.

Representative Bartlett, of Georgia, asked how much revenue the government would derive from a Federal license, and Mr. Terry showed that it would bring more than \$1,000,000 a year into the national treasury, as there are more than 350,000 machines in use at the present time, and the tax would hardly be less than \$5.

Representative Richardson, of Alabama, asked many questions of Messrs. Spere Terry and Brown, the three speakers, among them being whether a bureau would have to be created to handle the license business.

"We are perfectly satisfied that the matter be handled by the Agricultural Department," said Mr. Terry. "Mr. Page, of that department, has taken great interest in our work, and we do not know of any department that we would rather trust the matter to than the one over which he exercises supervision."

Later in the day the delegates visited Secretary of Agriculture Wilson, who listened to them attentively, but like a true bureaucrat he would not commit himself to the measure.

Edward S. Cornell, the secretary and "jockey" who rides Banker Henry Clews's little hobby, the so-called National Highway Protective Society, arrived in Washington on the last day of the proceedings and managed to get himself quoted in print as being opposed to the Cocks bill. He thinks if it is enacted, only an officer of the United States will have power to arrest an offending automobilist.

#### Virginia Raises Registration Fees.

The Virginia Legislature has amended the state's automobile law by increasing the registration fees, which hereafter will be imposed on a horsepower basis—\$5 up to 20 horsepower, \$10 from 20 to 45 horsepower, and \$20 above 45 horsepower. Non-residents are exempted for a period of 15 days.

## "QUEERING" THE NEGRO DRIVER

The Process Lands Three Men in Jail on Charges of Malicious Mischief—How They "Fixed" a Car.

That not only colored chauffeurs, but the men who employ them, are made the victims of malicious attentions from white drivers, as pointed out by the Motor World some time ago, again has been made unpleasantly evident by a charge which has been brought against three men by Lorillard Spencer, Jr., of New York City, for "malicious mischief" to Spencer's automobile. The arrest of the trio followed the presentation of evidence to the District Attorney showing to what lengths white chauffeurs will go to prevent the employment of a negro in a driving capacity.

Last week Spencer, who keeps his car at the Sagamore Garage, sent a negro in his employ to the garage with some new cushions. As the negro was working about the place some of the men in the garage asked him if he was going to be Spencer's chauffeur. He told them in a joking way that he was, and that, according to Spencer, started the trouble.

The next time there was occasion to use the car it was found that someone had put camphor in the gasoline tank, sand in the carburetter and one of the magneto wires was cut.

The three men locked up were Howard Ray, Robert Morse and George Reynolds. The last two named were arraigned before Magistrate Krotel in the Tombs police court and were held in \$1,000 bail for examination.

#### Joint Ownership Causes Trouble.

License tag No. 905, swinging upon a motor car belonging jointly to two Philadelphians caused the owners no end of trouble the other day. Both of them were arrested fully eight times before the comedy of errors was played out.

The trouble was started when one of the partners in the machine saw it standing in Market street unattended. He took it, unaware that his partner was in a moving picture show.

After the pictures were over, the first partner in the car came out and found it missing. Being unable to locate the car, he went to the City Hall police station and reported it as stolen. A short time after the "flyer" had been sent out a reserve policeman saw the fatal No. 905 on a motor car. He stopped the driver, and despite his protestations that he was part owner of the machine he was taken to the City Hall, where he said he was John Seraphin, Jr., of Front street, near Girard avenue.

It happened that Seraphin's partner, Max Strehle, of Sixth street, near Thompson, was still at the City Hall station, and when

he saw Seraphin explanations were made and the two men permitted to go. In front of the Garrick theater another policeman spotted the license tag. He took the occupants of the car to the City Hall for a second time. After being brought back seven times, the police lieutenant finally sent a policeman along with the car to see that it reached the garage, where it was kept without further trouble.

#### New Jersey Almost Part of Union.

After strong opposition the Edge bill introduced in the lower branch of the New Jersey legislature, permitting non-residents to use the roads in that state for three five-day periods in any one year without a license, was passed by the House by a large majority last week. The measure went through in amended form, the original provision of ten days periods being reduced to five to mollify the faction who opposed it. Carrying the approval of the lower branch the bill now is before the Senate for action and it is expected that strong opposition will be encountered there, especially from that peculiar individual, Senator Frelinghuysen, who, as expected, has given notice that he will endeavor to kill the measure as he has on former occasions throttled favorable automobile legislation.

#### To Provide More Jobs in New Jersey.

In the New Jersey legislature bills have been introduced to increase the number of paid motor vehicle inspectors or hold-up men from 20 to 60 and to increase the salaries of both the Commissioner of Motor Vehicles and the chief inspector. An advocate of this lovely little game naively explains that "the increase in license fees and fines will easily pay for these increases." Another bill that is pending proposes to allow cities to regulate and license "carriages and other vehicles" and to apply the receipts to street repairs. It is supposed to have been inspired by the Newark authorities who are anxious to shake more dollars out of the motorists' pockets.

#### More Work for Murray of Oklahoma.

The Oklahoma legislature is wrestling with an automobile bill which provides for speed limits ranging from 6 to 15 miles per hour. One of the local correspondents explains that "Bill Murray killed a similar bill in the first legislature by securing the insertion of an amendment requiring the autoist to stop his machine and offer a ciew of tobacco to every farmer he passed."

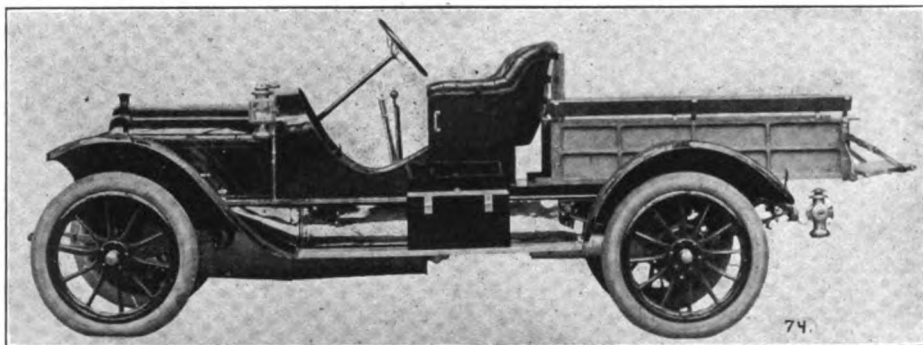
#### To Lighten Burden in Kentucky.

Representative Moore has introduced a bill into the Kentucky legislature which fixes a registration fee of \$2 on automobiles and exempts non-residents on a reciprocal basis. The speed limits range from 10 to 20 miles per hour. At present local registration is the rule in the state and the new measure, if passed, will afford much relief.

**"DOMESTIC EXPRESS" A NEW TYPE**

**White Produces a Light Tray Body for General Utility—Is Demountable and Ings that are Effected.**

Realizing the usefulness of a properly constituted automobile for light merchandise haulage as well as the transportation of passengers, not a few attempts have been made to produce a general utility car. One of the most pleasing results yet achieved in that direction is a new version of the White gasoline car, which just has been brought out and which is styled the "domestic express." Unlike many efforts at



WHITE FITTED WITH "DOMESTIC EXPRESS" BODY

mixing pleasure and business features in a single vehicle, the result in this instance is far from inharmonious in either of its phases, while it is equally effective in both forms.

The "domestic express" is a light tray body, built after the approved form of all express wagons, with outside stiffening molding and hinged tail board. As its name implies, it is purposed for the domiciliary uses of the private owner in hauling luggage to and from the depot, bringing home the Sunday dinner and transporting discarded furniture to the homes of poor relations. In this capacity it is capable of receiving a very respectable load and carrying it with all the safety which is necessitated where the freight is of human instead of inanimate form.

In its ordinary guise the vehicle is the White small tonneau pleasure car. The rear portion of the vehicle is made in demountable form; therefore it is a work of simple functions, requiring only a few minutes' time and little labor to lift off the tonneau and replace it with the express body. As the work for which the express body is designed ordinarily is of only an occasional nature, it is thought that it will fill the proverbial long felt want, since it is distinctly different from any system yet produced with similar intent.

**Thinning Oil With Gasolene.**

Frequent admonition is given against the use of gasolene for thinning out lubricating oil during cold weather, although the ob-

jection to its use usually is given incorrectly. While it is true that the rapid evaporation of the gasolene tends to render it only a temporary palliative of the evil which it is intended to eliminate, the real objection to its presence in lubricants is that upon evaporating it leaves a fine whitish precipitate behind it. This accumulates upon the bearing surfaces and prevents the uniform distribution of the oil, which is essential to proper lubrication.

**Converting an Engine to Air Cooling.**

A method of converting a water-cooled engine to air-cooling, which is said to have worked out very satisfactorily in British practice, is to drill a considerable number of small holes through the outer jacket

walls, tapping the jackets at their lowest points for pipe leads of  $1\frac{1}{2}$  to 2 inches diameter. The pipes which are connected at these points are led into an ejector, formed in the manner of the steam actuated device of the same name with an interior jet through which the engine exhaust is carried. The suction developed in this way is sufficient to cause a strong blast of air to play upon the cylinders through the openings in the jackets. In addition to this natural circulation, the combustion heads are packed with a compound consisting mainly of salt, which is designed to assist in the conduction of the high heat at those points to less important ones, where the surplus can be radiated without difficulty, in addition to the radiation necessary for the latter themselves.

**Claims the Farthest North Honors.**

Assertions that two motor trucks which are in use in Helsingfors, Finland, represent the "farthest north" in automobiling, is disputed by the makers of the Franklin motor car. Helsingfors is close to the 60th parallel of latitude, and five degrees farther north they say a Franklin is in regular operation, running between Fairbanks and Fox, in Alaska. This is almost in the Arctic circle, and with the mercury 40 degrees below zero the Franklin is in daily use. It is driven by a six-cylinder engine of 42 horsepower; its owner is H. H. Ross. The normal temperature at which the car is compelled to run is 72 degrees below the freezing point.

**MOTOR TRUCKS SUPPLANT CARRIERS**

**Native Burden Bearers in East Africa Give Way to Automobiles—Enormous Savings that are Effected.**

East Africa now boasts a long-distance motor truck express service, inaugurated by English and German capitalists who for the purpose have formed the Anglo-German Auto Transportation Co., with a capital of \$25,000. Main offices of the company are located in Berlin, while the East African management is in the hands of the German-English East Africa Co. with headquarters at Voi, a station on the Uganda railroad system.

Located about 100 miles west of Voi is the town Moschi, a very important trade center in the Kilimandjaro district. Fully 400,000 pounds of merchandise is transported between these places every month on the backs of carriers who average a load of 60 pounds. Horses and other domestic animals are of no use as the insect pests and a peculiar cattle disease kill off the majority of horses and oxen. The motor truck is now entering the field and first reports are full of enthusiasm for the innovation.

Trucks of 40 horsepower and a carrying capacity of five metric tons are being used; they make the trip in two days, as compared to the carrier's six days. One day's rest at each station is allowed for the purpose of unloading, reloading, making adjustments, etc., so that between 50 and 60 round trips per year can be made with each truck.

The great economic value of this introduction of motor trucks into this labor-poor country lies not only in the carrying of goods at quicker pace and lower cost, but in the return of 183 carriers (this being the capacity of each truck) to really productive agricultural work.

A comparison of the cost of transporting products from Moschi to Voi shows the great advantage of the motor truck over old methods.

By carriers—Time for one trip, 6 days; carrying capacity 60 pounds; cost per load of 60 pounds, \$2.05.

By motor truck—Time for one trip, 2 days; carrying capacity 11,000 pounds; cost per load of 60 pounds, \$1.40.

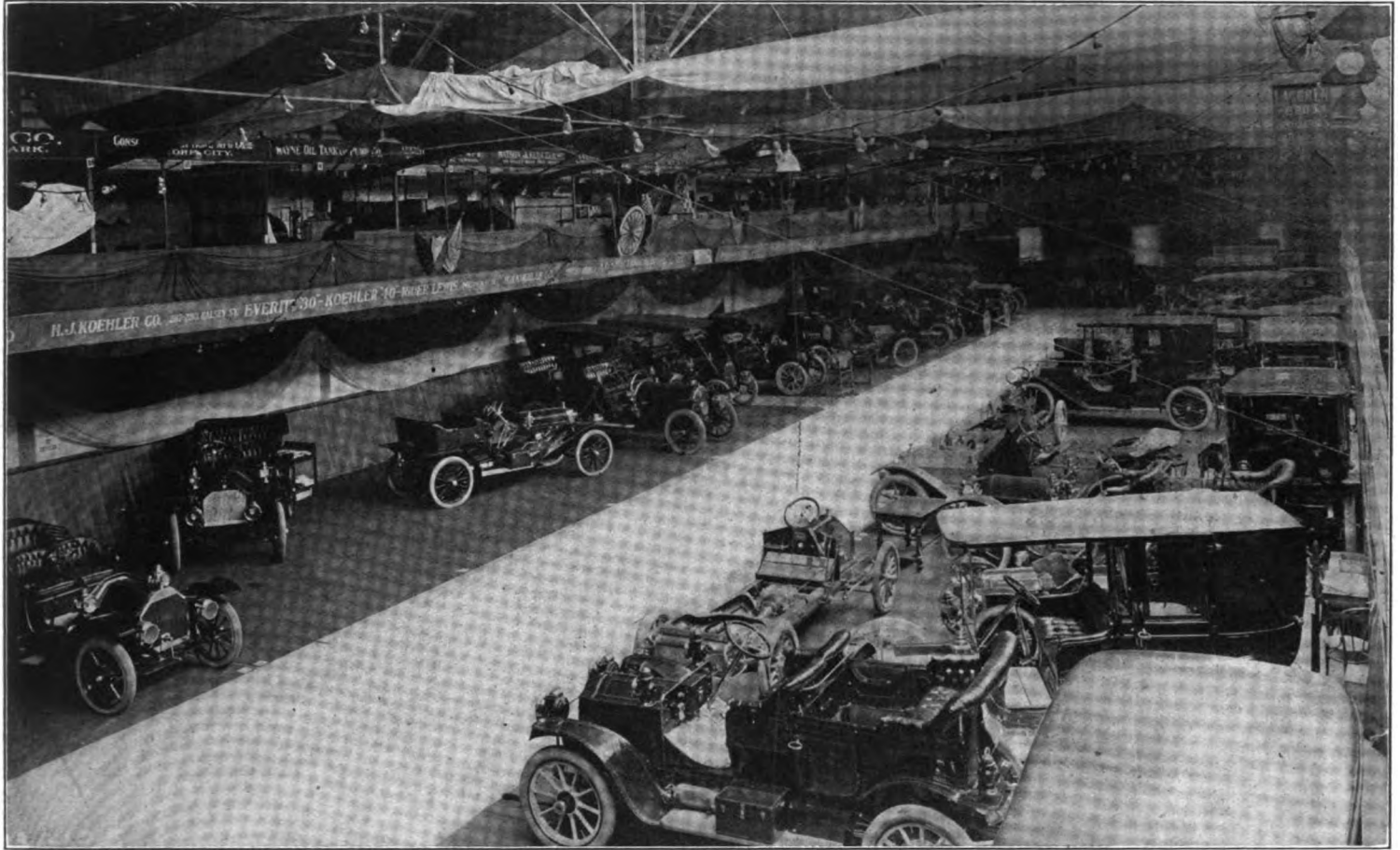
This motor truck will carry the combined loads of 183 carriers in one-third of the time at a clear saving of \$118.95 for every trip.

**Work of Washington's Police Wagon.**

During the first 86 days of its service the Washington (D. C.) police wagon—a Franklin—responded to 346 calls from patrol boxes and made 113 miscellaneous runs, covering a total distance of 467 miles. The average time per run was 6½ minutes.



## Local Show Epidemic Reaches Its Height



GENERAL VIEW OF NEWARK SHOW IN ESSEX TROOP ARMORY

### 64 Exhibits and Some Moving Pictures at Newark.

A big brewery motor truck in brilliant red and a shining white automobile ambulance provide the chief elements in the "commercial section" of an otherwise well balanced automobile show at Newark, N. J., which this week is holding forth in the Essex Troop armory, where some 120 individual cars are on display. Just near enough to New York City to be familiar with metropolitan examples in automobile shows, but just far enough away to be quite individual and independent, Newark this year has surpassed its two previous annual exhibitions in the present offering, which opened its doors on Saturday night, 19th inst., and closes on the 26th.

While the armory is a good big place, the car exhibits not only take up all the big drill floor but have climbed the stairs into the galleries, where they elbow the accessory exhibits in a bullying way. There is comparatively little "gingerbread" in the decorative lay-out, the scheme being based on plenty of incandescent lights and an

arrangement of blue and gold bunting in broad bands from the middle ceiling to the sides.

For the cognoscenti, who by reason of trade or motor club affiliations have the privilege of admission, there is a reception room set aside, and into its sacred precincts an astonishing number of men find their way, there to linger between occasional tours of inspection. The place also is the center of many conferences with visiting motorists and automobile club representatives who are being instructed as to their duties in helping to secure better motor legislation for the state.

A measure of ceremonial dignity was thrown about the opening of the show on Saturday night by the sudden turning on of all the lights at 8 o'clock, and a few speeches, Colonel Austen Colgate, personal aide to Governor Fort, being the principal speaker. A report of his speech was given in the Newark newspapers on Sunday morning, for the benefit of those of

the visitors present who were curious to learn what he said.

As a sideshow feature an aviation section has been placed in a room off one of the galleries, but the Saturday night crowd could not find it. Later the management explained that the motor birds are so delicate that it was feared they might suffer in the opening night crush and that therefore the opening of the aviation section had been postponed until Monday night, when a lecture and moving pictures of some flights would be provided.

Not the least boast of the show management is that every car and accessory was in place before the opening. The show, which is managed by Horace A. Bonnell, is given by the New Jersey Automobile Exhibition Company, composed of members of the New Jersey Automobile and Motor Club and the New Jersey Automobile Trade Association. There are 64 exhibitors, of whom about 40 stage cars, while the others show accessories and specialties in great

variety. The list of exhibitors is as follows:

Gasolene cars—The Autocar Co., Autocar; Alexander Brunner, Klinekar; Buick Motor Co., Buick; Detroit-Cadillac Motor Car Co., Cadillac; Ellis Motor Car Co., Pierce-Arrow; Essex Automobile Co., Brush, Ford and Jackson; Essex County Overland Co., Marion and Overland; J. S. Gray, Schacht; Green Motor Car Co., Locomobile and Mercer; H. J. Koehler Co., Koehler, Everitt "30" and Rider-Lewis; Linkrum Automobile Co., Lozier and Oldsmobile; F. L. C. Martin Co., Rapid, Mitchell and Hupmobile; J. W. Mason, Columbia and Maxwell; J. J. Meyer, Auburn; Midland New York Co., Midland; Newark Auto & Engineering Co., Rambler; New Jersey Auto-

mobile Co., Moline; O'Neil Motor Car Co., Paterson "30"; Packard Motor Car Co., Packard; Paddock-Zusi Motor Car Co., Chalmers; Peerless Motor Car Co., of New York, Peerless; J. M. Quimby & Co., Simplex, Isotta and Pennsylvania; A. E. Ranney, Hudson; Rickey Machine Co., Marmon and Pullman; A. G. Spalding & Bros., Stevens-Duryea and E-M-F.; Sultan Motor Co., Sultan; Terry Automobile Co., Palmer-Singer; Union Motor Car Co., Reo, Krit, and Premier; Weldon & Bauer Co., National; The Woolsten Co., Oakland; R. D. Norton, Pickard and De Tamble; Crescent Automobile Co., Mack trucks; The Auto Exchange, used cars; The J. H. Deppeler Agency, Ellis-Tonnele Co., George F. Lit-

tle, G. F. G. Motorcycles—Frank C. Cornish, Yale; Watson J. Kluczek, Harley-Davidson.

Accessories—Auto Wind Shield Co., Empire Auto Supply Co., Essex Storage Battery & Repair Co., Honk Mfg. Co., National Oil Supply Co., N. Y. Auto Top & Supply Co., N. J. Auto Top Mfg. Co., Norben Oil & Supply Co., Nugget Polish Co. of N. Y., Ltd.; Recometre Co. of America, The Rubber Shop, Standard Oil Co., Valve Seating Tool Co., August Buermann, Consolidated Optical Mfg. Co., D. B. Dunham & Son. Electrical Maintenance & Repair Co., H. J. Koehler Co., Martin Auto Co., W. S. Shepard, Wayne Sales Co., Westen Mfg. Co. Henry Meyers.

### "Promenade" a Feature of the Cleveland Show.

Despite the fact that a white collar when worn in Cleveland, O., stays white from fifteen minutes to two hours and a half, according to whether the wind is from Newberg or the Lake, a scheme of white decorations is employed in the automobile show which opened on Saturday, 19th inst., at Central armory, and which continues throughout this week. At any rate, the decorations were white on Saturday, no matter how somber they may be before the show closes, when the soft coal smoke from the city's many industries has had opportunity to exert its customary and besmirching effect on the surroundings.

Not only exhibiting a bold daring in attempting to use white, the Cleveland promoters have gone further and have provided a sort of Atlantic City boardwalk effect for promenaders at the show, where they may walk back and forth, gazing and flirting, without disturbing the regular course of real business. The "promenade" is a bridge-like structure extending from the balcony to a "reviewing stand" raised above the main floor, and is supported by white pil-

lars and decorated with illuminated arches. Then, too, there is a restaurant at the show, an innovation at Cleveland motor car exhibitions, which economical escorts of young ladies look upon with much disfavor.

Although the car exhibitors number but 27, there are 66 different makes represented, while the 27 accessory exhibitors present the products of a legion of makers. Furthermore, there is quite a sizable motorcycle section, displaying the products of ten factories. Noteworthy in connection with the accessory displays is the number of local concerns newly branching out in automobile side lines.

The list of exhibitors is as follows:

Gasolene cars—Winton Motor Carriage Co., Winton; White Co., White; Simplex Motor Car Co., American Simplex; Sterling Motor Sales Co., Sterling; F. B. Stearns Co., Stearns; Standard Automobile Co., Packard; Studebaker Automobile Co., Studebaker; Royal Tourist Car Co., Royal Tourist; Peerless Motor Car Co., Peerless; Harry S. Moore, Stoddard-Dayton, National and Courier; H. R. Hoffman Automobile

Co., Locomobile; Gaeth Automobile Co., Gaeth; Ford Motor Co., Ford; Chisholm-Phillips Co., Stevens-Duryea; Auto Bug Co., Auto Bug; Cleveland E-M-F. Co., E-M-F. and Flanders; Chadwick Co., Chadwick; Derain Motor Car Co.

Electric vehicles—Applebaum Bros., Detroit; Baker Motor Vehicle Co., Baker; Rauch & Lang Carriage Co., R. & L.; Studebaker Automobile Co., Studebaker.

Steam cars—The White Co., White.

Accessories—Booth Demountable Rim Co., Atlantic Refining Co., Cleveland Vacuum Machine Co., Cleveland Chain Mfg. Co., Casino Cycle & Supply Co., Carburation Co., Domestic Vacuum Cleaner Co., Falls Rubber Co., Hall Storage Battery Co., Inst Lighter Co., W. A. King, K. W. Ignition Co., Charles E. Miller, National Refining Co., Perfection Spring Co., Pennsylvania Rubber Supply Co., James F. Patton, Rogers-Thomas-Dodd Co., Standard Oil Co., Star Rubber Co., M. Strauss, Thompson Mfg. Co., Universal Sales Co., Westinghouse Electric & Mfg. Co., Allis-Chalmers Co.

### Three Native Cars Make Their Appearance at Minneapolis.

On the registers of the hotels in Minneapolis, Minn., last Saturday night were the names of scores of visitors from Minnesota, Iowa, Wisconsin, North and South Dakota, Montana and Western Canada, drawn to the city by the third annual automobile show which opened in the National Guard armory on the 19th inst., and which continues until the 26th. These visitors, together with the Minneapolis and St. Paul contingent, made a whaling big crowd for the opening, and things were at high pressure from the start, with all the jamming, pushing, struggling and excitement around the individual exhibits that marks a successful show.

Formalities were omitted in the opening of the exhibition and the ticket takers were at their post early in the day, even while some of the tardy exhibits were being hurried in. At 2 o'clock in the afternoon the

lights were turned on and the musical program was set going, putting the show in full blast.

Of car exhibitors there are over 40, many of them staging three or four makes, so that the visitors who have paid substantial sums in railroad fare in order to attend are well repaid in the extent of the display which is presented to them. The main floor stages the pleasure cars, with the accessories in the gallery and the commercial vehicles and motorcycles in the basement.

Four flaming arc lamps supplement the illumination supplied by myriad strings of incandescents radiating from the center of the ceiling to the side walls, and streamers of colored bunting have been used with profusion. Vaudeville entertainment is provided in the ball room of the armory, and the main musical program in addition to having a stirring military band is marked

by numerous vocal numbers.

The exhibits include a number of the show cars which were on display at Chicago, but two or three newcomers, indigenous to the Northwest, are disclosed, including the product of Moore Brothers, of Wimbledon, N. D., the Luverne, which is made by the Luverne Automobile Co., of Luverne, Minn., and the Starr runabout, which is turned out by the Starr Motor Car Co., of Minneapolis—a four-cylinder 20 horsepower model at \$1,000, and a 30 horsepower "six" at \$1,500.

The accessory jobbing interests resident in Minneapolis assist in providing an exceptionally complete accessory display, while the several motorcycles that are represented afford the show the distinction of a motorcycle section. The car exhibitors are as follows:

Gasolene cars—Pence Automobile Co.,

Buick, Oldsmobile, Oakland; Mich-Stair Automobile Co., Overland and Knox; Columbus Buggy Co., Mora and Firestone-Columbus; Northwesterns Auto Co., Ford; Deere & Webber Co., Velie; Tri-State Automobile Co., Inter-State and Paige-Detroit; Haynes Automobile Co., Pennsylvania and Regal; Fawkes Auto Co., Matheson, Marmon, Reo and American; Royal Auto Co., Royal Tourist and Glide; W. H. McIntyre Co., McIntyre; Maxwell-Briscoe Co., Maxwell; Hathaway-Stimpson Co., Hupmobile; Heany Automobile Co., Halladay; Robertson Motor Co., Franklin; Barclay Auto Co., Chalmers, Thomas and Hudson; Joy Bros., Packard; Winton Motor Carriage Co., Winton; Maytag-Mason Co., Maytag and Ma-

son; Northland Motor Car Co., Stoddard-Dayton, Courier and Falcar; Kemp Bros. Automobile Co., Brush; Victoria Motor Car Co., Pullman; T. M. Anderson, Peerless and Pope-Hartford; Ranger Auto Co., Auburn; Warren-Detroit Co., Warren-Detroit; White Garage, White; Northwestern Stearns Co., Stearns; H. E. Wilcox Motor Car Co., Wilcox; Ramaley Auto Co., National; Great Northern Implement Co., Whiting and Ohio; Northwestern Cadillac Co., Cadillac; Luverne Auto Co., Luverne; P. J. Downs Co., Rambler; MacArthur-Zollars Co., Everitt "30," Corbin, Anhut, American Simplex and Black-Crow; Moore Carving Machine Co., Elmore; Moore Bros., Moore; Pierce-Racine Co., Pierce-Racine; Schur-

meier Motor Car Co., Schurmeier; Starr Motor Car Co., Starr; Goosman & Johnson E-M-F. Co., E-M-F., Speedwell and Flanders; Minneapolis Motor & Truck Co., Minneapolis; International Harvester Co., International; Twin City Motor Co.

Electric vehicles—Columbus Buggy Co., Columbus; Electric Vehicle Co., Detroit; Robertson Motor Co., Baker; Electric Carriage & Battery Co., R. & L.; MacArthur-Zollars Co., Babcock; Moore Carving Machine Co., Woods.

Motorcycles—Eagle Motor Works, Eagle; Yale Motorcycle Co., Yale; Ira Enmark; Excelsior; Hammer & Bisset, Indian; Edwards Cycle Co., Wagner, Merkel, Light, New Era and Racycle.

## Omaha's Show Its Biggest and the "Best Ever."

Garnished with some of the finery borrowed from the recent Madison Square Garden show in New York City, the fifth annual show of the Omaha Automobile Dealers' Association opened in the Auditorium in the Gate City on Monday, 21st inst. It is the largest show, as well as the most pretentious, which Omaha has yet produced. For, because of the recent addition of nine new names to the roster of the dealers' association, special accommodations had to be prepared for the increased number of space holders. Even so, at the last moment, the floor plans had to be replotted in order to make room for the late comers. Even after the stage had been removed, the commercial exhibits, six in number, had to be staged in the basement.

A peculiar characteristic of the locality is the large proportion of implement houses now engaged in marketing automobiles. Omaha has 31 such concerns, and nearly all of them are representatives of one or more lines of cars. In the light of the immense strength of the farmer market just now, this fact is not without significance. The total number of exhibitors is 40, and the number of different makes of motor vehicle displayed, 78. Sixty-four of these are pleasure cars of the gasoline type, mostly the well-known standard makes, which are familiar to the visitor at either of the recent national shows. Seven varieties of electric vehicle are on the floor and two different makes of steam car. As in former years, the number of accessory displays is relatively small, amounting to only half a dozen in all.

Cars which are on view and which are new to shows at this time, are the Mason, which is one of the standbys of the Western trade and which is made in two-cylinder opposed form with a 24 horsepower engine; the Wilcox, and the Avery, both of the latter being commercial machines. The Avery is particularly in its element, being designed for tractor and power production purposes on the farm, and is of peculiar interest to Iowa and Nebraska visitors.

A couple of real live air-ships grace the Auditorium, to which New York and the Omaha show of last year have added a distinctly festive air. The real spice or "occasion" of the affair, however, is rendered by the consecration of the several evenings to different purposes, which are programmed thus:

Tuesday—Council Bluffs night, band concert. Wednesday—South Omaha night, band concert; Thursday Night—Society night, band concert. Friday Night—Lincoln night, band concert. Saturday Night—Band concert; close of show.

The exhibitors and their wares are as follows:

Gasolene cars—Apperson Sales Agency, Apperson; Avery Co., tractors; Bergers Automobile Co., E-M-F. and Flanders; Capron-Wright Auto Co., Speedwell and Moline; J. I. Case Plow Co., Ohio; Coit Automobile Co., Rambler and Mitchell; J. J. Deright Co., Locomobile, Matheson, Stoddard-Dayton and Regal; Drummond Carriage & Auto Co., White; Electric Garage Co., Packard; Ford Motor Co., Ford; H. E. Frederickson Automobile Co., Hudson, Chal-

mers, Pierce-Arrow and Thomas; Freeland Bros. & Ashley, Mason, Midland and Maytag; W. L. Huffman Automobile Co., Inter-State, De Tangle, Anhut and Hupmobile; R. R. Kimball, Stevens-Duryea and Cadillac; Kissel Automobile Co., Kisselkar; Brick P. Kuhn, Duer; Lininger Implement Co., Oakland, Gleason, Staver and Welch; C. F. Louk, Marmon, Haynes, Falcar, Halladay and Empire; Maxwell-Briscoe-Omaha Co., Maxwell; Mid-West Auto Co., Cole "30"; Andrew Murphy & Sons, Frayer-Miller and Randolph trucks; Nebraska Buick Automobile Co., Oldsmobile and Buick; T. G. Northwall Co., Brush; Olds Gas Engine Power Co., Reliance trucks; Omaha Motor Car Co., Cartercar; Omaha Automobile Co., Auburn and Rider-Lewis; Guy L. Smith, Franklin and Peerless; Standard Automobile Co., National, Badger and Standard Six; Sweet-Edwards Automobile Co., Moon, American and Parry; Van Brunt Automobile Co., Pope-Hartford, Overland and Marmon; Velie Automobile Co., Velie, Columbus and Wilcox trucks; Wallace Automobile Co., Stearns; Western Automobile Co., Schacht and Great Western.

Steam cars—Drummond Carriage & Auto Co., White; R. R. Kimball, Stanley.

Electric vehicles—J. J. Deright Co., Waverley; Drummond Carriage & Auto Co., Woods; Electric Garage Co., Baker, Detroit and R. & L.; R. R. Kimball, Babcock; Velie Automobile Co., Columbus.

Accessories—Baum Iron Co., Central Tire & Rubber Co., Omaha Rubber Co., Powell Supply Co., Standard Oil Co., Western Automobile Supply Co.

## Cincinnati Show Garbed in Green and with a Fountain.

Green as Cincinnati, O., may be in the giving of automobile shows, the only evidence of it that is manifested in its first attempt, now staged at the Music Hall, is in the color of the decorations, which include green carpets, palms, ferns and the like. A distinctly Cincinnati feature, however, is the Rookwood ceramic fountain from the nearby Rookwood potteries, an

artistic contribution such as no other motor show has been able to boast.

No little pride is taken in the fact that the show, which opened on Monday, 21st inst., and lasts the week through, presents no less than 15 models made in Cincinnati itself, including the Schacht, Ohio, Cino and Enger cars. There are 56 exhibitors, of whom 40 offer complete cars, while 13

present accessories and three put motorcycles on view. The car exhibitors altogether give representation to 63 different makes. The list of exhibitors is as follows:

Gasolene cars—Atlas Motor Car Co., Inter-State; Charles Behlen Sons Co., Brush, Maxwell and Columbia; Buckeye Motor Car Co., Parry; Cincinnati Automobile Co.,

Peerless and Pope-Hartford; Cincinnati E-M-F. Co., E-M-F. and Flanders; Citizens Motor Car Co., Packard; Covington Auto Co., Cole "30"; Crown Auto Co., Cadillac; Robert C. Crowthers, Elmore and Reliance trucks; L. C. Dennison, Winton; Lowe Emerson, Staver; Enger Motor Car Co., Enger; Franklin Automobile Co., Franklin; Ford Motor Car Co., Ford; Garford Motor Truck Co., Garford trucks; J. K. Gilchrist, Demotcar and Detroit-Dearborn; Haberer & Co., Cino; Hanauer Automobile Co., Pierce-Arrow, Corbin, Jackson and Locomobile; Heilman Auto Co., Haynes and Cartecar; Herald-Reo Co., Reo; Herschede Motor Car Co., Courier, Stoddard-Dayton and Rapid trucks; Ohio Motor Car

Co., Ohio; Jungclas Auto Co., Mitchell and Palmer-Singer; Leyman-Buick Co., Buick; Oskamp Auto Supply Co., Lexington; Middleby Auto Co., Middleby; George C. Miller Sons Carriage Co., Stevens-Duryea; Olds-Oakland Co., Oldsmobile and Oakland; Payne Motor Car Co., Thomas; J. H. Ratliff Auto Co., Chalmers and Hudson; Schacht Mfg. Co., Schacht; Charles Schiear Motor Car Co., Hupmobile, Velie, National and Warren-Detroit; Schumacher, Boye & Eames, Knox; Smith-Eggers Co., Stearns; Speedwell Motor Car Co., Speedwell; J. S. Stevens, Matheson; Suburban Auto & Garage Co., Overland, Marion and Marmon; U. S. Motor Truck Co., U. S. trucks.

Electric vehicles—Charles Behlen Sons Co., Bailey; Welland-Pope Co., Columbus; Herschede Motor Car Co., R. & L.; Jungclas Auto Co., Baker.

Motorcycles—Bumiller-Reemelin Co., Indian Milton Motorcycle Co., Thor, New Era and H-D; Ferd Stenger, Merkel, Pierce, R-S.

Accessories—Auto Jack Distributing Co., Avondale Auto Supply Co., Louis E. Bedinger, Coughlin & Davis, Hill & Bowman, Metal Stamping Co., Oskamp Auto Supply Co., Paragon Refining Co., Peerless Buggy Top Co., Sheldon Axle Co., Standard Oil Co., Warner Pole & Top Co., Toe Water Auto Supply Co., Bumiller-Reemelin Co.

## Grand Rapids's First Effort Uncovers a New Commercial.

Representing the culmination of several years of effort on the part of local motorists, Grand Rapids, Mich., held its first automobile show during the latter part of last week, the initial function, which was staged under the auspices of the dealers and a local paper, opening on Wednesday, 16th, and closing on the 19th. Held in Klingman Furniture Exhibition building the show had 27 exhibitors of whom 20 displayed cars. About the only new thing in evidence was the four wheel drive commercial wagon manufactured by the Duplex-Power Car Co., of Charlotte.

So well and favorably were the show committee impressed with some of the decorations used at the Detroit show that they acquired them for their own exhibition, and transplanted embellishments comprising over one-third of a mile of electrical festoons. These festoons bearing thousands of ground glass incandescent bulbs were strung along the aisles and in the booths.

From floor to ceiling the walls were lined with red, white and blue bunting, and dotted with shields of American flags. The ceiling was concealed by a mass of apple green bunting in the center of which shone a huge electric dome. To further carry out the outdoor scheme, banks of palms and high bay trees were placed about the hall while baskets of autumn leaves and spring roses were placed on the standards which were in green and white bunting. In the balcony a myriad of potted plants converted the section into a veritable palm garden.

There were some 85 different cars shown, the main floor being given over to their display while the accessory stands were located in the balcony.

The exhibitors were as follows:

Gasolene cars—Austin Automobile Co., Austin; Adams & Hart, Regal and Franklin; Buick Motor Co., Buick; W. S. Farrant, Chalmers and Hudson; Maxwell-Moran Co., Maxwell; Pantlind & Bulkeley, Oldsmobile;

W. D. Vandecar, Reo; Enos & Bradfield, Jackson and Fuller; C. J. Bronson, Stevens-Duryea; Becker Auto Co., Ford; Stanley A. Dwight, Velie and Everitt "30"; Central Auto Co., Cadillac; White Motor Car Co., White; W. J. Doughty, Hupmobile; D. C. Riekse Auto Co., Cartecar; Oswald Automobile Co., Kisselkar; John Vlasblom, Mitchell; Riley Automobile Co., E-M-F. and Flanders; Duplex-Power Car Co., Duplex four wheel drive; International Harvester Co., International; Smith Automobile Co., Great Smith.

Electric vehicles—Adams & Hart, R. & L.; C. J. Bronson, Detroit; Central Auto Co., Waverley; Oswald Automobile Co., Baker.

Motorcycles—Heth Bros., Excelsior; Joseph Poisson, Indian and Harley-Davidson.

Accessories—Power Co., W. L. Eckhard, Dick Brink estate, Maxwell-Moran Auto Co., Pantlind & Bulkeley, Grand Rapids Electric Co.

## 33 Brands of Car and a "Conservatory Effect" at Portland.

Mustering 23 exhibitors, of whom 19 display cars, the fifth annual automobile show in Portland, Me., was launched in the Auditorium on Monday, 21st inst., and will remain in commission throughout the week, and as becomes all things pertaining to an industry which has made such remarkable strides in its short career the present motor exhibition surpasses all previous functions of its kind which have been staged in the metropolis of the Pine Tree State.

Likewise in the matter of decorations have previous efforts been outdone. The central figure in the embellishment gives to the interior a resemblance of an immense conservatory. From the top of the building is suspended a huge net in which is

placed a large and varied assortment of flowers and leaves, and the pleasing effect is enhanced considerably by the skillful arrangement of the lighting accoutrements. Carpets are laid in the spaces, the aisles being defined by the bare floors and all stands are marked by uniform signs. Palms and rubber plants also are scattered about in profusion. The 33 makes of car displayed are nearly all of standard pattern.

Those exhibiting are the following:

Gasolene cars: Mank-Stuart Motor Co., Cadillac; Spear Auto Co., Ford; Buick Motor Car Co., Buick; Frank F. Wentworth, Overland and Marion; Taxicab Co. of Maine, Palmer-Singer; Bullock-Goodwin Co., Studebaker; L. C. Gilson Co., Mitchell

and Premier; Portland Motor Mart, Interstate, Speedwell, Regal and White; Maine Motor Carriage Co., Peerless, Stevens-Duryea, Pope-Hartford, E-M-F., and Flanders; Pine Tree Auto Co., Velie; W. A. Paterson, Paterson; Augusta Auto Station, Winton; F. R. Parker, Elmore; Stoughton-Folkins Co., Maxwell, Rambler, Oldsmobile and Oakland; F. A. Nickerson Co., Selden and Pierce-Arrow; W. L. Russell Co., Apperson; Merle F. Burgess, Reo; Fuller Auto Co., Fuller and Warren-Detroit; Portland Co., Knox.

Accessories—Spear Auto Co., L. C. Gilson Co., James Bailey Co., Underhay Oil Co., Frank M. Low Co., Darling Automobile Co.

## Salt Lake City's Initial Show Proves a Creditable One.

Marking the debut of an automobile show within the borders of the Mormon state, the first annual show of the Salt Lake City (Utah) Automobile Association was official-

ly inaugurated in the Auditorium by Mayor Bransford on Saturday night, 19th inst., with 26 exhibitors. It was a most auspicious occasion in the motoring annals of the

Mormon capital and the future of the exhibition seems well assured. Of the exhibitors 14 belong to the class showing cars, 4 stage motorcycles and bicycles, and



the remainder are assembled under the accessories banner.

Never before in its history has the interior of the big hall been so prettily decorated as for the present occasion, over \$2,000 being expended on this item alone. The ceiling is a bank of blue and white bunting, studded with colored electric globes, and the four walls also are swathed in the same material. Red burlap is laid over the entire floor. In the booth arrangement custom is departed from somewhat, these being oblong in shape, with heavy corner pillars giving a fence effect. The pillars are crowned with large palms surmounted by colored globes. While demonstrations, especially show demonstrations, have ceased to figure to such an ex-

tent as formerly, they nevertheless still prevail to some degree, and in this connection there was imposed on the exhibitors an unusual restriction, forbidding them to give demonstrations from the building, and requiring that they be given from their respective salesrooms. The show will close on Saturday, 26th.

The following are the exhibitors:

Gasolene cars—Sharman Auto Co., Stoddard-Dayton, Maxwell and Reo; Tom Botterill Auto Co., Pierce-Arrow, Chalmers, Hudson and Pope-Hartford; Randall-Dodd Auto Co., Thomas, Buick and Overman; Consolidated Wagon & Machine Co., Franklin, Overland and Velie; Gilmer Auto Co., American; Utah Motor Car Co., Cadillac; Evans, Hewes & Evans, Standard Six;

Studebaker Bros., Studebaker-Garford; Carl Horst, Winton; Raymond-Bracken Auto Co., Premier, Jackson and Chadwick; The Motor Co., Moon; Taxicab & Auto Co., Cartercar; White-Savage Co.

Electric vehicles—Sharman Auto Co., Woods; Utah Implement Vehicle Co., Columbus; Studebaker Bros., Studebaker; A. C. Whitmore, Baker and Waverley.

Motorcycles—Mrs. A. L. Carter, Indian; Bicycle Supply Co., Excelsior; Meredith Bicycle Co., Merkel and N. S. U.; Schettler Motorcycle Co.

Accessories—Bertram Motor Supply Co., Salt Lake Hardware Co., Western Electric Co., V. M. Scroggs, Monarch Motor Co., Miskin Wheel Co., Automobile Oil Co.

## Mrs. Foote a Feature of Binghamton's First Display.

This year, for the first time, Binghamton, N. Y., has a place on the local show circuit, its initial effort being staged in the state armory under the combined auspices of the Binghamton Automobile Association and Chamber of Commerce. It opened on Monday, 14th inst., and is booked to run the entire week. There are 38 exhibitors, 20 of whom stage cars.

Lending an up-to-the-minute tone to the exhibition is a Curtiss aeroplane, also there are several displays of bicycles, which latter give refutation to the commonly accepted libel that they have passed from this earth. There also is a more or less historical display of old motor cars. Despite the inclement weather on the opening night the building was well filled throughout the evening and the attendance has continued

strong on the succeeding days. Somewhat unusual is the presence of a woman among the exhibitors in the person of Mrs. D. E. Foote, who represents the Detroit electric.

The list of exhibitors and their wares is as follows:

Gasolene cars—W. H. Wilcox, Marmon; H. B. Doherty Co., Cadillac and Peerless; Binghamton Motor Car Co., Buick, Pope-Hartford, Stevens-Duryea and Thomas; Davidge Motor Car Co., Pierce-Arrow; C. H. Worden, Pullman; Wilbur & June, Mitchell; I. S. Matthews, Sons, Cartercar; Amos-Pierce Automobile Co., Hudson, Chalmers and Lozier; Chenango Motor Sales Co., Overland, White, Marion and Speedwell; Stow Mfg. Co., Knox and Hupmobile; S. H. Lewis, Maxwell, Velie, Chase and Franklin; Gladding Stevens, Brush; F. E. Spawn,

Ford and Imperial; F. B. Pudd, Oldsmobile and Oakland; Binghamton Automobile Co., Packard; R. M. Johnson, Regal.

Electric vehicles—Mrs. Foote, Detroit; S. H. Lewis, Waverley; Champion Wagon Co., Champion; M. E. Dikeman, Babcock.

Motorcycles and bicycles—C. O. Wellman, Royal Pioneer and Curtiss; Waldron Drug Co., Iver-Johnson and Columbia; Frank T. Abbott, Rambler, Monarch, Magara, Messenger; Frank S. Bump Co., Indian; Reliance Motorcycle Co., Reliance; Carl Wright, Marvel; W. Brown, M-M.

Accessories—Binghamton Vulcanizing Co., L. J. Kingsley, Nelson, Jones Co., Standard Oil Co., John W. Frey, Frank S. Bump Co., Babcock, Hines & Underwood, Diamond Electric Co., Tiona Oil Co., N. H. Snow, Southern Tier Renovating Co.

## Washington Club Opposes Wheel Tax.

Without waiting for the decision of the case which Leroy Mark, a local motorist, has carried to the District Court of Appeals, W. S. Duvall, representing the Automobile Club of Washington (D. C.), appeared before the district commissioners on Friday last and urged the repeal of the wheel tax now imposed on automobilists—\$3 for two-seated cars and \$2 for each additional seat. Mr. Duval argued that the tax is unfair and illegal because the automobilists already pay a personal property tax.

## An Honest Man Found at Last.

Diogenes probably would have ended his quest for an honest man had he searched in Los Angeles, Cal. At any rate, Harry Olive, who sells Stoddard-Dayton cars in the Angel City, claims to have discovered the man whom the old Greek philosopher was looking for. He says the man's name is W. B. Haines, of 1064 West Seventh street, Los Angeles.

When Olive returned to his touring car, which he had left standing at the curb in Spring street, he found the two front lamps

smashed. He surveyed the damage and then gave vent to his feelings. While he was looking around for additional damage he espied a card stuck carefully into the top of the coil box.

The card contained the name of Haines and a note to the owner of the car which read:

"Backed into you and smashed your lamps. Sorry, but can't wait. Will pay you in full."

There is a sequel. Olive called on the man who smashed his lamps and refused to receive payment because he said it felt so good to find an honest man.

## Detroit's Magic Lures Publishers.

The magic of the word "automobile" when uttered in Detroit, and the readiness with which it draws dollars from their hiding place, will result in one, if not two, automobile publications being implanted in that city. R. M. Jaffray, of Toronto, who years ago was S. A. Miles's partner in the publishing business in Chicago, will "father" one of the papers, while E. E. Schwarzkopf, of New York, is threatening to go and do likewise.

## Paris Garage Must Pay Damages.

A damage suit brought by J. S. Strawbridge, of Philadelphia, Pa., against a Paris automobile company, from which he had hired a touring car, resulted in a verdict for \$14,000 against the company. The car was wrecked in an accident, owing to a faulty steering gear, and the plaintiff's legs were crushed. The great popularity of rented cars with a considerable proportion of Paris's population renders the decision one calculated to somewhat curtail the use of such machines. It is probable that in no other city in the world is such wide use made of rented cars.

## Heavy Fine for Drunken Chauffeur.

Reckless driving on the part of a Chicago taxicab chauffeur was responsible for his being haled into court last week on a charge of disorderly conduct and fined \$75 and costs. Judge Newcomer, before inflicting this heavy fine, said that there ought to be a special city ordinance permitting the infliction of severe punishment on any person found operating a taxicab or other automobile while under the influence of drink.

## HERE'S THE TURBINE FLY WHEEL

**It Acts as a Muffler, Too, and May Increase Engine Power 25 Per Cent.—How It Works.**

Motorists who have been worried on learning that the audible "cough" of the healthy gas engine denotes power going to waste, are in a fair way of having their anxiety relieved. In response to a yearning to increase the power by utilizing some of the energy which ordinarily is blown out through the tail pipe, the Turbine Auxiliary Muffler Co. has been organized in New York City to exploit a device after which it is named, and which is intended to extract from the waste products of the ordinary motor of the marine or automobile type an amount of extra power equivalent to one-quarter of that already being produced within the cylinders in the regular way.

As the marine form of turbine muffler was the first to be perfected, it happens that the invention was first disclosed last Saturday afternoon in Madison Square Garden at the opening of the motor boat show which is now current there. The automobile type, differing only slightly from the pattern now being exhibited, is soon to be ready for the market, however, the inventor and his associates confidently affirm.

Although the device fulfils the double function of power augments and muffler, the latter quality is said to have been something of an afterthought—more or less accidental, so to speak. The basic idea is one which has lured many inventors hitherto, and which in pure theory is so plausible that it already has been made the subject of considerable experimentation. The principle is merely that of directing the engine exhaust not into a muffler, but against the buckets of a turbine or impeller wheel where it will be relieved of its energy through the double influence of cooling and expansion.

In the system in question, which, so far as is known, is the first actually to be placed upon the market, a form of plain impulse wheel is used, which, despite the use of the name turbine, is minus the curved buckets and stationary vanes which usually are thought essential where the full reactionary effect of impulse and expansion are to be taken advantage of. Instead, a series of eight radial blades are formed on the periphery of a casting which replaces the ordinary fly wheel. The rotary member thus formed is encased in a closed housing, into which the exhaust is directed through a large manifold, the gases impinging upon the blades at right angles to their working faces. The outlet, which also is tangential to the rim of the rotor, is at the bottom of the casing, about 180 degrees away from the inlet. The outer casing is water jack-

eted, the circulation behind in series with the outlet from the cylinder jackets, in consequence of which the water reaches the "muffler" partially heated, so that the gases are not cooled so abruptly as to rob them of the energy which it is desired to impart to the wheel.

In connection with its action, the remarkable claim is made for the device that be-

### Demountable Rims for Trucks.

Having been applied so successfully to pleasure cars, demountable rims now are being extended to commercial vehicles as well, and their application in the latter field has developed special types to meet the



unusual requirements of motor trucks and delivery wagons. One of these, that already has seen many months of actual road service, is the Firestone truck tire demountable rim, which simplifies the process of removing and replacing tires to such an extent that these changes can be made by the driver on the road with only a few minutes' delay. As will be seen by the accompanying illustration, the tire is secured in the channel by the standard side-wire fastening, as in regular equipments. To the inner circumference of the rim is rivetted a bevel band, having a section cut out to allow it to fit over the plate on the rim of the wheel, to prevent creeping. A single-flanged rim is shrunk on the felloe of the wheel and the demountable rim is held in place by this flange on the inner side of the wheel and on the outer edge by two rings, the outer ring being maintained in place by twelve bolts and nuts, the bolts passing completely through the felloe. Comparatively infrequent as are the emergencies which make necessary or desirable the changing of motor truck tires on the road, the provision of a means for making such changes and the carrying of a spare tire on a demountable rim gives further certainty of steady and reliable commercial vehicle service.

sides assisting in turning the crank shaft through the impulse of the exhaust gases against the blades of the wheel, it exercises a distinct and helpful scavenging effect upon the cylinders. Such is the design, it is said, that under ordinary circumstances the

pressure of the exhaust is effective only a portion of the stroke, after which the rotor in its casing acts as a suction pump to draw the remaining contents out of the cylinder, thus rendering the exhaust more effective than otherwise would be the case. The muffling function is wholly incidental to the process of robbing the exhaust of its energy and rendering it practically inert as well as reasonably cool.

In the automobile type the general construction is practically the same as in the form shown attached to a marine motor, save that the parts will be considerably lighter. Tests already made on the block are said to have shown an increase in power of 25 per cent. and more over the output of the same engine run under the conditions of ordinary muffling. More complete data as to the performance of the system is promised as soon as the project has matured a little more fully.

### More "Revolutionizers" in Prospect.

Four-cycle and two-cycle engines are a present day reality, and the six-cycle has been proposed with a rather fanciful idea that the addition of two idle strokes to the cycle would afford sufficient gain from scavenging the cylinders to compensate for the extended interval of non power production. It remained for a newspaper reporter down in Texas and an English inventor to achieve the "one-cycle," however. The former has not been heard from since his first announcement of the discovery of a local genius with a new style automobile engine concealed in his back shop. The over-seas contributor to lingual confusion, is at work upon a double-acting engine which is really a version of the two-cycle principle known under a novel and misleading name. Two cylinders arranged tandem are used for compressing and firing the charges, respectively; both being double acting. Through an ingenious arrangement of ports, both cylinders are rendered valveless, while the two-stroke cycle of action above and below the working piston renders the motor capable of exerting an impulse for every stroke.

### Traps to Prevent Clouded Sight-feeds.

Clouding of the glasses in an individual sight-feed lubricating system is attributed to the occasional backing up into the glasses of smoke from the crank case. According to the idea of a foreign expert, this may result when the feed is temporarily checked, or when the drops are fed so far apart that the tubing which leads to the bearings may become practically empty during the intervals. To obviate the difficulty and keep the glasses perfectly clean at all times he suggests that small U-bends be put in the feed pipes at some point where they are horizontal. This will form a series of small traps, which will be kept filled with oil at all times and thus will prevent the back rush of any gases which may accumulate in the case.

# A. A. A. Completes Revision of Contest Rules

Stock Cars Can be Altered and Yet Remain Stock Cars, but Use of Adulterated Fuel is Prohibited—All Drivers Must Register but No Man in the Industry Can be an Amateur—Many Notable Improvements.

After several months of close application, the American Automobile Association finally has completed the overhauling of its contest rules and the revised regulations have been formally approved by the Manufacturers Contest Association. A digest of the principal changes effected was made public this week; it gives evidence that heads and hands which have had long experience with sports were brought to bear in the work of revision—experience which heretofore has been sadly lacking in A. A. A. affairs of the sort.

Much time was spent in improving the definition of a "stock car" and while the new definition undoubtedly is better than the old one, the fact that it still permits cylinders to be bored out, and allows practically everything except valves, frames and wheels to be altered at will, makes the improvement in the definition more apparent than real. The use of "dope" or adulterated fuel is very sternly prohibited, but the A. A. A. could not bring itself to eliminate the "freak cars" of abnormal proportions and power, which permit four or five men to "barnstorm" the country, and which overshadow and make the performances of bona fide stock cars suffer by comparison. The new rules, however, make better provision for the supervision and tabulation of records and for the suppression of "phony" or unofficial records.

What is in many respects the most important and far-reaching innovation is the requirement that racing drivers shall be registered and tracks licensed, the registration certificates and licenses to be renewed annually; of little less importance, and even more radical, is the addition to the amateur rule which absolutely denies any person in any way connected with the automobile or accessory trades the right to be considered or classed as an amateur.

The digest of the new rules as given out by the A. A. A. is as follows:

**Status of "Stock Car" and "Stock Chassis"**—To insure the competition of bona fide stock cars, manufacturers are required to file with the Contest Board a complete description of their various "stock" models intended for competition, their status as stock cars being based on the ratio which the quantity production of the individual model bears to the total annual output of the maker, as given in the table. Promoters will be furnished by the Contest Board with copies of these official descriptions, and cars when examined by technical committees throughout the country must conform to such description to be eligible to start in any stock car or stock chassis event.

**Stock Car**—"A motor car, the complete description of which, upon the official blank provided for the purpose, has been filed with the main office of the Technical Committee of the Contest Board at least thirty days prior to the date of the contest entered, the quantity production of which bears to the total yearly production of its manufacturer the ratio set forth in the following table, and which is on sale through the regular selling representatives of the manufacturer."

Official blanks for stock car description may be obtained from the Chairman of the Contest Board, 437 Fifth Avenue, New York City.

Computation in connection with the following table shall be based upon a period of time from July 1st to June 30th of the following year.

In computing the annual output of a manufacturer, no account shall be taken of his production of taxicabs, delivery wagons or other vehicles designed for commercial use.

At the discretion of the Contest Board any competitor may be required to file a bond of \$5,000 that the entry made by him is a bona fide stock car within the meaning of this definition:

Total Output.	Percentage.	Number of Same Model.
10,000 cars or more	4.5% equaling	450 cars minimum
8,000 cars to 9,999	5.0% equaling	400 cars minimum
6,000 cars to 7,999	6.0% equaling	360 cars minimum
4,000 cars to 5,999	7.0% equaling	280 cars minimum
2,000 cars to 3,999	8.0% equaling	160 cars minimum
1,000 cars to 1,999	9.0% equaling	90 cars minimum
500 cars to 999	10.0% equaling	50 cars minimum
250 cars to 499	16.0% equaling	40 cars minimum
100 cars to 249	30.0% equaling	30 cars minimum
50 cars to 99	50.0% equaling	25 cars minimum

**Explanation**—Percentages are calculated on actual total output. For example: If the total annual output of a manufacturer is 2,500 cars, at least 8 per cent. of said output, or 200 cars, must be of the same model in order to constitute such model a stock car under this definition. The required percentage of output shall in every case be in accordance with the above table and in no event shall it be less than 25 cars.

The use of different bodies—touring car, miniature tonneau, runabout, etc.—upon the same chassis shall not constitute a difference of model under the meaning of this definition, but cars thus equipped must be entered in the respective classes to which the body equipment renders them eligible. Miniature tonneaus, surreys, double or single runabouts shall, for the purposes of these rules, be considered runabouts. Tops, wind shields and extra tires may be removed, whether or not they may be furnished as regular equipment. Otherwise, car must be in construction, material and equipment exactly as offered for sale to the public.

Copies of the official certificate of description, above mentioned, will be furnished by the Contest Board to the promoter of any contest upon receipt of his entry list, and the cars entered must absolutely correspond to the detailed description therein contained; otherwise they shall not be permitted to start in the contest and entry fee paid shall be forfeited to the promoter.

**Stripped Stock Chassis**—"A motor car chassis which, except for the options listed below, can, by adding the necessary parts, be assembled into a complete stock car." (See "Stock Car" definition.)

**Options permitted:** Lighter springs; piston diameters; change of steering post angle; length and angle of change-gear, brake and other control levers; change of driving gear ratio, wheel diameters excepted; length of clutch, brake, accelerator and other pedals; tire and rim equipment; style of dash, seat and body equipment (see rule governing Dash Requirements); form, volume and location of fuel and oil tanks (system employed in either case must remain unchanged); exhaust header and exhaust pipe (except as limited by Rule 69 governing direction of exhaust); use of shock absorbers; winding of springs. Bonnets must be carried throughout a contest, but may be cut away at the side for the passage of exhaust pipes. (See Rule 70 governing loss of bonnet). Bonnet straps must be added. Special wheel fenders or radiator protectors of any design may be used, provided they are securely attached to the car in a manner satisfactory to the referee.

**Note on Lubrication**—Where a reserve oil supply is provided, a pipe connection with a hand-pump may be employed to transfer the lubricant to the standard oil receptacle regularly supplied by the manufacturer with the car, but in no instance will it be

permitted to connect a reserve oil supply directly with the parts to be lubricated unless such connection may be the standard lubrication equipment under the "stock" definition.

**Dash Requirements**—The only alteration permissible in the dash of a stripped stock chassis is that its contour may be made to conform with that of the bonnet; no perforations in the dash will be permitted; standard stock car dash equipment must be carried.

**Additional Parts to Chassis**—Dash, seat, body, tank or other permissible equipment—shall be of substantial and safe construction within the approval of the Technical Committee of the Contest Board.

**Rule 69. Motor Exhaust**—The exhaust must be conducted outside of the bonnet and so directed as not to raise dust.

**Rule 70. Loss of Bonnet**—The bonnet must be carried throughout a contest. If the bonnet becomes detached or lost from a car, the driver shall be required to bring his car to a stop in the shortest possible distance consistent with safety and remain at a standstill until the bonnet has been recovered and replaced.

In a road race he shall not pass the judge's stand until the bonnet has been so recovered and replaced.

In contests on tracks and speedways, a bonnet lost in one lap may be recovered in the next succeeding lap.

**4. Bona Fide Status of Stock Car**—It is the intention of the rules relating to stock cars and stock chassis competitions that such competitions shall be restricted to those cars identical in specification, materials and design with the manufacturer's product which is manufactured in quantity and is offered for sale and sold in a bona fide manner to the public through the regular selling agencies of the manufacturer.

**5. Evasion of Stock Car Definition**—In the event of evasion on the part of entrants of the spirit of the "stock car" or "stock chassis" definition concerning points not definitely stated in these rules, the Contest Board shall have full power to render such decision as it may deem for the welfare of the sport and industry.

**6. Technical Committee**—In any case where it may be necessary to establish the status of any car alleged to be a stock car under the definition contained in these rules, the Technical Committee of the Contest Board shall have the right to visit the factory of the manufacturer of such car, who shall be required to submit to the Committee such evidence as it may require to verify the allegation on which the "stock" status of the car is based.

The Technical Committee shall also have power to take possession of any competing car at the finish of its competition in any contest and make such examination thereof as may be necessary to establish its "stock" status.

## CLASSIFICATIONS.

**Class "A." Price Classification**—The numbering of the Divisions in this class has been reversed, Division 1A being made the lowest priced cars and seven divisions are provided in this class, instead of six as heretofore:

**Class "A"**—Open to any gasoline motor car (other than motor cars with solid tires, wheels 36 inches in diameter and over) which complies with the definition "stock car," this class to be run in the following divisions:

Division 1A.....	\$800 and under
Division 2A.....	801 to \$1,200
Division 3A.....	1,201 to 1,600
Division 4A.....	1,601 to 2,000
Division 5A.....	2,001 to 3,000
Division 6A.....	3,001 to 4,000
Division 7A.....	4,000 and over

Extra or optional equipment, listed in the manufacturer's catalogue as such, used upon a car competing under price classification, must have its list price added to the list price of the car, and this total price shall determine the classification of the car. No extra equipment shall be permitted other than that listed as such in the manufacturer's catalogue.

No car shall compete in any class above that to which its price entitles it.

**Class "B." Piston Displacement and Minimum Weight "Stock" Cars**—The numbering of the divisions in this class has been reversed, Division 1B being made the smallest piston displacement, 160 cubic inches and under, and a sixth division has been added for the larger cars.

It should also be noted that in this piston displacement class it is intended that cars should compete

at their normal minimum chassis weights, the adding or attaching of any dead weight to the car as ballast to enable it to compete in any other division than that to which its normal chassis weights entitles it, being prohibited.

To meet this prohibition against ballast, the minimum chassis weights have been reduced 100 pounds in each of the six divisions.

Class "B"—Open to any chassis of a gasoline car which is in accordance with the definition of a "stock chassis"; to be governed by the following table of piston displacement and minimum chassis weights:

Division.	Piston Displacement in cubic inches.	Minimum Weight in pounds.
1B.....	161 and under	1,100
2B.....	161 to 230	1,400
3B.....	231 to 300	1,700
4B.....	301 to 450	2,000
5B.....	451 to 600	2,300
6B.....	601 to 750	2,500

No car shall compete in any class above that to which its weight entitles it.

No dead weight of any description shall be added to a car or attached thereto in any manner as ballast.

Class "C." Piston Displacement Without Minimum Weight Restrictions or "Stock Car." Qualification—This class has been added to afford an opportunity for competition between motors of approximately equal size, six divisions being provided according to piston displacement but without stock car qualification or minimum weight restrictions.

This class might be considered the experimental or development class.

Class "C"—Open to any gasoline car or chassis made by a factory which has during the twelve months prior to the date of contest, produced at least 50 motor cars (not necessarily of the same model). Eligible for entry under the piston displacement limitations of Class "B," but without minimum weight restrictions.

Division.	Piston Displacement in cubic inches.
1C.....	160 and under
2C.....	161 to 230
3C.....	231 to 300
4C.....	301 to 450
5C.....	451 to 600
6C.....	601 to 750

No car shall compete in any class above that to which its piston displacement entitles it.

The other classes are amended as follows:

Class "D"—Open to any gasoline car which complies with the definition of a "motor car" without restriction as to piston displacement, weight, price or quality produced. There may not be more than two events under Class "D" upon a day's program without special permission of the Contest Board.

Class "E"—Special events other than those above specified held in connection with any motor car meet or contest, and approved by the Contest Board, of which there may not be more than three upon a day's program without special permission of the Contest Board.

Class "F"—Open to gasoline "stock cars" of the high-wheeled, solid tired buggy type, diameter of wheels 36 inches or over. Entries subject to price limitations of Class "A." There may not be more than two events under Class "F" upon a day's program without special permission of the Contest Board.

Class "G"—Open to electric "stock cars" only. Subject to the price limitations of Class "A."

Class "H"—Open to commercial cars, cabs and trucks.—Division limitations to be obtained from the Contest Board.

8. Match Races—Matches may be held as contests of any kind covered by any of these rules and may be run under any of the classes or divisions.

#### GENERAL RULES.

Contest Board National Organization.—First. Provisions have been made for the appointment by the Contest Board of the Referee for every contest, from a selected list of men of undoubted standing, familiarity with and ability to administer the contest rules, located in every locality where contests will be held and known to the promoting clubs and associations in those localities.

Second. To the further end of establishing and maintaining the strict compliance of all entrants with the "stock" car requirements of the rules, a Technical Committee is provided, of which the Associate Member of the A. A. A. Technical Committee in the district where the contest is held, shall be Chairman, together with such other technical members as the promoter may appoint, to technically inspect all cars offered for competition and to prevent the entrance of other than bona fide stock cars.

Third. The third element to complete the organization of the Contest Board is found in the Official Representative of the Board previously provided for, who will be in attendance at every contest to cooperate with the Referee and the Technical Committee in the strict enforcement of all of the Contest Board rules.

Entries.—The promoter is prohibited, under pain of disqualification, from advertising the proposed competition of any entrant in a contest until his entry has been actually made. The promoter is also required to secure a signed entry blank and entry fee from a proposed entrant, in order to bring such entrant within the jurisdiction of the Contest Board's discipline in case of his failure to appear.

Supplementary Regulations.—In order that the

governmental functions and supervision of the Contest Board may extend to every form of contest, a promoter desiring to make regulations for some particular form of contest not included in the published rules of the Contest Board, may do so upon submitting such supplementary regulations to and receiving the approval of the Contest Board.

Certified Trials.—To put the stamp of authenticity upon any special form of road trial or test of an individual motor car or accessory, the maker, owner, agent or dealer may secure from the Contest Board an official sanction for such trial, which will be carried on under the supervision of a representative of the Contest Board under the General Rules and the Special Rules of the Board in such case provided.

Advertising.—To prevent the holding of contests which could not, in any way, redound to the benefit of the sport and industry, the following rule has been adopted:

"Any owner, manufacturer, dealer, agent or driver taking part in or directly connected with any contest otherwise than under these rules, and obtaining extensive advertising therefrom, shall be deemed to be guilty of a breach of these rules."

Records.—To prevent the indiscriminate advertising and improper comparison or performances or alleged records, all claims for records must be made to the Contest Board within ten days of their accomplishment and no record shall be advertised until accepted and allowed by the Contest Board. The Board may reject any claim which in its opinion would not promote the best interests of the sport.

No claim for a record at a distance under one mile and up to five miles will be allowed unless taken with a recording automatic timing device and the actual recorded evidence submitted.

Provision is made for a Register of Records to be kept by the Contest Board.

Racing Drivers' Register.—All racing drivers are required to register with the Contest Board and receive a registration card, such registration expiring on the 31st of December of each year. A detailed record of each driver's participation in contests throughout the year will be kept. Drivers are required to exhibit their registration cards to the Referee on demand at any meeting.

An unregistered driver may not compete in any sanctioned event.

Amateur Definition.—The definition of an amateur is amended by adding an additional restriction so that "no one who is actively engaged in the automobile or accessory industry" may compete as an amateur.

Amateur Drivers' Register.—For the protection of the amateur driver and to afford bona fide amateur competition, an Amateur Drivers' Register has been established, requiring annual registration with the issuance of a registration card by the Contest Board.

An unregistered amateur may not compete in any sanctioned event.

Amateur Entries.—An amateur shall neither enter for nor drive in any contest a car which is the property of any person or corporation actively engaged in the automobile industry.

Powers of Referee.—For the safety of all concerned, the Referee's powers have been broadened as follows:

He shall prohibit any driver or mechanic from entering or continuing in any contest who, in his opinion, is physically unfit.

He shall have the right to stop a race before its scheduled termination if emergency demand such action, and in such a case no award shall be made.

He may order the postponement of an event for any reason which, in his judgment, after consultation with the promoter and representative of the Contest Board, may be valid.

At his request, a driver or mechanic must furnish a physician's certificate as to his physical and optical fitness to enter a race or may be required to submit to a test to determine such fitness.

The following provision has also been added to the duties of the Referee:

"The Referee may disqualify any driver, mechanic, entrant or entrant's representative who shows discourtesy toward any official."

Delivery of Prizes.—In the event of a protest, or an appeal to the Contest Board from the decision of the Referee, no prizes shall be delivered until an official decision is rendered.

Promoter's Liability.—Promoters are required to use every precaution in the proper preparation of the track or course and the proper safeguarding of same during practice or the running of a contest, and shall be held responsible for any accidents resulting from their negligence in these matters.

Unadulterated Fuel Supply.—Stringent regulations are provided for the testing of contestant's gasoline and to insure the use of a standard and unadulterated fuel supply. Disqualification of the owner, entrant, driver and car, or any or all of them, is the penalty for violation.

#### SPECIAL RULES FOR ROAD RACING.

The protection of the public and of the contestants being the paramount consideration in the running of a road race, the following rules have been adopted:

Permits to Use Road.—Before official sanction will be granted for a road race, hill climb or speed trial, or any other competition on the public highway, a promoter shall first obtain the properly authorized permission of any and all local authorities for the use of such highway and shall file the original or a certified copy of such permission with the Contest Board.

Safeguarding Public and Contestants.—A promoter must also furnish evidence satisfactory to the Contest Board that he has taken every possible precaution to safeguard the general public and the contestants, including the proper preparation of the roadway, and especially for the prevention of dust, the policing of the course, closing of highways and erecting of fences where needed, and shall file with the Contest Board the original or a certified copy of and all contracts and agreements made or entered into by him for the accomplishment of such safeguards.

Repairs and Adjustments.—All mechanical repairs and adjustments must be made exclusively by the crew of a car.

Repair Pits and Attendants.—There shall be located at the start and finish line one repair pit for each car started, not less than 15 feet long and 8 feet wide. Each contestant shall be entitled to have three attendants, two of whom shall be permitted to make replacement of gasoline, oil and water and replacement or replenishment of tires, or crank the motor, when contestant's car is at a standstill at its pit, but said attendants shall in no case make any mechanical repairs or adjustments to the car or assist in any manner in such repairs and adjustments.

Spare parts, tools, etc., may be laid on the shelf or ledge in front of the pit, and pit attendants, while in the pit, but not otherwise, may hand same to the driver or mechanic.

A violation of this rule shall disqualify the car.

Fraud.—Any attempt at fraud in the evasion of the definition of "Stock Car" and "Stock Chassis" and status of the car, on the part of an entrant, shall disqualify the car, the driver and the entrant.

In addition to the foregoing, there is provided a complete set of rules for the running of a road race, including weighing in and weighing out requirements; signal code for contestants; International Road Symbols for marking the course; road regulations; special duties of officials, etc.

#### SPECIAL RULES FOR TRACK RACES.

Tracks are divided into three classes, viz:

One-half Mile.

One Mile.

Two Miles or over (specially constructed speedways).

Tracks Must be Licensed.—Tracks will be inspected by a representative of the Contest Board and if arrangement of fences, buildings, ditches, provisions for laying the dust and other safeguards meet the requirements of the Contest Board, they will be licensed, such licenses expiring on December 31st of each year.

Licenses will not be issued to tracks which from the nature of their surfaces or turn, whether on account of dust, roughness, fencing or otherwise, may be considered dangerous.

Track Meeting Limited to Three Days.—No sanction will be granted for a track contest of more than three days' duration.

One-Half Mile Track.—No record will be allowed which is made on a track less than one mile in length.

Driving Reverse Way of Track.—Any contestant who drives the reverse way of a track shall be immediately disqualified, suspended and reported to the Contest Board. The Referee has no alternative in this regard.

#### SPECIAL RULES FOR LONG DISTANCE TRACK RACES AND 24-HOUR TRACK RACES.

Change of Drivers.—No driver shall be permitted to drive or have charge of a car for more than three consecutive hours. After the expiration of such three-hour period he shall not be again permitted to drive until he has taken at least one hour's rest.

No 24-hour race shall be permitted on a one-half mile track.

Repairs and Replacements.—Repairs and replacements are restricted to the part or parts actually damaged. No complete assembled unit, such as rear construction, transmission gear case, motor, clutch, etc., can be totally replaced unless damaged in all of its parts. When one or more parts of an assembled unit are damaged, such damaged parts only may be replaced.

Other rules added are:

Adequate code of signals to contestants.

Restriction of repairs and adjustments to a car on the track to those which can be made by the driver and mechanic and only such as will enable the car to run to the pit or paddock.

In case of total disability on the track, a car may be towed to the pit or paddock by a car approved by the Referee.

Technical inspection during a race of any car which may be considered unsafe.

Stopping and restarting of race not to be announced in advance.

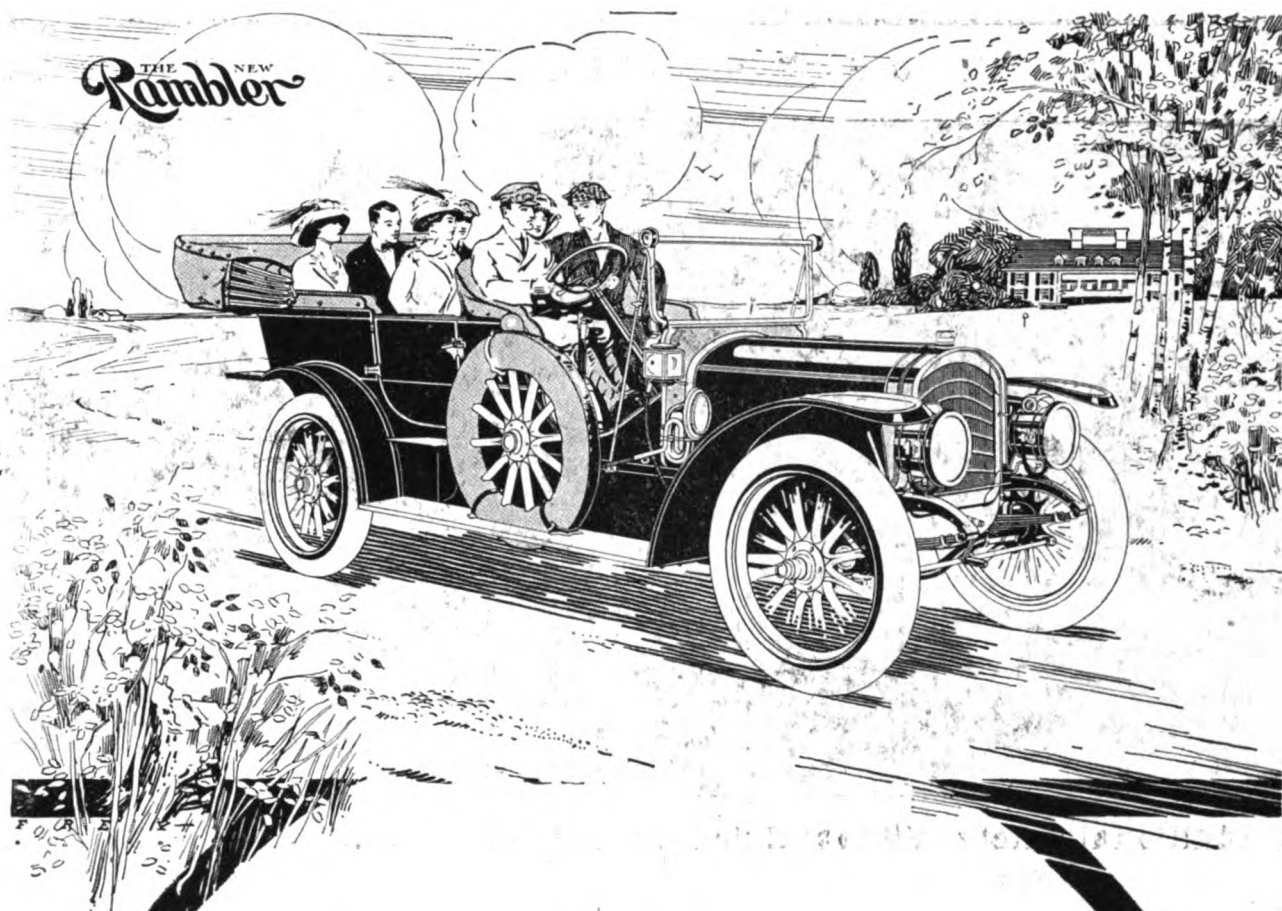
No work to be allowed on a car during any intermission.

#### SPECIAL RULES FOR HILL CLIMB.

Provisions previously cited relative to permits to use the public roads and evidence of safeguarding public and contestants must be complied with before sanction will be issued.

Length and Grade.—The promoter must file with the Contest Board ten days before the running of any hill climbing contest a surveyor's certificate of the length of the hill to be climbed, and a profile showing the greatest percentage of grade at any point and the average grade for the total distance. These figures must also be stated in the entry blank.



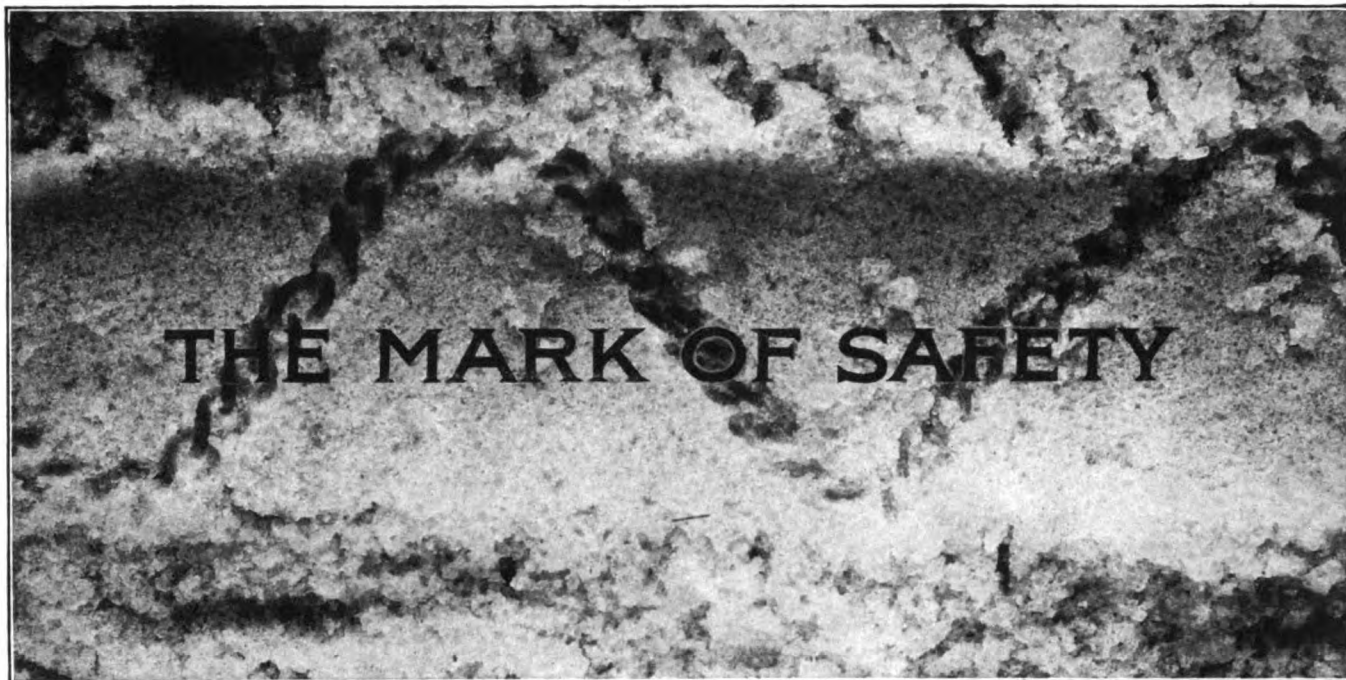


**T**HE new Rambler, because of its quiet ease of motion, reserve power, and dignity of comfort, affords to the busy man pleasing relaxation and healthful recreation with family or friends at the end of the day. For satisfactory operation in crowded city traffic, on boulevard, or country road the new Rambler, because of the offset crank-shaft, is capable of three or sixty miles an hour, on high speed, climbing any hill with gratifying ease. The Spare Wheel obviates tire trouble. With straight-line drive, big wheels and tires, and new expanding clutch the new Rambler is superior to all in efficiency and better than any in quality, silence, and comfort.

Rambler automobiles, \$1,800 to \$2,500

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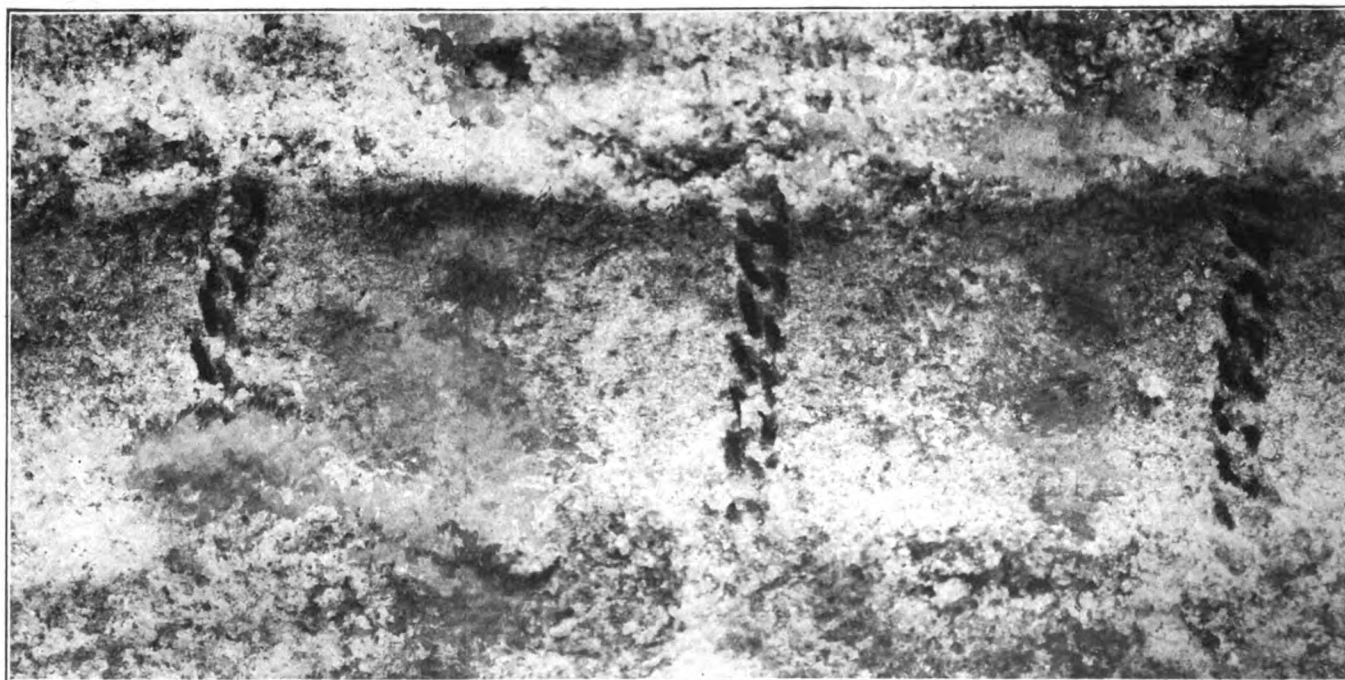
Most live dealers handle Zig-Zag Tire Chains. If yours does not, write us.

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28x3 .....	\$6.50	30x4 .....	\$8.50	32x3½ .....	\$8.50	34x3½ .....	\$9.50	36x3½ .....	\$10.00
28x3½ .....	6.50	30x4½ .....	8.50	32x4 .....	9.00	34x4 .....	9.75	36x4 .....	10.00
30x3 .....	7.00	31x4 .....	8.75	32x4½ .....	9.00	34x4½ .....	10.00	36x4½ .....	10.50
30x3½ .....	7.00	32x3 .....	8.00	33x4 .....	9.50	34x5 .....	10.50	36x5 .....	11.00

In ordering tire chains for use on Bailey treads or Dunlop 3, 4 and 5 inch tires, or heavy flat tread tires, specify the next size larger than the size of the tire. Example: If you use regular 34x4 plain tires, order 34x4½ for Bailey or Dunlop.

**MOTOR APPLIANCES COMPANY, 1438 Michigan Ave., Chicago, Ill.**



## THE TRAIL OF THE COMMON KIND

## AIR SPRINGS TO EASE ROAD SHOCKS

British Inventor of Pneumatic Suspension  
Discusses Principles—Packing "Mitten"  
Solves One Difficulty.

Considerable attention was attracted to a system of pneumatic suspension which was applied to an automobile exhibited at the Olympic show in London in November last. A system somewhat similar in principle was exhibited at about the same time as worked out for bicycle and motorcycle use. The latter, it appears, also has been applied to automobile service and is now being perfected for that purpose. Its inventor, Archibald Sharp, the well known scientist, has prepared an exhaustive thesis on the subject of pneumatic suspensions in general, which was presented before a recent meeting of the Incorporated Institution of Automobile Engineers. In it not only the theory of automobile suspension is considered in the most general way but the principles of the Sharp system are expounded in such a manner as to emphasize the advantages of its simplicity.

"If a springless vehicle moves over an uneven road," says Mr. Sharp, "the whole of the mass of the vehicle is subjected to a series of irregular accelerations in a vertical direction. The force required to produce the vertical acceleration is proportioned to the mass partaking of the vertical acceleration and to the vertical acceleration at the instant. The object of introducing springs in a road vehicle is to reduce the mass of that proportion of the vehicle which partakes of the vertical acceleration due to the irregularities in the road surface. The pneumatic tire, in running over a small obstacle on an otherwise smooth road, is ideal in this respect, since the mass partaking of the vertical acceleration is merely that of the small portion of the tire in the neighborhood of the obstacle. In a less degree, this applies to the solid rubber tire. But the pneumatic tire is of little value as a spring when the road surface is fairly smooth, but wavy or lumpy.

"Generally speaking, . . . the less the mass of the wheel, axle and parts partaking of the vertical movement of the axle, the more advantageously applied is the springing. This at once suggests the much debated question of live axle versus chain drive; but we engineers learn by everyday experience that in designing such a complex article as a motor car the engineer who places undue importance on any one element is not likely to produce the most desirable result. It is far from my mind to express the opinion that the live axle is inferior to the chain drive, on account of the non-spring-supported mass, well knowing that the springing of the vehicle is only one of the many factors to be considered by the designer."

The vertical acceleration of the unsprung vehicle is a question of pure kinematics, he explains and readily calculable if the precise conditions of vehicle speed and road surface are known. Ordinarily, it is needless to add, they are not known save in a rough and hazy way. Nevertheless, his calculations from assumed data are most instructive.

"Let us assume that a rigid wheel 30

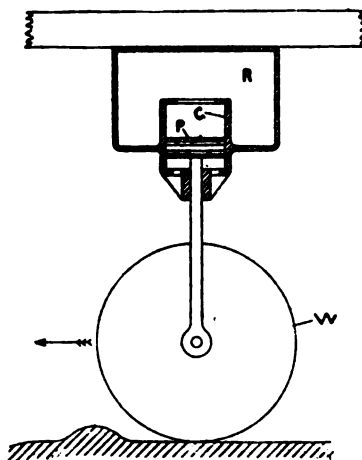


Fig. 1

inches in diameter is running on a level road," he says, "and suddenly encounters an obstacle 1 inch high. Let the speed of the vehicle be  $22\frac{1}{2}$  miles per hour—that

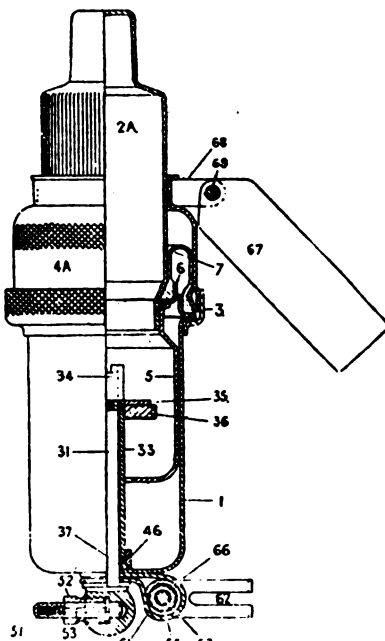


Fig. 2

is, 33 feet per second. . . . As it first touches the obstacle, the point of contact of the wheel with the horizontal surface of the ground is then  $5\frac{1}{2}$  inches, or, say, half a foot, behind the obstacle. The center of the wheel moves forward the distance of half a foot in  $1\text{-}66\text{th}$  part of a second, and in the same time the wheel is lifted vertically 1 inch."

It is assumed that the acceleration is con-

stant during this time, the acceleration can be calculated by means of well known formulas in elementary mechanics, and is worked out by the author at 726 feet per second—that is, 22 times the acceleration due to gravity alone. The force required to produce this acceleration—that is, the additional upward reaction on the wheel, over and above its own dead weight—is 22 times its weight.

"The center of the wheel being vertically over the obstacle," he continues, "it is still moving vertically upwards with a velocity. The average vertical velocity during the upward acceleration is .66 inches per second, and the final velocity at the end of the acceleration—that is, when the center of the wheel is vertically over the obstacle—is twice this amount—that is, 1.32 inches per second. The wheel will continue rising, and it will rise in the air a further distance of 2 feet, and will remain in the air nearly two-thirds of a second before reaching the horizontal road surface.

"If the linear speed of the vehicle be doubled, the vertical acceleration is four times as great; if the linear speed of the vehicle be trebled, giving a race track speed of  $67\frac{1}{2}$  miles per hour, the vertical acceleration is nine times as great—that is, 198 times that due to gravity—while the wheel will remain in the air nearly 2 seconds.

"The possibility of the wheel remaining in the air for even a fraction of a second without driving contact with the road, is of great importance as bearing on the durability of the tires. With the engine running at 1,200 revolutions per minute, if a driving wheel leaves contact with the ground for even a quarter of a second, in this period the engine makes 5 revolutions, and the energy of the explosions is expended in accelerating the driving mechanism, including the driving wheel. Therefore, when the tire reaches the ground its linear speed is faster than that due to the speed of the car, and it scrapes on the ground, wearing the tire, and possibly damaging the road surface.

"In a motor car the road wheel is pressed downwards by the spring, and is not in air so long as in the simple case above discussed. In a car in which the back axle load is 1,200 pounds, and the weight of the back wheels, axle and all masses moving with the axle is, say, 200 pounds, the downward acceleration of the wheel, which begins at the instant the center of the wheel is vertically over the obstacle, is six times that due to gravity—that is, equal to 192 feet per second.

"If the car is traveling at  $22\frac{1}{2}$  miles per hour, and the wheel encounters an obstacle . . . the wheel will remain in the air about  $1\text{-}15\text{th}$  part of a second. If with the same conditions the speed of the car is doubled, the time the wheel hangs in the air is approximately doubled. If the weight of the non-spring-supported mass be smaller relative to the total wheel load, the time the wheel hangs in the air is reduced. . . .

"Fig. 1 is intended to illustrate in purely diagrammatic form the principles involved in the application of an air spring to a road vehicle. The axle of the road wheel W is attached by a rod or the equivalent to a piston P, which is free to move up and down in the cylinder C. The upper end of the cylinder C is in communication with a reservoir fixed to the chassis, into which air can be pumped. The under side of the piston is exposed to atmospheric pressure. The vertical travel of the piston in the cylinder is, of course, limited. If a load be placed on the chassis while the pressure of the air in the reservoir is that of the atmosphere, the chassis is in its lowest position relative to the road surface, the piston presses on the upper end of the cylinder, and the load is transmitted through the solid connections. The vehicle is then practically springless. But if air be pumped into the reservoir until the air pressure on the piston is just equal to the load on the chassis, there will be no pressure between the piston and the top end of the cylinder. On pumping more air into the reservoir the chassis will rise and will be air-supported.

"For example, if the total wheel-load is 1,000 pounds, and the area of the piston 10 square inches, a pressure of 100 pounds per square inch will be required for the air in the reservoir. If this pressure is exceeded the piston will be blown into contact with the lower end of the cylinder, when the pressure in the reservoir is less the piston will be in contact with the top end of the cylinder. With the piston floating about midway in the cylinder, if the road wheel has to mount an obstacle, the piston is forced upwards in the cylinder, the total volume of air under pressure is slightly reduced, and the pressure per square inch is slightly increased. By making the volume of air enclosed in the reservoir large compared with the volume swept through by the piston in rising a given distance, the excess force producing vertical acceleration of the chassis can be reduced to a minimum.

"Thus, if the stroke of the piston in the cylinder be 4 inches, and the air is pumped so that normally the piston is in the middle of its stroke in the cylinder, the road wheel will be able to surmount an obstacle of slightly less than 2 inches in height, or will be able to drop into a hole in the road slightly less than 2 inches in height, without appreciably affecting the supporting force on the chassis.

"In practice I find it best to have the air pressure in the reservoir slightly in excess of that above described, so that normally the piston is pressing slightly against the bottom of the air cylinder. Under these conditions the full stroke of the air spring is available for the road wheel mounting obstacles, and there is no relative movement of piston and cylinder when the road surface is absolutely smooth. But when the road wheel dips into a hollow, the whole vehicle drops, and when the road wheel is rising out of the hollow, the piston rises in

the air cylinder, and the chassis is then gently lifted by the excess air pressure.

"Any combination of a cylinder, piston and piston-rod may be used for an air spring; the ordinary tire pump is a good

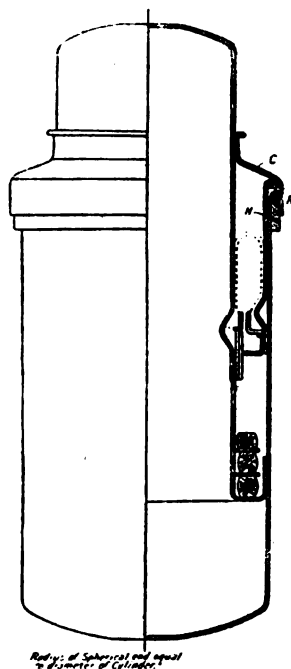


Fig. 3

example of such an air spring. But with the usual types of pistons and plungers that are met with in engines and pumps, no matter how perfect the piston-pump or packing

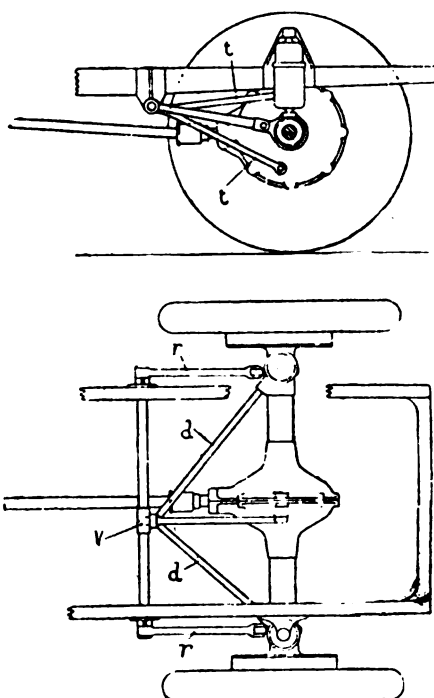


Fig. 4

may be, there is a slight leakage. The obvious solution is to have an air-ump driven by the engine which continually pumps air to replenish that lost by the leakage from the compressed air reservoir. The replenishment may be controlled by a valve

under the control of the driver, or automatically. . . . In the system of air-springs which I have invented, I employ a rolling packing 'mitten' which permits of the piston or plunger being an easy, practical fit in the cylinder, and at the same time provides an absolutely air-tight joint."

The accompanying illustration, Fig. 2, shows the principle as applied in the cycle type of air-spring invented by Mr. Sharp, the construction of which is apparent even without reference to the guide numerals. Its parts are made of stampings from sheet steel. The principal members are upper and lower sections, which are made in two parts, suitably screwed together to form air-tight joints for the attachment of the mitten. The lower part of the air-cylinder 1 is closed at the lower end, while its upper end is provided with a flange for the reception and fastening of the larger end of the mitten. The lower part 5 of the plunger is an easy riding fit in the lower part of the cylinder. The upper part 2A of the plunger is closed at the upper end, which is reduced in diameter to form an external pin to which the saddle pin can be clamped. The smaller end of the mitten is pressed between a conical surface on the upper part of the plunger and a retaining ring 6 when the two parts of the plunger are screwed together. Similarly the larger end of the mitten is pressed between an inside conical surface on the cap 4A and the end of the air cylinder, when the screw ring 3 is turned up tight on the cap. The plunger is guided mechanically by the neck of the cap 4A and by the air cylinder.

When air is forced into the saddle pillar through the cap, and valve 51, in the base—to which an ordinary tire pump may be attached—the plunger is forced upwards until the inturned flange on the lower part 5 comes into contact with the rubber washer 36. The device is assembled in an ordinary bicycle frame by means of the clamps 68 and 66. A device which is applied in the suspension of the front fork is similar in general construction. Regarding the construction of the all essential "mitten," the author continues:

"The rolling packing mitten is built up of two layers of parallel threads arranged close together side by side, the layers crossing each other at a small angle, 10 to 15 degrees, with the axis of the mitten; thus a thread of one layer crosses the threads of the other layer at an angle of 20 to 30 degrees. A layer of india rubber is vulcanized to the fabric in the inside surface of the mitten, and this layer of rubber is relied upon for making the mitten impervious to air. Another layer of rubber is vulcanized on the outside of the mitten with the object of preserving the fabric as it rolls from the plunger to the cylinder, or vice versa."

For experimental purposes four of these devices were employed in the suspension of a light runabout. While their operation is said to have been satisfactory, the result showed that the wear of the mittens was excessive



and that a large and modified construction must be necessary for work of this class. Accordingly the modified design shown in Fig. 3 was adopted. Mr. Sharp explains that it differs from the cycle type of air spring, "in that the central retaining bolt is dispensed with, and the large end of the mitten is held in a tubular holder H, the end of which is adapted to squeeze a rubber ring R against the end of the cylinder, making an air-tight joint therewith, when the screw-cap C is screwed up.

"The end of the mitten holder forms a stop, limiting the outward stroke of the plunger. With this design, upon unscrewing the cap C the plunger, mitten and mitten-holder can be withdrawn from the cylinder and the mitten is then easily accessible. Joint pieces are fastened to the ends of the cylinder and plunger, respectively, to connect the air spring to the chassis, road wheel axle, or axle casing, respectively, the valve being inserted in one of the joint pieces. The diameter of the air cylinder is

3½ inches; the diameter of the plunger, 2½ inches; the stroke, 3 inches; supporting area for calculation, 7 square inches; the volume of air enclosed when the plunger is fully extended is 87 cubic inches; the volume of air displaced by a full stroke of plunger, 21 inches. The parts are 0.5 inches thick, and the air spring can resist a proof test to an air pressure of 500 pounds per square inch.

"The air spring being adapted to resist merely an axial load, when used in a motor car lateral constraint must be provided between the wheel axle of the chassis, in addition to the longitudinal constraint. This involves a redesign of certain parts of the chassis. Fig. 4 shows one suitable sketch design of a live axle. It is to be remembered that air springs cannot resist the torque, so that torque rods are absolutely necessary. The live axle casing, torque rods and the two diagonal rods form a rigid pyramidal structure having its vertex at V. The vertex V is secured to the chassis by

a universal joint. The two side radius rods ensure that the live axle will always remain approximately at right angles to the longitudinal axis of the car. The diagonals in combination with the radius rods ensure that the road wheels cannot move laterally relative to the chassis, while the two road wheels are free to move vertically, either separately or simultaneously, under the control of the air spring. The design of the front axle can be provided with equal facility."

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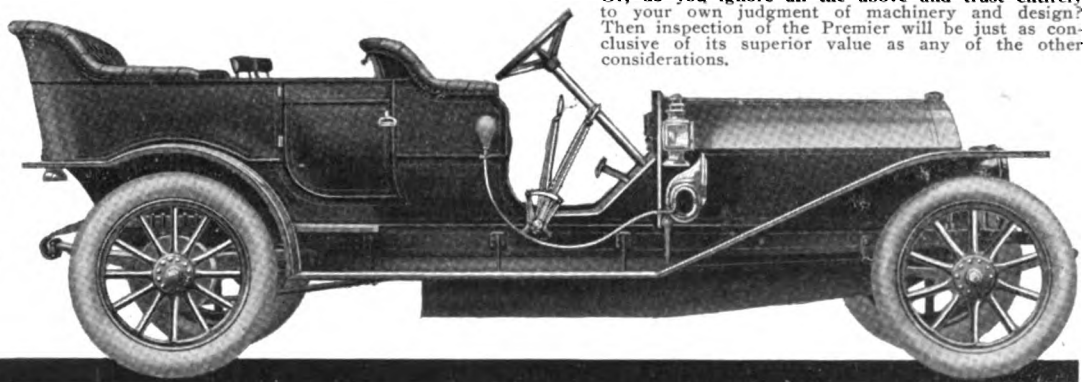
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## RECENT PATENTS.

940,069. Wheel Drive for Automobiles. Thomas G. Rowe, Los Angeles, Cal. Filed Aug. 1, 1907. Serial No. 386,671.

1. The combustion of the two-part, pivotal jointed axle incasing a universal jointed two-part driver having a clutch member to engage a notched boxing surrounding part of said driver, with a spoke-shell surrounding said boxing, means for tightening said shell to cause it to rotate with said driver and boxing, and a dust-cap fitting the end of the spoke shell and clamped thereon by the tightening of the shell.

940,104. Ambulance. John P. L. Wilson, Cleveland, Ohio, assignor to The White Company, Cleveland, Ohio, a Corporation of Ohio. Filed July 29, 1907. Serial No. 386,111.

1. In an ambulance, the combination of a seat hinged to the side thereof, and a toggle whose links are respectively pivoted to the under side of the seat and to the side of the ambulance under said seat, said toggle links being of such length that when the seat is in a horizontal position the toggle link hinged to the side will be stopped by engagement with said side.

940,145. Motor Vehicle. Budd D. Gray, Providence, R. I., assignor to American Locomotive Company, New York, N. Y., a Corporation of New York. Filed May 6, 1907. Serial No. 372,091.

1. In a motor vehicle, the combination of a fixed axle, a steering pin secured there-in adjacent to one of its ends and having journals projecting above and below the axle, a steering knuckle mounted on and vibratable about the steering pin and having a peripheral bearing surface and a central journal, a supporting wheel eccentric to the axle and having a hub inclosing the steering pin and steering knuckle and mounted rotatably on the peripheral bearing surface and central journal of the steering knuckle, a gear journaled in the steering knuckle, a gear fixed to the wheel and engaging the gear of the steering knuckle, means eccentric to the wheel for rotating the gear of the steering knuckle, and means for moving the steering knuckle about the axis of the steering pin.

940,243. Means for Attaching Demountable Rims. Harry H. Ford, Bridgeport, Conn., assignor of one-half to Harry H. De Loss, Bridgeport, Conn. Filed Aug. 17, 1908. Serial No. 448,823.

The combination with a wheel rim and a tire rim of appreciably greater diameter than the wheel rim, of a plurality of bolts lying between said rims, and clamps on said bolts which engage said rims respectively and secure them rigidly, to each other, the clamps having inwardly extending lips engaging under the wheel rim and having portions engaging both inner and outer portions of the tire rim to hold the tire rim spaced from the wheel rim.

940,448. Spark Plug for Internal Combustion Engines. Maurice Eyquem, Paris, France. Filed April 28, 1908. Serial No. 429,616.

1. A spark plug for the ignition of internal combustion engines, comprising a tubular electrode, a cock mounted on the latter and opening to the exterior, a short circuiting rod arranged on the plug of the cock and keyed so as to come in contact with the metal body of the spark plug when the cock is open, substantially as described.

940,528. Tire. William D. Harris, Philadelphia, Pa., assignor to Harris Tire & Rubber Co., Philadelphia, Pa., a Corporation of Maine. Filed Oct. 2, 1907. Serial No. 395,510.

A hollow tire having a rubber body portion provided with an annular recess in its wearing face, a piece of canvas extending longitudinally around the tire in the recess and having its edges turned up along the sides thereof so as to line said recess, with a body of fabric strips set in the recess upon said lining of canvas between said turned up edges, and said strips extending circumferentially of the tire and being arranged to lie in planes substantially perpendicular to the tread surface thereof.

940,543. Spare Tire Case. Joseph J. Murray, Newton, Mass. Filed Feb. 26, 1908. Serial No. 417,813.

1. A device such as described, comprising a cylindrical box, a support for said box fastened to the rear face thereof and to the running board of the vehicle adapted to maintain it in upright position, and means for maintaining a vehicle tire in position concentric to the periphery of said box.

940,602. Vehicle Wheel Rim. Oswald Kirsch, Akron, Ohio. Filed April 5, 1909. Serial No. 487,932.

1. A vehicle wheel having a rim with an inclined outer face provided with a plurality of spaced recesses, a detachable rim provided with a plurality of spaced inwardly projecting pins, arranged when said detachable rim is positioned, to be received in said recesses, said detachable rim arranged to carry an elastic tire, a pair of oppositely-disposed brackets mounted on the side of said wheel, each of said brackets provided with a radially projecting pin, a pair of semi-circular members conforming in contour to said detachable rim the ends of which are mounted on said radially projecting pins, each of said semi-circular members provided with a rotatable nut having a threaded aperture and a plurality of studs having threaded projecting ends carried by said wheel arranged to engage in the threaded openings in said nuts for clamping said semi-circular members against the inwardly projecting pins of said detachable rim for removably locking them in said recesses whereby said detachable rim is temporarily secured in position.

942,290. Fender. Augustus W. Shank,

Detroit, Mich., assignor, by direct and mesne assignments, of one-half to George Rottman, one-eighth to George W. Lynn, and one-eighth to William W. Thackabury, Detroit, Mich. Filed Feb. 3, 1909. Serial No. 477,811.

1. A fender for an automobile comprising in combination with the steering bearing wheels and members of the running gear which swing with the said wheels, supporting brackets secured to said members, and a shield in front of said wheels pivotally supported on the brackets.

942,488. Controller for Electric Automobiles. Henry P. Dodge, Toledo, Ohio. Filed June 5, 1909. Serial No. 500,322.

1. In a device of the described character, a fixed member, a member mounted movably relatively to the fixed member, two parallel series of electrical contacts carried by one of said members, a contact piece carried by the other member, and means for moving said contact piece into alignment with either of said series and into electrical engagement with either of said contacts combined with means for holding said contact piece normally in open circuit position.

942,493. Fluid Cooling Means for Gasoline or Other Engines. Milton A. Fesler, Visalia, Cal. Filed March 23, 1906, Serial No. 307,596. Renewed March 9, 1909. Serial No. 482,402.

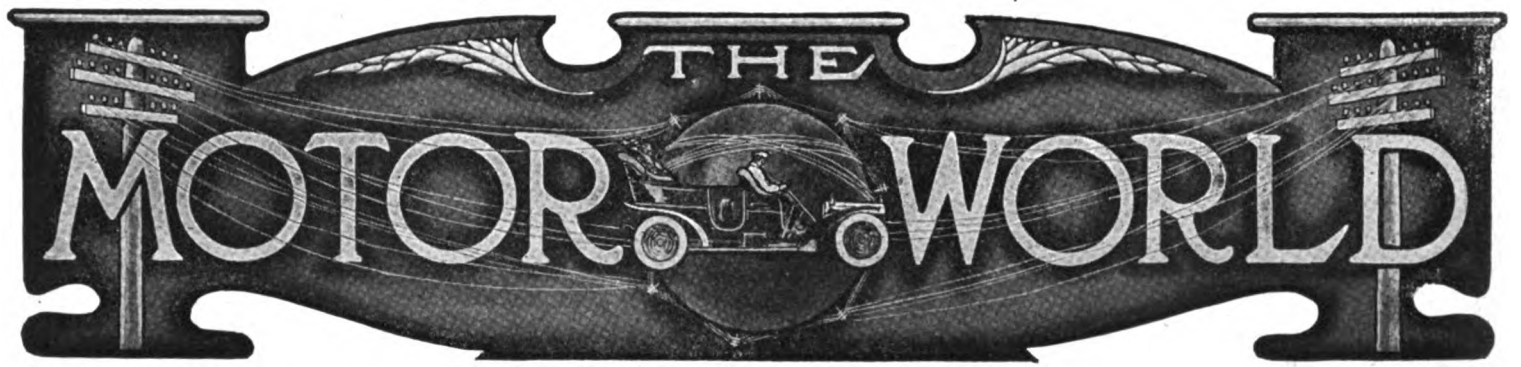
1. In combination with an engine of the class in which a fluid is cooled for re-use, a hollow fly wheel driven by the engine, having hollow spokes connected with the rim of the fly wheel said spokes being elongated in cross section and the general direction of said cross section being oblique to the axis of the fly wheel, and means for conducting the fluid to and from said spokes, substantially as described.

942,497. Speedometer. William R. Harris, Irvington-on-the-Hudson, N. Y. Filed July 28, 1908. Serial No. 445,807.

1. The combination with the indicator hand of a speedometer and the scale over which said hand moves, of an adjustable and settable contact member co-operatively associated with the indicator hand and with which the pivotal end of the latter makes continuous contact during a part of its registering movement, a pointer movable with said contact member, and means for adjusting and setting the said contact member and pointer.



# MORGAN & WRIGHT TIRES ARE GOOD TIRES



## BRISCOE HEADS THE UNITED STATES

**Chosen President of the New \$16,000,000 Merger—The Other Officers and Some of the Plans.**

The United States Motor Co., the \$16,000,000 merger which, having already taken in the Maxwell-Briscoe Motor Co. and the Columbia Motor Car Co., is scheduled shortly to absorb a substantial list of makers of tires, bodies, engines, parts and accessories, with perhaps several more car makers for good measure, held a meeting on Tuesday, 1st inst., when permanent organization was effected, with Benjamin Briscoe, the head of the Maxwell-Briscoe company, as president. The other officers chosen include John B. Maxwell, first vice-president; Henry W. Nuckols, vice-president; Carl Tucker, treasurer; J. W. Wellington, assistant treasurer; F. D. Dorman, secretary; W. F. Crosby, assistant secretary. As in the case of President Briscoe, the offices held by Maxwell, Wellington and Dorman in the new organization correspond to those they hold in the Maxwell-Briscoe Motor Co., while Nuckols is vice-president and general manager of the Columbia company.

As yet the board of directors is in something of a fluid state, among those whom report has mentioned in connection with its membership, in addition to Briscoe, Maxwell, Tucker and Crosby, being Kenneth B. Schley, Herbert Lloyd, Richard Irvin, Henry E. Tobey and James C. Brady, the latter a son of Anthony N. Brady, who with Lloyd, president of the Columbia company, is allied with what are known as the Electric Storage Battery interests.

This month the big company becomes the general sales agent for all the lines manufactured by its constituent companies. According to President Briscoe, however, this does not mean that all the lines which eventually will be manufactured by the constituent concerns are to be marketed by the same dealers. It does presage, however,

that not only with the sales be handled, but the purchases of material for all of the constituent concerns will be made by the United States company, which is to be more than a mere stock holding corporation.

Temporary offices in New York City will be taken within the coming week. These will be occupied until summer, by which time the United States Motor Co. will have completed a building of its own.

### Kelly Forming a New Tire Company.

With Charles F. U. Kelly, who for a number of years has been prominent in the tire trade, as the moving spirit, a new tire company is being formed in Toledo, O., to be known as the Kelly-Toledo Tire & Rubber Co., with a capitalization of \$375,000, of which it is planned that \$200,000 be paid in immediately the enterprise is launched. Toledo is looked to as the source for \$100,000 of this latter amount, while Kelly and his associates undertake to supply the other half. The company intends to make rubber tires for pleasure cars, motor trucks, motorcycles and bicycles. Tentative arrangements have been made by which the Willys-Overland automobile plant in Toledo will take a large part of the product.

### Three Added to Licensed List.

Seventy-five makes of automobiles are now numbered in the list of licensees under the Selden patent, three concerns having been added by the Association of Licensed Automobile Manufacturers last week. The trio includes the W. H. McIntyre Co., of Auburn, Ind., making the McIntyre car; the Simplex Motor Car Co., of Mishawaka, Ind., making the Amplex car, formerly known as the American Simplex car; and Flandrau & Co., of New York, importing the Braiser.

### Goodyear Starts Canadian Plant.

Following the lead of several American automobile manufacturing companies, the Goodyear Tire & Rubber Co., of Akron, O., has established a Canadian plant. It is located at Bowmanville, Ont., not far from Toronto.

## TWO WEEKS' SHOW AT CHICAGO, TOO

**N. A. A. M. Finds It Necessary—No Sanctions for More "National" Exhibitions—President Appoints Committees.**

Chicago, like New York, is to have a two weeks show for 1911, and the coming fall will see no repetition of a national show at Atlanta. The hopes of Detroit and Indianapolis for national shows this year, either of an outdoor or indoor character, also seem doomed to disappointment. Such were the results of a meeting of the executive committee of the National Association of Automobile Manufacturers, held yesterday (Wednesday) at the Association's headquarters in New York. The general plans for the conduct of the Chicago show were decided upon, after which resolutions were adopted which will result in the denial of the organization's sanction to any shows during the next twelve months except the two big exhibitions to be held in New York and Chicago, respectively.

An advance has been made in the opening date for the Windy City affair, the first section of which will commence Saturday, January 28, four days after the closing of the Madison Square Garden Show in New York, and will continue until and including Saturday, February 4. The floor will be cleared of cars that night and the buildings will reopen on Monday afternoon, February 6, for the second section of the show, continuing until and including Saturday, February 11.

It has not yet been decided how the exhibits will be divided. It is probable that the space allotted to automobile exhibits during the first week will be given exclusively to members of the National Association of Automobile Manufacturers, Inc., but whether pleasure cars and commercial vehicles will be mixed the second week is a matter for future consideration, and is indicated as being dependent to a considerable extent on the amount of interest taken

in the exhibition by commercial vehicle makers.

The extension of the Chicago show period from one week to thirteen days is made with a view to accommodating more makers of pleasure cars, accessories and motorcycles than heretofore, rather than for fostering a commercial vehicle show, as over 40 makers of automobiles and 200 accessory manufacturers were refused space this year because there was no place to put them, despite the fact that the amount of space at the command of the Chicago show management is greater than that at any other show held in the United States. The makers of commercial vehicles were not even considered at the last show. Not only will there be two installments to the next show, but it is not unlikely that some 30,000 square feet more will be available in the Coliseum by an expanding of the basement so that it will run the entire length of the building. Plans to this end now are under consideration by the Coliseum owners.

In relation to the proposed national shows at Atlanta, Detroit, Indianapolis and elsewhere, the executive committee adopted the following resolutions:

"Resolved, That, in the opinion of this Executive Committee, the interests of automobile manufacturers are well and sufficiently served by the national shows held annually at New York and Chicago, and that an addition to the number of shows would be undesirable;

"Resolved further, That the National Association of Automobile Manufacturers, Inc., will sanction, during the twelve months following the date of this resolution, no shows other than the annual national shows at New York and Chicago."

A report of the late Chicago show was rendered to the committee, disclosing that there had been 1,548 dealers in attendance, and that the total attendance, including the public, dealers, exhibitors and their employes, was between 200,000 and 220,000, or about 20 per cent. greater than last year.

Standing committees for 1910, nominated by the president, were approved by the executive committee, as follows: Membership—S. T. Davis, J. W. Gilson, C. C. Hildebrand. Legislative—W. R. Innis, Benjamin Briscoe, C. G. Stoddard. Good Roads—R. D. Chapin, S. D. Waldon, L. H. Kittredge. Show—W. E. Metzger, A. L. Pope, Thomas Henderson. Contest—H. O. Smith, W. T. White, W. E. Metzger. Auditing—Benjamin Briscoe, S. T. Davis, Charles Clifton. Traffic—A. L. Pope, W. R. Innis, C. C. Hildebrand.

At a meeting held during the Chicago show L. H. Kittredge, of the Peerless Motor Car Co., succeeded S. D. Waldon, of the Packard Motor Car Co., as president. The other officers elected at that time were: William E. Metzger, first vice-president; C. C. Hildebrand, second vice-president; Benjamin Briscoe, third vice-president; H. O. Smith, secretary; William R. Innis, treasurer.

## RUBBER BOOM IS RUNNING RIOT

### Speculative Britons Pour Out Money for Development Schemes—"Synthetic"

#### Rubber in Tires.

Mad as was the public's speculation in rubber tire companies' shares in England not many years back, resulting in many of the lucky investors building up big fortunes from "shoestring" beginnings, an even greater wave of speculation appears now to be sweeping over. Great Britain in relation to the shares of companies either supplying or professing their intention to supply crude rubber, and extending to concerns with schemes for chemically producing "synthetic" or artificial rubber. The great demand for rubber which has been created by the requirements of the motor car is in no small degree responsible for the conditions which have set the British investors crazy on the rubber question, and the ready outpouring of English money which is taking place in the financing of rubber development enterprises promises a measure of benefit to the automobile industry in more quickly increasing future rubber production to a point where it will be commensurate with the demand.

In addition to enormous expansion of capitalization for many older and established companies, over fifty new companies have been floated within a short time, representing more than \$35,000,000 in subscriptions. The new companies are capitalized at from \$50,000 to \$2,500,000, with shares ranging from two shillings, or about 50 cents, to £1, or \$5, par, payable in installments as low as 12 cents each on allotment and 25 cents a month afterward, to meet the appetite of small investors of the sort who are inundating the brokers with such orders as to "buy five rubber shares," without even naming a company preference.

The high prices of crude rubber and the representation that the motor car and electrical industries are making heavier demands for rubber all the time are used as arguments, though the investors in the majority of cases give evidence of being actuated by purely speculative hopes of jumps in the prices of the shares rather than by careful consideration of the legitimate business future of the enterprises.

"Synthetic" rubber or rubber substitutes likewise have been given great impetus by the high price of the genuine article, and one or two of the British tire manufacturing concerns are represented as building experimental tires of materials of this kind. The Dunlop company, it is stated, has adopted a new elastic material invented by a German engineer, Herr Pfeumer, of Salzburg, and has arranged to make Pfeumatic tires under royalties, while Harland & Wolff, the famous shipbuilding firm, also are using the material in the manufacture of

motor car tires. Scores of inventors are at work on compounds in which it is attempted to reproduce the chemical and organic conditions found in the natural rubber.

#### Seven Tradesmen in New Places.

W. C. Long, formerly with the National Acme Mfg. Co., has become identified with the Centaur Motor Co., of Detroit. He will cover territory in its interests.

G. W. Stephens, former advertising manager of the G & J Tire Co., is making ready to set up in the tire and accessory business on his own account. He will locate in Chicago.

W. W. Burke, who last week resigned as manager of the New York branch of the Mora company, has gone with the Carl H. Page Co. The latter is the New York representative of the Chalmers.

William Seward, Jr., has left the Michelin Tire Co., of Milltown, N. J., to join the forces of the Federal Rubber Co., of Milwaukee, Wis. He will represent the company on the road, having a territory embracing four states.

W. I. Fickling has become assistant sales manager of the Rainier Motor Truck Co., at Broadway and Sixty-fourth street, New York City. He formerly was president of Fickling & Co., of New York, making tops and bodies, which recently was petitioned into bankruptcy.

E. L. Wratten, formerly traffic manager of the J. I. Case Threshing Machine Co., of Racine, Wis., has resigned to accept a similar position with the Mitchell-Lewis Motor Co. in the same city. He will have entire charge of the routing of the company's incoming and outgoing shipments.

L. M. Bradley, who for the past three years has been advertising manager of the American Motor Car Manufacturers' Association and assistant to former General Manager Alfred Reeves until the latter accepted the general management of the Association of Licensed Automobile Manufacturers, has been appointed director of advertising and publicity of the United States Motor Co., the \$16,000,000 Maxwell-Briscoe merger corporation. He commences his new duties at once.

#### Will Make the Koeb-Thompson.

Having developed a rather unusual model, with "lever suspension," steering gear on the front axle and other radical features, as recently described in the Motor World, a company has been organized in Leipsic, O., to manufacture the Koeb-Thompson car, invented by Emil Koeb and Ralph P. Thompson, of Springfield, O. The concern will be known as the Koeb-Thompson Motor Co., and it has been incorporated under Ohio laws with \$300,000 capital. The officers are Ralph P. Thompson, president; O. P. Edwards, vice-president; W. E. Edwards, secretary and treasurer; Emil Koeb, general manager. The building formerly occupied by the American Foundry Co. will be used.



## LICENSED DEALERS ELECT OFFICERS

**Make Budlong President and Remove a Bone of Contention—Other Local Body Declines to Die.**

After much pulling back in the traces on the part of some of the Metropolitan dealers, the organization of the Licensed Automobile Dealers Association of the City of New York has been completed; but with the old New York Automobile Trade Association still surviving and with an abandonment of any direct attempt by the Licensed dealers as an organization, to control racing or other contests.

No small part of the difficulties which were cast in the path of the new association arose from the fact that a number of members of the New York retail trade feared that it might encroach on or interfere with their racing projects of one kind and another, including the little melon vine which has its roots in 24 hours racing at Brighton Beach. So strenuous were their protests and objections against any interference in racing matters by the Licensed organization that the latter finally yielded and practically agreed to keep its official finger out of the pie.

At a meeting held at the Automobile Club of America on Saturday, 26th ult., the board of directors, recently chosen, unanimously elected M. J. Budlong, head of the Packard branch in New York, as president, with George W. Bennett, of the White Co., as vice-president, and C. P. Skinner, representing the Mitchell, as secretary. Earlier in the week the directors had received the association's charter from Albany, where it had been approved by the state authorities.

"At the meeting," according to the secretary's report of Saturday's proceedings, "it was brought out that part of Section 4 of the by-laws, wherein the Association apparently was attempting to control contests, was foreign to the original intent of the Association, which was formed purely for business purposes. The matter was thoroughly discussed, the result being that the secretary was instructed to call a special meeting of the members of the Association, to be held at the Automobile Club of America, on Thursday, March 3, when the advisability of eliminating that clause in the by-laws will be discussed by the members as a whole."

Continuing, the secretary has somewhat to say concerning the New York Automobile Trade Association, from which the old officers resigned their positions to join the Licensed movement, but which since has been seized upon for a vigorous rejuvenation as an organization which is to rival the Licensed association in importance. The alleged refusal of M. J. Budlong early last week to become the president of the Licensed organization also is dealt with.

"Mr. Budlong deprecated the many reports (practically all of them erroneous), that had been made relative to his not accepting the presidency," it is declared, "and as to the relations of the Licensed Dealers Association and the New York Automobile Trade Association. It has always been realized that there is room in the city for both associations, and it is openly stated by members of the younger association that the older will have their support."

According to announcements made by the New York Automobile Trade Association that organization is planning a material expansion in membership and scope. At a meeting of the board of directors held last week eight new members were elected and a vigorous membership campaign has been started with the 200 or more concerns in New York handling automobiles and supplies or operating garages, who are not affiliated with the organization. The credit department is to be enlarged and steps are being taken to make an effective standardization of garage charges, not only as to the storing of cars, but also as to the regulation of prices on gasoline, oil and other supplies; the promotion of "rightly conducted touring contests," also will be made a part of the association's future work.

### Fever Checks Seiberling's Brazilian Trip.

F. A. Seiberling, president of the Goodyear Tire & Rubber Co., of Akron, O., who with Mrs. Seiberling has been making an extensive trip in the Amazon rubber district of Brazil, has been called back from the upriver Amazon to Para, where Mrs. Seiberling, who was awaiting him there, was stricken with yellow fever. A late dispatch indicates that she is recovering as rapidly as can be expected.

### Kaufman Heads the Credit Association.

The Automobile Trade Credit Association, with headquarters in New York City, through its board of directors, elected new officers for the coming year, at a meeting held on the 24th inst. Carl Kaufman, general manager of the Motor Car Equipment Co., of New York, was made president, with Michael J. Martin, of the George A. Haws company, as treasurer.

### Atwood-Castle to be Reorganized.

The Atwood-Castle Co., of Amesbury, Mass., making automobile lamps, is to be reorganized as the Castle Lamp Co., and will move to Toledo, O., as soon as a site can be found and factory buildings erected. The capital of the concern will be increased to \$300,000 and F. E. Castle is to be president and general manager.

### Miles Sails to Europe Saturday.

Samuel A. Miles, general manager of the National Association of Automobile Manufacturers, sails for England on Saturday of this week. He will return about the first of April. His trip is made necessary by the recent death of his mother.

## RAILROADS MAKE A CONCESSION

**It has to do with Size of Freight Cars—Shortage Relieved and Thousands of New Cars in Sight.**

According to J. S. Marvin, general traffic manager of the National Association of Automobile Manufacturers, on April 1st next there will become effective a change in the rules of railroads which will simplify matters considerably in securing cars at the factories for automobile shipments. Many factories require freight cars no longer than 36 feet for their shipments, but the railroads frequently supply 40-foot cars, the charge for which is considerably more than for 36-foot cars. Rather than wait indefinitely for 36-foot cars, the factories, to effect prompt deliveries, have used 40-foot cars in such cases.

The new ruling provides that when the factories order 36-foot cars and the railroad is unable to furnish cars of that length, but furnishes instead 40-foot cars, the freight charges shall be computed on the 36-foot car basis. Naturally this will only apply when the machines loaded into the 40-foot cars are of such length that they could actually have gone into a 36-foot car, and this is a point that the railroads will watch very closely; any abuse of the new rule through misrepresentation will result in its withdrawal.

Mr. Marvin has just returned from a trip which covered traffic meetings and conferences at Detroit, Chicago, and New Orleans, in relation to the transportation and rating of automobiles. He reports the freight car situation in Michigan, Ohio and Indiana, where there has been a serious shortage, as much improved by the appearance from car shops of hundreds of new cars ordered some time ago by the New York Central Lines, Pennsylvania system, Wabash, C. & N-W., C. M. & St. P., Santa Fe, Union Pacific, and other railroads. These cars are the railroads' standard box cars, except that they have the double doors recommended by the traffic department, making them available for automobile shipments. In one lot alone there are 5,000 such cars coming through the shops for the N. Y. C. Lines.

Much of the difficulty experienced by factories in getting freight cars for their shipments is due to the slow return of these cars when loaded to distant points. When made empty they should be loaded back to the roads owning them, but instead of doing this the freight agents frequently put them into local service. Mr. Marvin urges that dealers in the West and South interest themselves in this and agitate it with the local freight agents of railroads handling their shipments, as it would help the situation and do much towards effecting prompt deliveries of automobiles from the eastern factories.

**The Week's Incorporations.**

Chicago, Ill.—Hart Motor Car Co., changes name to Interstate Motor Car Co.

Providence, R. I.—Providence Auto Garage Co., changes name to Loring Mfg. Co.

Cleveland, O.—Cleveland Automobile Club, an Ohio corporation, with \$10,000 capital.

Cleveland, O.—Cleveland Automobile Co., under Ohio laws, with \$10,000 capital. Corporators—H. L. Vail and others.

Port Huron, Mich.—Lauth Auto & Engine Co., under Michigan laws, with \$40,000 capital; to manufacture automobile engines, etc.

San Antonio, Tex.—San Antonio Automobile Club, a Texas corporation, no capital. Corporators—R. W. Carr, A. W. Hartman and George M. Fairfield.

Los Angeles, Cal.—National Chauffeurs Association, a California corporation; no capital. Corporators—Henry H. Fouch, O. W. Bradford and B. C. Hurlburt.

Chicago, Ill.—Matador Tire & Vulcanizing Co., under Illinois laws, with \$60,000 capital; automobile and garage business. Corporators—L. G. Smith and others.

St. Louis, Mo.—Haynes Automobile Co., of St. Louis, a Missouri corporation, with \$5,000 capital. Corporators—W. H. Kline, F. W. Niedermeyer and R. P. McBane.

New York, N. Y.—Vinot Automobile Co., under New York laws, with \$37,500 capital; to manufacture automobiles, engines, etc. Corporators—H. S. Lake, A. H. Peyser and S. Kjeldsen.

St. Louis, Mo.—R. H. Combs Motor Equipment Co., under Missouri laws, with \$5,000 capital; to deal in automobiles, etc. Corporators—P. H. and R. H. Combs, and W. S. Ferguson.

Detroit, Mich.—T. H. T. Motor Car Co., under Michigan laws, with \$100,000 capital; to manufacture automobiles and accessories. Corporators—J. H. Taylor, C. Taylor and W. P. Barker.

Chicago, Ill.—M. & G. Mfg. Co., under Illinois laws, with \$2,500 capital; to manufacture and deal in automobile sundries. Corporators—A. J. Musselman, D. W. Gould and C. H. Wells.

Indianapolis, Ind.—Commercial Car Co., under Indiana laws with \$100,000 capital; to manufacture automobiles and act as sales agents. Corporators—Iva V. Buckley, H. T. Huff and E. B. Walker.

New York, N. Y.—Atlas Chain Co., under New York laws, with \$350,000 capital; to manufacture anti-skid chains and automobile appliances. Corporators—G. E. Holmes, D. Milliken, K. K. McLaren.

Chicago, Ill.—National Automobile Co., under Illinois laws, with \$5,000 capital; to deal in motor cars and accessories. Corporators—F. A. Hart, A. E. Aldinger, I. M. Pearson, Colson and Johnson.

Chicago, Ill.—Barry-Ivor-Turner Mfg. Co.,

under Illinois laws, with \$15,000 capital; to manufacture automobile supplies. Corporators—Fred Freer, John D. Gazzalo, John McPherson and Charles A. Burler.

Kalamazoo, Mich.—Kalamazoo Motor Car Co., under Michigan laws, with \$15,000 capital; general automobile business. Corporators—A. E. Rose, Frederick Riley, George V. Weimer and W. B. Orrell.

Spokane, Wash.—Patent Holdings & Mfg. Co., a Washington corporation, with \$3,000,000 capital, to take over the Diamond Carriage Co.; to manufacture roller bearings. Corporators—C. O. Bassett, J. C. Mountain and S. S. Bassett.

Leipsic, O.—Koebe-Thompson Motor Co., under Ohio laws, with \$300,000 capital; to manufacture pleasure cars and commercial trucks. Corporators—O. P., H. E. and W. E. Edwards, Leipsic; Emil Koebe and Ralph P. Thompson, Columbus.

New York, N. Y.—H. & H. Motor Car Co., under New York laws, with \$12,000 capital; to manufacture and deal in gasoline and electric automobiles and engines. Corporators—Charles L. Holden, John H. Hershfield and Solomon Wall.

**Burning Grease Causes Disastrous Fire.**

Fire and explosions of gasoline almost completely destroyed the five-story building, at 244-246 West Sixty-fifth street, New York City, on Tuesday last, 1st inst., occupied by the West End Motor Cab Co., the Sterling Mfg. Co., the McWilliams Machinery Co., and the automobile repair shop of R. B. Laffay. Damage to the amount of \$40,000 resulted, the greatest individual loser being the West End Motor Cab Co. with \$25,000. Eight automobiles were destroyed and nine persons dangerously injured while trying to jump from the burning building.

According to Dan O'Hare, manager of the cab company, the fire was caused by ignition of a pot of grease on the third floor. An employe was cleaning axles from old grease when in some way the latter took fire; the workman grabbed the burning pot and started downstairs, but the flames scorched his face and hands so that he was compelled to drop his burden on the stairs leading to the ground floor. A minute later the whole building was in flames, and a number of violent explosions of gasoline in tanks and cars took place.

**Metzger Increases to a Million.**

The Metzger Motor Car Co., of Detroit, Mich., making the Everitt car and which was organized last September with \$500,000, has been re-incorporated under Michigan laws with \$1,000,000 capital. The re-incorporation is for the purpose of absorbing the Hewitt Motor Co., of New York, which the Metzger company not long ago acquired and which brought with it a Selden patent license. The officers, under the reincorporation, are Byron F. Everitt, president; William Kelly, vice-president, and William E. Metzger, secretary.

**To Build a "Row" in Indianapolis.**

Indianapolis, Ind., is to have a real, full-fledged automobile row, according to the plans of the Fisher Automobile Co., and Carl G. Fisher, president of the Indianapolis Motor Speedway. A real estate deal involving two blocks of residence property on Capitol avenue has just been concluded, and plans for the new buildings have been completed, and are now ready for the contractors. The first step in the establishment of the "row" will be the enlargement of the present Fisher building. This building, which has a frontage on Capitol avenue of 82 feet and a depth of 120 feet, will be enlarged until it will have a Capitol avenue frontage of 202 feet and a depth of 135 feet. The new building will be three stories high, similar in construction and design to the present Fisher building, and will occupy all the space between the present building and Vermont street on the south. Across the alley to the north the plans call for two new three-story buildings, each with a Capitol avenue frontage of 68 feet and a depth of 203 feet. They will be equipped with elevators and occupied by two modern garages and salesrooms. Adjoining the Fisher building on the north three modern two-story automobile buildings will be erected, 44x195, 132x145 and 44x195 feet, respectively. When work is commenced on the new structure it will be pushed forward with all possible despatch.

**Geyler Heads Windy City Dealers.**

The Chicago Automobile Trade Association, of Chicago, Ill., held its annual election on Monday, 28th ult., choosing Louis Geyler, agent for the Stevens-Duryea, as president, to succeed Thomas J. Hay. John H. Kelly, of the Republic Tire Co., was made vice-president, while Henry Paulman, of the Pierce-Arrow, was held over as treasurer. Frank Sparks, of the United Manufacturers, is continued as secretary, but as he has asked to be relieved of the secretarial duties as soon as convenient, a successor will be chosen for him at a later date. Thomas J. Hay, James E. Plew and George H. Bird were elected directors.

**Miller Opens New Orleans Branch.**

Charles E. Miller, the New York jobber, importer and accessory manufacturer, has opened a branch in New Orleans, La., at 601-603 Baronne street, corner of Lafayette. The establishment makes Miller's tenth branch house in addition to the home offices, which are located at 97-101 Reade street, New York.

**Receiver for Chicago Taxicab.**

A receiver for the Chicago Taxicab Co., of Chicago, Ill., was appointed on Monday, 28th ult., following internal financial difficulties. The corporation is capitalized at \$500,000 and operates about 100 cabs. It is announced that the company will continue business and that all obligations will be paid.

## IN THE RETAIL WORLD.

The Magnolia Garage, 170 Congress avenue, has been opened in Houston, Tex.

J. G. Schotthoefer is about to engage in the automobile business in New Rockford, N. D.

W. E. Foster, Hindsboro, Ill., has "hung out his shingle" in that place as the White agent.

P. K. Peterson has embarked in the business at Bisbee, N. D. He has the Mitchell agency.

Savage & Son are building a new garage on South Main street, Rockford, Ill.; it will be ready by April 1st.

Glen Edwards has established himself at 1215 South Flower street in Los Angeles. He is selling the Kline kar.

S. L. Rochette, and Joseph Marin have established a garage at the corner of Moody and Pawtucket streets, Lowell, Mass.

L. A. Donaldson has leased show rooms at 521 Broadway, Logansport, Ind., and will handle the Overland cars exclusively.

W. A. Hausmann has opened a garage and repair shop in Church's Ferry, N. D. C. E. Ryall has done likewise in Michigan, N. D.

At Union avenue, near 166th street, New York City, Abram N. Herbst is erecting a new brick garage 25x150 feet; it will cost \$5,000.

Frank Van Syckle, Perth Amboy, N. J., will open a garage on High street, near Fayette street, about March 1. Repair work will be featured.

A. C. Banker, formerly of New York City, has established himself at 118 North Emporia street, Wichita, Kan. He is handling the Regal car.

Newton R. Goltra, Coscob, Conn., is the proprietor of the Hub Garage, which just has been opened for business. He has had several years' experience.

W. H. Allen, northwestern representative for the Mason car, has established headquarters and salesrooms with the Frank Lynch Co., in Fargo, N. D.

Ole Hansen, of Gwinner, and W. C. Olson, of Hoople, are recent additions to the North Dakota trade. The former is handling Ramblers, the latter Fords.

Monnich & Monnich, Fremont, Neb., have purchased property east of the Cahoon building, on which they will erect a garage. They have the Ford agency.

J. L. Barley, of Marion, Ind., has bought the Marion Automobile and Supply Co., and will continue the business at the old location, corner Adams and First streets.

A new three-story garage is to be erected on a plot 45x119 feet on 181st street, near Audubon avenue, New York City. William A. Darling and Max Marx are the lessees.

Frank A. Walz, an implement dealer in Moorehead, Minn., who recently "took on" automobiles, has converted one of his im-

plement warehouses into a garage and salesroom.

The Commercial Automobile Co. is the style of a new St. Louis concern, which has been formed to handle the Frayer-Miller trucks. Its quarters are at 103 N. Twelfth street.

The Detroit Electric Co. has opened a new garage on Michigan avenue, near Twenty-second street; the workshop is to remain open 24 hours every day, Sunday included.

C. E. Runyon's new three-story concrete garage at the corner of Madison and Sixth streets, Portland, Ore., is nearing completion; it will be ready for occupancy next month.

The Co-Auto Motor Co., Indianapolis, Ind., has opened a salesroom and garage at 23-25 Kentucky avenue. It will handle the Stearns, Fuller, Westcott and Jackson.

Charles Lehn, Easton, Pa., a well known machinist of that town, has opened a garage on the Bethlehem road, on the outskirts of the city. The establishment includes a repair shop.

Concrete and brick will be the materials employed in a new garage just started in Penacook, N. H., which is to be 50x80 feet and cost \$2,000; Doctor Hoyt is the owner of the business.

The Owl Auto Livery Co., Kansas City, Mo., of which C. F. Dinklage is manager, has taken new quarters. It now operates from the Hollister Automobile Co. garage, 1708 Grand avenue.

A combined automobile garage and gas engine works has been established in the McKinnon building on Second and Front streets, Orange, Texas, by A. L. Mitchell and C. W. McFarlane.

J. F. Twentyman and C. De Remer have gone into the automobile repair business at 11 Orchard street, Omaha, Neb. Besides general repairing the firm intends to do all classes of electrical work.

The Palace Auto Station, Worcester, Mass., is having plans drawn for a new garage to be erected at 735 Main street. The building will be of brick construction, 147x71, one story and basement.

A. J. Scott, Rugby, N. D., who handles Maxwells and Hupmobiles, has let contracts for the construction of a concrete garage, 30x140 feet. Work will commence as soon as frost leaves the ground.

The Empire Tire Co. has established a new branch at 1516 Grand avenue, Kansas City, Mo., which will be ready for business on March 15. Its temporary quarters are located at 308 East Fifteenth street.

J. E. Garland, of Tarrytown, N. Y., is planning to erect a garage on the Cypher property on South Highland avenue in Ossining. The structure will be 40x50 feet, and will be built of concrete blocks.

The Wheelock Automobile Co., Fargo, N.

D., are building a brick and concrete garage, three stories high, 75x143 feet, which is expected to be completed by May 1st. The concern represents the Knox, Overland and Hupmobile.

The Walden W. Shaw Auto Livery Co., Kansas City, Mo., which has been incorporated under the laws of that State, with \$100,000 capital, will operate a taxicab service. It has placed its order for Croxton-Keeton cabs.

J. O. Cummins, Roswell, N. M., has let the contract for the erection of a garage on the east side of Richardson avenue, between Second and Third streets. The structure will be 50x200, of brick, steel and cement construction, and will cost about \$10,000.

Fire destroyed the garage of Tinan & Reynolds, at 175 Washington street, Paterson, N. J., on February 24th, causing a loss of \$75,000. Ten private cars were completely destroyed. An explosion of gasoline in the tank of one of the cars is given as the cause of the fire.

Plans for a two-story brick garage, 50x200 feet, to cost \$23,000, have been drawn for T. S. and O. W. West, of Portland, Ore. Its location, Holladay avenue, between Union avenue and East Third street, is somewhat of an experiment, as it is the first garage to be built on Portland's East Side.

Work has commenced on a \$10,000 two-story steel construction garage, 55x170 feet, on Alabama street, between Fifteenth and Sixteenth streets, Indianapolis, Ind., which will be occupied by O. G. Thomas. The building will contain several private rooms, a ladies' room, chauffeurs' room, offices, repair shop, etc.

The Collingwood Automobile Co., Toledo, O., is a new firm which has absorbed the Collingwood garage and the Olds-Oakland company. Sales rooms will be established at Jefferson and Tenth streets, and a garage and repair department will be maintained at Collingwood and Delaware avenues. The line will consist of the Oldsmobile, Oakland and Detroit electric.

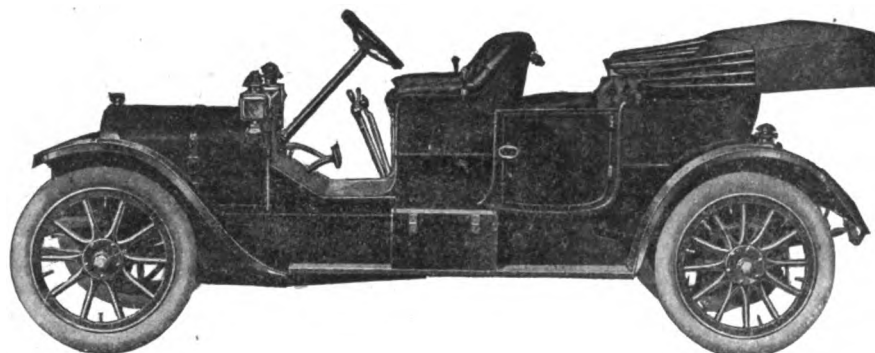
Max Moehrle, a manufacturer of carriages and wagons for more than 28 years, has finally decided that there is a bigger future in the automobile field, at least in Philadelphia, and changed his factory on Huntingdon street, into an up-to-the-minute garage. In addition to all kinds of repair work, Moehrle and his partner, John A. Clymer, will undertake to sell the Imperial cars.

The Freeland Brothers-Ashley Co. are building a four-story, full basement, 44x132 feet garage and sales room at the corner of Farnam and Twelfth streets, Omaha, Neb., to cost \$100,000. The building, which is to be ready for occupancy by July 1st, is constructed of pressed brick. The first floor will be given to garage purposes. The second floor is to be occupied by the Apperson sales agency; the third by the Omaha Aeroplane agency.

## The Satisfaction of being "Up-to-Date"

A Little Talk on owning a

# White Gasoline Car



**T**HERE is a certain real satisfaction which comes through the possession of any article which is, in every respect, thoroughly up-to-date. In fact, almost all "shopping" consists of a search for the goods of latest pattern and embodying the latest ideas. In purchasing a motor car, it is particularly important to secure the latest design because the art has been advancing so rapidly that those cars, the design of which dates back two or three years, do not possess many of the desirable features which the present state of the art makes possible.

The owner of a White gasoline car has the satisfaction of knowing that the design of his car is at least one year in advance of any other American machine and that he will see the features which he **NOW** has in his car adopted by other makers next year and the year after. Among these up-to-date features are the "long-stroke" engine, the casting of the four cylinders en bloc with only about one-fourth of the usual amount of piping, the four-speed transmission, etc.

The owner of a White gasoline car can be even more proud of its **QUALITY** than of its up-to-date design. There is no part of the car which could be made of any better material or could be constructed with more care, even if the selling price of the car were one thousand dollars greater.

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Write for catalog of the White Steam and Gasoline cars.

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## THE WHITE COMPANY

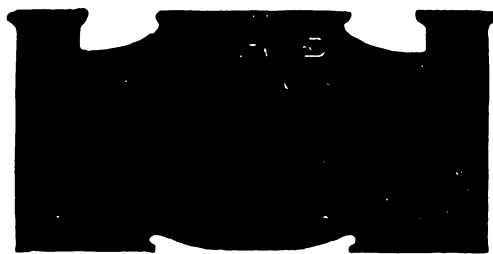
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NEW YORK, MARCH 3, 1910.

"Thank you for reminding me that my subscription to the Motor World was about expired. As I do not wish to expire myself for lack of motor car news of the newsiest kind, I hasten to renew my subscription. I cannot see how anybody considering himself, or herself, to be part of the "motor world" can afford to be without its brilliant namesake. There may be such, but, personally I do not care to miss an issue of your interesting publication.—  
L. H. Perlman, New York."

### The Proof of the Stock Car.

While the definition of a stock car, i. e., one that strictly follows catalogue specifications, is obvious, that is not good enough for racing or other competitive purposes, as is made evident by the repeated efforts to evolve a different and less elastic definition. The new A. A. A. rule, which, as the Motor World last week pointed out, permits practically everything save valves, frames and

wheels to be altered, is a splendid illustration of the squirming and straining that results whenever an attempt is made to avoid the obvious definition.

It therefore easily is possible to picture the cold reception that awaits Mr. Windsor T. White's suggestion that any car shall be subject to immediate purchase. Despite the fact, the idea is a happy one and deserves adoption. It does not assist the attempt to evolve a satisfactory definition, but it does come pretty close to supplying the most satisfying proof, which is, perhaps, even more important than a wordful definition.

That most of the automobilists who read or hear of a stock car contest believe that the cars engaged are exact reproductions of the ones that are offered to them for purchase is undoubted, and "selling races" or anything else that will assist in justifying this natural and proper belief should be encouraged.

### The Matter of Wind Shield Widths.

Up to the present time but little attention has been paid to the question of wind shield widths. But it is not unlikely that before long the subject will require definite settlement. For in addition to the need of as great a measure of standardization as is possible of accomplishment, from the standpoint of economy in production and satisfaction in use, it is a fact as yet little commented upon, that the width of the shield in great measure governs its protective power.

In general it is customary to regulate the width of the wind shield by the width of the dash. Only in comparatively rare cases is the plan adopted of making the screen wider than the dash, although in many respects this would result in increased efficiency, practically speaking. The importance of contriving the device in such a way that its height, and frequently the inclination of the upper section as well, may be regulated to suit the momentary inclination of the operator, is generally recognized. It is a fact not so generally appreciated, however, that the actual protection of the occupants of the front seat is governed to a considerable extent by the relative position of the outer edges with regard to the seat positions.

Generally speaking, the wider the screen, the greater its efficacy in fending off the direct air pressure due to the motion of the car, as well as in deflecting breezes which

strike upon it from a forward angle. Therefore, although a widely projecting shield would be distinctly ungainly, it is evident that its effectiveness would be sufficiently improved to warrant its use, even though it be carried to extraordinary limits and reach clear out to the full width of the mud guards. As it has been found in the case of the requirements for height, inclination and distance from the face of the operator, that it is extremely difficult to fix upon set dimensions applicable with equal impartiality to all sorts of conditions, even upon the same car, it might be that the question of width would be solved to best advantage by providing lateral adjustment in some instances. Certainly it would seem advantageous to provide greater widths than at present are employed on many cars.

### The Value of Improvements.

Rather a delicate and somewhat ethical question is that of the relative value to the manufacturer of improvements in the design of his product. Be it components, complete vehicles or accessories, the producer constantly is vexed with doubts as to whether it would be wiser to continue along the beaten track and hold as closely as possible to present structural standards, or whether it would be more profitable to advance along radical lines. Theoretically, of course, it is incumbent upon him to follow to the best advantage the knowledge which the engineering and scientific skill at his command enables him to master. Actually it is far more expedient in many cases to ignore the possibilities of advanced practice to pursue the advantages of present standing and, like the gentle tentmaker of far-away Persia, to:

"Take the cash and let the credit go.

Nor heed the rumble of a distant drum."

The point is that, while in very many cases better results might be obtained by building a motor with rotary valves, or a car with the motor located in the back of the tonneau, or a searchlight with adjustable focus to be regulated automatically by the speed of the vehicle; two very practical commercial considerations interfere with the carrying out of such undertakings, however well grounded they may be in a scientific way. One of them is that it is expensive business creating and adapting new structural standards, even after the burden of development has been shouldered. The other is that it is expensive business

"bucking the market" with new ideas, and teaching the trembling public to have proper confidence in something which is unfamiliar.

So the ambitious and conscientious manufacturer is buffeted about between his desire for the commercial success which results from giving the buyer just what the buyer thinks he wants, and his desire to give the buyer what he knows the buyer really needs. Probably as many misguided producers have starved by the wayside as a result of lagging along the beaten track as have got lost in the brambles trying to beat out a new way for themselves. The wise business man constantly is making little excursions into the thicket and promptly returning at the first prick of a thorn. But all the while he deeply regrets the immutable law of trade which teaches that in order to succeed a little better than his rival he must do his work a little better than the other, keep his vision a little broader than he and generally stay just enough ahead of him to be counted a leader, yet not far enough to get lost.

It is pertinent, just now, that the automobile industry is settling back into the course which is known as standardization, to suggest that in time that track may be worn into a deep and delusive rut. The older and wiser heads have foreseen such a possibility and are keenly alive to their opportunities. Which means that when they can lay hold of a new mechanism or a new process, however radical it may be, which promises enough advantage to defray the costs of construction and introduction, they will not hesitate to make use of it. In this period of tumultuous production it is difficult to realize that engineering departments are busy with problems of which the public is yet to hear, that improvements, great or small, will continue to be made from year to year, and that invariably someone must lead and others follow in introducing those changes. Yet this is the case, and the administrative problems attending such leadership, the gambling chances which must be taken, even the close study of the psychology of the market, are elements in the day's work which are very vital to its accomplishment.

#### **The Effect of "Influence."**

According to published announcements, the District Attorney of New York no longer will permit offenders against the speed law who are guilty of a second infraction, to plead guilty as first offenders and thereby

escape with the minimum fine. The practice had attained considerable proportions and was one of the many ways in which those who commanded influence brought it to bear. Whether the District Attorney's determination will have any effect in reducing the number of suspended sentences, which is the recourse of offenders with the more powerful influence, is exceedingly doubtful, and while this influence remains potent all the laws which may be passed by an industrious legislature will prove of small effect.

Only last week a typical illustration of the effects of influence was furnished by the Yonkers (N. Y.) court. A more or less gilded and high rolling youth who filled his skin with "high balls" turned himself loose on the public highways and defied all laws of decency and safety. When arrested the rum-soaked young man was arrogant to an extreme degree and loud in his boasts. When brought up for trial, the influence of a wealthy and prominent father was brought to bear and "little Willie" escaped with a fine of \$50, "pa" promising further to take his automobile from him for one whole year of 52 weeks.

One advantage accruing from the introduction of modern manufacturing processes in connection with motor vehicle production is the elimination of packing gaskets in many joints about the motor and transmission where formerly they were absolutely necessary. With the general use of grinding machines in all well equipped shops, it is now not only an easy matter to secure water or gas tight joints without the use of gaskets, but their use provides a very economical way of securing such closures in an effective and satisfactory manner. Besides, they possess the advantage that in the event of their failing to hold as a result of careless handling, they may be rendered tight by introducing thin paper gaskets, such as may be prepared at no cost and with a minimum of labor.

A good opportunity for the display of ingenuity is revealed in the construction of such parts of the car as are subject to not infrequent renewal in such a way as to eliminate screw threads. At present, radiator caps and occasionally the covers to carburettor float chambers are secured properly without the use of threads. Yet with these exceptions, the idea does not seem to thread construction could be eliminated.

## **COMING EVENTS**

February 28-March 5, Kansas City, Mo.—Kansas City Automobile Dealers Association's fourth annual show in Convention Hall.

March 1-5, Sioux City, Ia.—Sioux City Automobile Club's first annual show in Auditorium.

March 5-12, Boston, Mass.—Boston Automobile Dealers Association's eighth annual show in Mechanics Building.

March 5-12, Cleveland, O.—Cleveland Automobile Club's eighth annual show in Central Armory.

March 5-12, Des Moines, Ia.—Des Moines Automobile Dealers Association's first annual show in Coliseum.

March 12-19, Syracuse, N. Y.—Syracuse Automobile Dealers Association's annual show in State Armory.

March 14-19, Cedar Rapids, Ia.—Automobile show in Auditorium.

March 17-19, Louisville, Ky.—Louisville Automobile Dealers Association's annual show in Armory.

March 19, Altadena, Cal.—Annual Pasadena-Altadena hill climb.

March 20, San Francisco, Cal.—San Francisco Motor Club's hill climb on Nineteenth avenue hill.

March 21-26, Indianapolis, Ind.—Indianapolis Automobile Trade Association's first annual show.

March 26-April 2, Montreal, Can.—Fourth National Automobile and Sportsmen's show.

March 26-April 2, Pittsburg, Pa.—Pittsburg Automobile Dealers' Association's annual show in Duquesne Garden.

March 28-29, Savannah, Ga.—Savannah Automobile Club's 675 miles endurance run to Jacksonville, Fla.

April 8-17, Los Angeles, Cal.—Inaugural meet on the new Los Angeles Motordrome.

April 23-29, Bangor, Me.—Eastern Maine automobile and motor boat show in Auditorium.

June 1, Berlin, Germany.—Start of Prince Henry tour, finishing at Homburg on 8th.

June 11, Wilkes-Barre, Pa.—Wilkes-Barre Automobile Club's annual hill climb on Giant's Despair, Wilkes-Barre Mountain.

July 2, Wildwood, N. J.—North Wildwood Automobile Club's roadability run from Philadelphia to Wildwood.

July 4, Wildwood, N. J.—North Wildwood Automobile Club's annual beach races meet on Ocean drive.

August 6, Wildwood, N. J.—North Wildwood Automobile Club's beach race meet on Ocean drive.

September 5, Wildwood, N. J.—North Wildwood Automobile Club's beach race meet on Ocean drive.

**PUTTING THE MOTOR CARS ON ICE**

**How It is Done Near Detroit, and the Purposes Served—Where Skidding is Real if not Earnest.**

While automobiling on the ice long since ceased to be a novelty, probably never has a frozen lake or stream been used as a regular testing ground until the Chalmers test-

stunts which can be performed only on the ice. Probably the most original of these is the automobile waltz—a terpsichorean effort more weird than the ghost dances on old Dartmoor Heath, and in which the cars whirl around and around.

“‘Fancy skidding’ is another of the testers’ ice stunts. Those who know skidding only as they have seen it on the asphalt pavements or on a race course have a great deal to learn about what a skid really is.



MOTOR CAR AND ICE BOAT GOING 40 MILES AN HOUR

crews this year inaugurated the practice. The person who fancies that the practice is akin to skating, however, is far wrong; for it is uncommonly rough work.

The Chalmers plant is situated on the shore of the Detroit River, about three miles below Lake St. Clair, famous the country over for its iceboat fleet. And when the ice becomes thick enough to sustain the big ice yachts, Chalmers testers forsake the famous Grosse Pointe track, where much of the summer testing is done, and take to the ice.

In these circumstances, testing cars becomes largely a sport. Races between testers, and between motor car and iceboat make the tester's task a thrilling one. The ice yachtsmen are very boastful of the speed they attain with their craft—fifty, sixty, and even seventy miles an hour they claim with the utmost nonchalance. And yet the Chalmers testers, using a “30” chassis, have beaten the fastest of the boats. The accompanying illustration shows one of the cars “trimming” the “Gretchen,” the champion of the lake.

“This speeding on the ice is about as hard testing as a car can get, too,” says a man who has witnessed it. “Between dodging the ice craft and bounding over hummocks on the ice, the cars get as much jolting in 25 miles of ice speeding as they do in an entire season of ordinary use. Aside from the speeding, the testers have some novel

On the ice, the Chalmers testers attain a speed of about 40 miles an hour and then suddenly start to coast with brakes set. It is not unusual for a machine to turn around ten and a dozen times, or skid sideways for a distance of 300 or 400 feet. It's the sort of performance that almost gives a man heart disease the first time he tries it.

**WHITE'S STOCK CAR SOLUTION**

**Cleveland Offers a Simple Suggestion that Would Prove Effective—How “Selling Races” Would Afford Proof.**

Despite the new A. A. A. rules, which permit stock cars to be altered and yet to be classed as stock cars, additional restrictions are necessary in order to ensure that cars taking part in contests, particularly in races, shall be bona fide stock cars, in the opinion of Windsor T. White, president of The White Co. As a solution—a happy and effective one—Mr. White proposes a rule whereby any machine entering in a contest may be claimed by any other entrant on the payment of the list-price of that car.

“I think no one will dispute the statement that there has been much ground for dissatisfaction with and distrust of the stock car racing situation,” said Mr. White, in disclosing the proposed reform. “The examination of contesting cars at race meets is necessarily of the most superficial character and generally discloses nothing more than that the cylinders are of the proper dimensions and that the general arrangement of parts is the same as in the stock model. Such an examination cannot reveal, for example, whether or not the racing car has a chrome-nickel steel crank shaft (when real stock cars of the same make use only common machine steel), or



“FANCY” SKIDDING ON THE FROZEN SURFACE OF LAKE ST. CLAIR

whether or not there has been a similar substitution of materials throughout.

“The public has had ample reason to be suspicious. For example, they have not understood why it was necessary for a ‘stock’ car which competed one week in New York to be rushed by express to compete in Minneapolis or New Orleans the

next. The ordinary citizen would imagine that any car in Minneapolis or New Orleans would fully size up to the true capabilities of the stock car and could be used.

"With this unsatisfactory situation confronting automobile racing, why should we not avail ourselves of the experience of a much older line of sport—namely, horse racing, wherein various protective measures have been devised for safeguarding the interests of the public as well as of contestants. I refer particularly to the regulations covering what are known as selling races. I believe that these regulations could be applied with advantage to all stock car racing in this country, with the result that any car entering a stock car race could be claimed by any other contestant in the race on payment of the list price of the car.

"By the enactment of such an amendment to the automobile racing rules, motor racing in this country would receive a tremendous boom. There are many manufacturers and agents who would be very willing to engage in various kinds of speed contests if they were assured that they would be confined to stock models. But at present, they feel that the cars which are being sent first to one city and then to another to engage in race meets are not bona fide stock cars. Under the proposed rule, any maker who engaged in a race and who suspected that one of the cars contesting against him was not a stock model, could simply bid it in at the list price and could quickly assure himself whether or not such was the case. With this regulation enforced, the practice of building specially constructed cars for racing purposes would be discouraged, there would be many more cars entering races and the public and the industry at large would benefit from the new conditions."

#### Cobe Cup Race Echoes \$7,703.

A jury in the Chicago Municipal Court last week returned a judgment of \$7,703 against Ira M. Cobe, former president of the Chicago Automobile Club, in favor of the F. J. Lewis Mfg. Co. The suit was for the balance due on a contract to resurface the roads at Crown Point, Ind., where the Cobe cup races were held last summer. Attorneys for the defendant contended the material used in resurfacing the roads was not suitable, and that after the racing machines had passed over the track a few times large holes appeared in the resurfacing. The plaintiff's attorneys argued that the resurfacing was done with roofing materials at the request of the promoters of the races, and that they did not guarantee the work.

#### Ridicule Kills "Popular Car Contest."

After all, there will be no "popular car voting contest," from New York to Boston or anywhere else. The whimsical affair projected by a New Yorker and so styled by him has been abandoned. It was to have started on Saturday next, but deserved ridicule killed it.

## CLIMBING AN UNCLIMBABLE HILL

### Californians Conduct an Unusual Contest, Likewise Two Ordinary Climbs and a Road Race—Fresno's Busy Day.

With a 65 mile road race in the morning and two hill climbing contests in the afternoon, Fresno, Cal., had its fill of automobile competition on Sunday, February 20th. As the event was the first of the season in California, it aroused a great deal of interest among the local people.

The road race, which, as stated, was held in the morning, was run over 65 miles of slippery highways, made so by heavy showers the night previous, and required the drivers to be exceedingly careful, which accounts for the slow time made. The event was known as the "Coalinga road race," the first prize being \$100.

E. B. Waterman, at the wheel of a Buick, was the third to be started, but he passed all his competitors and finished the race in 1 hour, 24 minutes, 18 seconds. Eichner, driving a Rambler, finished in 1 hour 28 minutes; C. W. Hobson, in an Elmore, was third, in 1:35:30, and Edward Waterman, in another Buick, crossed the line in 1:38:30. McDonald, in a Winton, had considerable trouble in keeping the road, but finally finished in 2 hours 16 minutes.

After luncheon the hill climbs were held, but the Marian incline, which originally had been chosen, was passed up because of its steepness; it was feared that none of the cars would be able to reach the top. Instead, another grade of 28 per cent. was chosen, and this proved more than steep enough for some of the contestants. In the class for small cars Edward Waterman, in a Buick, was the only one to make the ascent, but in Class B, for cars costing under \$2,000, four machines reached the summit. They were the Rambler, driven by Snyder; an Elmore, Kretzer's Buick and a Reo, entered by Cobb Evans. In the class for cars costing over \$2,000, R. Raymond, driving a Dorris, won; Ochs, Winton; Patton, Pope-Hartford; Evans, Dorris, and Eichner, Rambler, all reached the top, however.

There was another hill climb, when the cars were timed, and this resulted in some close competition, the results being as follows:

Raymond, Dorris, 49 seconds; E. B. Waterman, Buick, 39 seconds; Cousins, Mitchell, 56 seconds; Edward Waterman, Buick, 51½ seconds; Eichner, 69 seconds; McDonald, Winton, 48 seconds; Wheelock, Chalmers-Detroit, 52½ seconds; Kreicher, Buick, 37½ seconds; Reo, 51½ seconds; McDonald, Oakland, 40 seconds; Wheelock, Hudson, 43 seconds; Eichner, Rambler, 58 seconds. The distance of the incline is not stated.

Still another contest was termed an "endurance hill climb." Selecting a steep hill

which the committee did not expect any of the cars to climb, a line was drawn quite a way up the incline, and the car making the greatest distance was declared the winner. Honors again fell to Kretzer, in the Buick. McDonald, in a Winton, held the record for a time, but Kretzer passed the mark by a few feet. The Mitchell was another car close to the finishing distance.

#### No Patent Line in Competitions.

That no discrimination between licensed and unlicensed cars in automobile racing is to be permitted by the American Automobile Association is the decision which that organization has come to in relation to the question presented by the attempt of the Licensed Automobile Dealers' Association of Los Angeles, Cal., to bar unlicensed cars from its race meet at Ascot Park this week. The A. A. A. holds that racing is not a field in which patent differences can be brought to bear, and this view has been brought abruptly to the attention of the Los Angeles organization by the following telegram from S. M. Butler, chairman of the A. A. A. contest board:

"Conditional sanction 127 for March 5 and 6 is withdrawn if meeting is closed to all but Licensed cars. Contest board positively will not sanction anything but open meetings. New York Licensed dealers have decided not to enforce agreement rules in contest or racing matters. Los Angeles dealers had better do likewise."

#### Glidden Tour Affairs Already Stirring.

S. M. Butler, chairman of the A. A. A. contest board, officially has announced that a Chalmers car has been selected for the "pathfinding" purposes of the 1910 Glidden tour. It will leave Cincinnati about April 1st in charge of D. H. Lewis, who will "plot" the route through the eleven states which the tour will traverse, viz.: Ohio, Kentucky, Tennessee, Arkansas, Texas, Oklahoma, Missouri, Nebraska, Iowa and Illinois. F. Zirbes, in the Mitchell Ranger, already is going over the Glidden route. He left Cincinnati on Wednesday last, acting in an independent capacity. Although the tour does not start until June 15, and the entry blanks have not been issued, two formal entries already have been made, both by the Premier Motor Mfg. Co. This forehandedness will entitle the Premier entrants to wear Nos. 1 and 2 in the tour, as was the case last year.

#### France Fixes Voiturette Regulations.

The annual international race for light cars (voiturettes) will be held this year on a closed circuit in France on June 19th. The contest will be open for cars having engines of the following maximum bores: Single cylinders, 3.937 inches; two-cylinder, 3.15 inches; four-cylinder, 2.56 inches. No restrictions will be placed this year on the length of the stroke, but the minimum weight of the cars has been raised to 1,430 pounds.



## Boston Show to be Held Amid Spirea Van Houti

Boston's best effort in the automobile show line will be uncovered in Mechanics Building on Saturday afternoon of this week, 5th inst., when the eighth annual exhibition promoted by the Boston Automobile Dealers' Association will be inaugurated. This prediction is inspired in part by Manager Chester I. Campbell's own confident utterances on the subject and in part by reason of the fact that it will be the biggest show the "Hub"—of New England—ever has had. Without particularizing too deeply on the basis of the more or less uncertain preliminary list of exhibitors which has been issued by the management, it is safe to say that the exhibition will be graced by a greater number of exhibitors

spring water, confectionery and numerous publications are generously included in the roster. This, it may be said in passing, is a characteristic of Boston show programs, though less noticeable than formerly.

But however that may be, there is no question that the forthcoming show will afford the New England contingent as fine a display of cars as has been staged this year, and one replete with the newest products the industry has to offer. In addition to the regular lines which have been perpetuated successfully in Massachusetts and the sur-

and the Buffalo and Frayer-Miller commercials. One or two of these products have been shown recently at local exhibits in other sections of the country, but they will be new to the East. Likewise the following products will be disclosed which were not shown even in New York: Krit, Abbott - Detroit, Patterson, Standard, Warren-Detroit and Welch,



MECHANICS BUILDING, IN WHICH THE BOSTON SHOW WILL BE STAGED

of cars than attended either of the two New York shows, and nearly as many as were on hand at Chicago's big exposition. Counting accessories, the show promises to stand next to the Madison Square Garden show in point of gross bulk.

About 140 different varieties of motor car will be staged by 88 exhibitors. An even dozen stands will be given over to the exhibits of the motorcycle manufacturers, while the balance of 184 spaces will be relegated to the makers of parts, accessories and supplies, and the merchants in whatever wares in which the generous motorist may be persuaded to invest. It is only fair to add that a semblance of even greater magnitude than this is lent to the show list by reason of the fact that sundry dealers in

rounding states since they came into existence, there will be nearly a score of cars which have not been seen locally before, though they have appeared at one or more of the national shows of the current season. An enumeration of such products reveals the Black Crow, Demot, Everitt "30," Empire, Fuller, Firestone, Hudson, Kline, Mercer, Midland, Ohio and Selden; and the Chase, Hart-Karft, Martin, Randolph, Reliance and Sampson commercial vehicles.

Cars which are well known locally, but which have not been exhibited in their latest guise during the current show season, will be shown to the number of nine, including the Berkshire, British Napier, Grout, Herreshoff, Rainier, Velie, and Stanley steamer,

and Couple Gear commercial. The Morse—a brand new local product—and the Morgan, Garford and White commercial vehicles will be among the exhibits which will be new even to those who have looked in upon practically all of the shows of the season.

From the days of the earliest settlers about the shores of Massachusetts Bay down to the present decadent era, the trading instinct has been laden upon every breath of Back Bay fog. Hence, although the aborigines are long departed, and red, white and blue beads no longer find a ready market, there always is an easy sale for small wares, in addition to the staple products of the locality which, as everyone knows, are codfish and culture. So the ac-

## THE MOTOR WORLD

cessory departments of all Boston shows are departments to be approached with wallet pockets tightly buttoned up. For they boast all the wealth of products which the entire industry can muster, a goodly share of domestic manufactures, and a completeness and broadness of scope which is to be found at no other show. Also, due to the presence of a considerable number of retailers, it happens that the same lines may be displayed in several different sections at the same time, so that there is no escape for the guileless visitor.

As for decorations, Boston is going to do herself proud once more, according to the best of information. "Springtime" is to be the "motif" of the forthcoming show picture, just as the apple orchard, the Japanese garden and the Hall of Arches were the themes upon which former decorative schemes were based. To this end the Comley Conservatories have been drawn upon for color. Whether the Comley Conservatories are hothouses or millinery shops, the visitor must decide for himself. But certain it is that a profusion of the Spirea Van Houti, Lilacs (Natural Order Oleacea) and Tulips (Tulipa, Natural Order Liliaceae) will lend their festal hues to the adornment of the big exhibition building. Hedgerows, not fences, will divide the spaces in the main hall, wherein the stage will be set with a huge drop curtain affording a bright and natural vista the effect of which will be heightened by the surroundings of real greenery and blossoms. Hybrid Lilacs in full bloom will give the main tone to the coloring along the natural plane of sight, while to add the effect of distance and strengthen the impression of the rural setting, the walls below the balcony will be covered with scenic paintings forming a continuous landscape surrounding the hall. The balcony front, as well as the arched superstructure which will ornament it will be vine-clad and in harmony with the remainder of the setting.

Reminiscent of the apple orchard of 1907, then called the prettiest show ever staged, the exhibition hall will present the effect of just such another valued adjunct to the farm. The pillars with which the architect saw fit to despoil the room, will be covered with real bark; the exhibits will be separated by rail fences, just the kind that the future senators "down East" have to repair on Saturday afternoons; and there will be blossoms enough to make the illusion as complete as ever the ethics of show decoration possibly could require.

Even the basement, hitherto largely overlooked in "fixing up" for the show, is to be decorated this year, though in less elaborate style than the upper floors. Special finishes for the columns, ornamental hand rails for the exhibits, and a restaurant framed in the likeness of a vine covered brick inn, will serve to alter its ordinarily barren aspect. Needless to add that here, as everywhere else about the show, the floor coverings and signs will be of a uniform character.

The official list of exhibitors, their wares and their locations is as follows:

**Automobiles.**

Abbott-Detroit Boston Co. of New England (A44A)—Abbott-Detroit.  
American Automobile Co. (A26-37)—American, Detroit, Ohio and Krit.  
American-Simplex Co. (E426-7)—American Simplex.  
Atlas Motor Car Co. (B150)—Atlas.  
Austin Automobile Co. (A43)—Austin.  
Autocar Co., The (D311-12)—Autocar, pleasure and commercial.  
Bailey & Co., S. R. (A39)—Bailey electric.  
Berkshire Autocar Co. (D314)—Berkshire.  
Boston Electric Automobile Garage (341-6)—Detroit electric.  
Boston Motor Co. (C223)—Acme.  
Bowman Co., The J. W. (A3-7)—Stevens-Duryea and Everitt "30."  
British Napier Motors (D318)—Napier.  
Brush Runabout Co. (D321)—Brush.  
Buick Motor Co. (B137-41)—Buick.  
Butler Motor Car Co. (G200-8)—Rapid commercial.  
Buxton Machine Co., W. A. (C247)—Garford commercial.  
Castle, Inc., H. C. & C. D. (B131-2)—Lozier and Haynes.  
Clapp, Henry A. (B147-9)—Simplex.  
Columbus Buggy Co. (C234)—Firestone gasoline and electric.  
Corlew-Coughlin Co. (B105-340-347)—Paterson and Velie.  
Curtis-Hawkins Co., The (B143-8)—Speedwell.  
Dike, Francis (C327)—P-S.  
Dodge Motor Vehicle Co. (A11)—Pope-Hartford and Waverley electric.  
Dunham, Geo. J. & Co. (A44)—Royal Tourist.  
E-M-F. Boston Co. (C233)—E-M-F. "30." and Flanders "20."  
Easton Machine Co. (B146)—Morse.  
Eaton, Charles A. (D325)—Lambert.  
Eldridge, W. E. (C230)—Couple Gear commercial.  
Fiat Automobile Co. (B114-5)—Fiat.  
Ford Motor Co. (B118-9)—Ford.  
Franklin Automobile Co. (B128-9)—Franklin.  
Fuller, Alvin T. (A1-2; C147-8)—Packard and Cadillac.  
General Vehicle Co. (C236-8)—General electric commercial.  
Gramm-Logan Motor Car Co. (C231-2)—Gramm-Logan commercial.  
Grout Auto Co. (D360-2)—Grout.  
Henderson-Lowe Co. (B154-5)—Hupmobile.  
Henshaw, C. S. (A24-5)—Thomas Flyer.  
Hol-Tan Co., The (B113)—Lancia.  
Hub Auto Renting Co. (D363-4)—Black-Crow, Pullman and Midland.  
Hudson-Colby Co. (D349-50)—Herreshoff.  
Isotta Import Co. (G652)—Isotta.  
Jacobs, Volney J. (D333-4)—Pierce-Racine and A-K.  
Jenkins & Co., W. M. (A21-2)—Mitchell.  
Jecrey & Co., Thomas B. (B106-7)—Ramblor.  
Kissel Kar Co. (A1A-2A)—Kissel and Demot.  
Linscott Motor Co. (B120-3)—Reo, National, Marion and Overland.  
Locomobile Co. of America (B111-2)—Locomobile.  
McCue Co., The (B152-3)—McCue-Hartford.  
MacAlman, J. H. (B124-7)—Columbia gasoline and electric and Stearns.  
Maguire Co., J. W. (A14-6)—Pierce-Arrow.  
Martin Carriage Works (D328)—Martin commercial.

Matheson Auto Co. (B103-4)—Matheson.  
Morgan Co., R. L. (D322)—Morgan commercial.  
Morse Co., Alfred Cutler (D337-8)—Renault.  
Neale, A. F. (D331)—Baker electric.  
Nichols & Co., D. P. (C209-13)—Buffalo.  
Randolph and Frayer-Miller commercial.  
Olds-Oakland Co. (B101-2)—Oldsmobile and Oakland.  
Park Square Auto Station (A13-7; C235)—Alco and Stoddard-Dayton.  
Parker & Co., F. R. (B150a; C351)—Elmore.  
Peerless Motor Car Co. (A12-16)—Peerless.  
Pope Manufacturing Co. (C215)—Pope-Hartford.  
Premier Motor Car Co. of New England (A42)—Premier.  
Proctor Supply Co., G. H. (B100)—Mora.  
Rainier Co., The (B156)—Rainier.  
Rauch & Lang Carriage Co. (D330)—R&L electric.  
Regal Motor Co. (CB151)—Regal.  
Reliance Motor Truck Co. (C251)—Reliance commercial.  
Russell & Co., W. L. (A20)—Apperson.  
S. M. Supplies Co., The (B136-42)—Inter-State.  
Sampson Manufacturing Co., Alden (D319-323)—Sampson commercial.  
Sanders, N. S. H. (B133)—Anderson and Kline, and Chase commercial.  
Schacht Manufacturing Co., (C221)—Schacht.  
Selden Motor Car Co. (B135)—Selden.  
Smith, Fred S. (A15)—Mercer.  
South End Motor Car Co. (D315-6)—Empire, and Hart-Kraft commercial.  
Standard Motor Car Co. (D339-48)—Standard, and Grabowsky commercial.  
Stanley Motor Carriage Co. (A19)—Stanley steam.  
Stevens-Sowers Motor Car Co. (C214)—Fuller.  
Studebaker Brothers Co., of New York (A40-1; C218-9)—Studebaker gasoline and electric, pleasure and commercial.  
Thomas Motor Co., E. R. (G665)—Thomas.  
Tyler, F. J. (B116-7)—Maxwell.  
Underhill Co., The (A6-10; C241-3)—Knox pleasure and commercial.  
Welch Motor Car Co., of New England (D314)—Welch.  
White Co., The (A5-9; C216-7)—White gasoline and steam.  
White-Ware & Co. (D317)—Corbin.  
Whitten-Gilmore Co., The (B108-10)—Chalmers and Hudson.  
Wing, F. E. (B122-3)—Marmon.  
Winton Motor Carriage Co. (A48)—Winton.

**Motorcycles.**

American Motor Co. (G600-3)—M-M.  
Aurora Automatic Machinery Co. (G617-8)—Thor.  
Consolidated Manufacturing Co. (F577-8)—Yale.  
Crouch Motor Co. (F565)—Crouch.  
Emblem Mfg. Co. (F563B)—Emblem.  
Excelsior Supply Co. (F567)—Excelsior.  
Hendee Manufacturing Co. (F572-3)—Indian.  
Miami Cycle & Mfg. Co. (F579)—Miami.  
Merkel-Light Motor Co. (F581-2)—Merkel and Light.  
Pierce Cycle Co., The (F575-6)—Pierce.  
Reading Standard Co. (G505-7)—RS.  
Reliance Motorcycle Co. (F580)—Reliance.

**Accessories.**

Aetna Life Insurance Co. (G612)—Insurance.

- Adams & Co., J. Q. (G656)—  
 Ajax-Grieb Rubber Co. (E549-50)—Ajax tires.  
 Ajax Trunk and Sample Case Co. (D302)—Leather trunks and tire cases.  
 American Ever Ready Co. (F526)—Ever-ready batteries, lamps and tire specialties.  
 American Storage Battery Co. (D300A)—Accumulators.  
 American Storage Battery Co. (D300A)—Accumulators.  
 Arseno Electric Co. (G613A-A)—Electric specialties.  
 Atlas Rubber Co. (C245)—Non-puncturable inner tubes.  
 Atwater-Kent Manufacturing Works (E554)—Timers and electric horns.  
 Auburn Auto Pump Co. (G608B)—Automatic tire inflating pumps.  
 Austin & Doten (E429B)—Pumps.  
 Auto Improvement Co. (E5270)—Accessories and specialties.  
 Auto Supplies Co.—Supplies.  
 Baker, Roy C. (C229)—  
 Baldwin Chain & Mfg. Co. (F555)—Baldwin chains and recoil checks.  
 Baldwin Tumbler Carrier Co. (G600AA)—Specialties.  
 Batavia Rubber Co. (G608A)—Batavia tires.  
 Bi-Motor Equipment Co. (D353)—Supplies.  
 Bosch Magneto Co. (F568)—Bosch magnetos.  
 Boston Auto Gauge Co.—Triumph gasoline gauges.  
 Boston Tire & Rubber Co. (F564A)—Dayton Airless tires.  
 Bowser & Co., S. F. (E432-448)—Gasolene and oil storage systems.  
 Boyd, F. Shirley (E446)—Supplementary Spiral springs.  
 Brunner Mfg. Co. (F550AA)—  
 Burn Boston Battery Co. (E428)—Sealed liquid batteries.  
 Burroughs Remountable Rim Co. (F569A)—Burroughs Remountable rims.  
 Champion Ignition Co. (D344)—Ignition supplies.  
 Chase & Co., L. C. (F508-9)—Top and cover materials.  
 Clayton Air Compressor Works (D303-AA)—Clayton non-blowout tire valves.  
 Cleveland Speed Indicator Co. (G619)—Speed indicators.  
 Coes Wrench Co. (E419)—Coes wrenches.  
 Coates Clipper Mfg. Co. (C227)—Flexible shafting.  
 Colton Combination Tool Co. (E414A)—Combination utensils.  
 Columbia Lubricant Co., of New Jersey (E4401)—Non-fluid oils.  
 Columbia Tire & Top Co. (D326)—Tops, tire cases and covers.  
 Continental Caoutchouc Co. (E416)—Continental tires.  
 Connecticut Oil Co. (D354)—Lubricants.  
 Consolidated Rubber Tire Co. (F528-9)—Tires.  
 Connecticut Telephone & Electric Co. (F501)—Connecticut coils and timers.  
 Couch & Seeley Co. (G624)—Casgrain speed indicators.  
 Coward, John D. (E442)—Star speedometers and E & M wind shields.  
 Craig Co., David (D365)—  
 Cramp & Sons Ship & Engine Building Co., Wm. (F539)—Bronze castings and components.  
 Crane Co., L. M. (C221)—  
 Culver-Stearns Manufacturing Co. (D350-AA)—  
 Daniels, Smally (F569B)—  
 Diamond Rubber Co., The (E420)—Diamond tires.  
 Dixon Crucible Co., Joseph (F514-5)—Graphite lubricants.  
 Dover Stamping & Manufacturing Co. (E449)—Drip pans, funnels and measures.  
 Downing, C. J. (E408-9)—Horns, tire accessories and holders.  
 Duren & Kendall (C335)—Vacuum cleaners.  
 Eagle Oil & Supply Co. (F556A)—Lubricants.  
 Eastman, W. E. (C244)—  
 Eco Mfg. Co. (E443)—Horns.  
 Eisner & Co., Harry (F570B)—  
 Electric Storage Battery Co. (F510)—Accumulators.  
 Empire Tire Co. (E430)—Empire tires.  
 Federal Rubber Co. (F500)—Rex ignitors and Bliss coils.  
 Fiat Repair Co. (D309)—  
 Firestone Tire & Rubber Co. (F506-7)—Firestone tires.  
 Fisk Rubber Co., The (E436)—Fisk tires.  
 Flentje, Ernst (F533AA)—Shock preventors.  
 Forbes, W. J. (G620)—K. W. Magneto.  
 Ford Co., Percy (E400-7)—Specialties.  
 Fox Metallic Tire Belt Co. (F530)—Non-skid chains.  
 G & J Tire Co. (F556-7)—G & J tires.  
 Gabriel Horn Mfg. Co. (E444-5)—Gabriel exhaust horns and Foster shock absorbers.  
 Gasoline Motor Efficiency Co. (E570)—Carburettor attachment.  
 Gilbert Mfg. Co. (F558)—Tire jackets, lamp jackets and rubber cloth specialties.  
 Goodrich Co., The B. F. (540-1)—Goodrich tires.  
 Goodyear Tire & Rubber Co.—Goodyear tires.  
 Gray & Davis (E433)—Lamps.  
 H. I. K. Co. (C220A)—  
 Harriman Engine Co. (D304-7)—Rotary motors.  
 Harris Oil Co., A. W. (F519-20)—Lubricants.  
 Hart & Fuller,  
 Hartford Rubber Works Co. (F537-8)—Hartford tires.  
 Hartford Suspension Co. (F542)—Tru-fault-Hartford shock absorbers.  
 Harvey Co., Arthur C. (C224)—Metals.  
 Havoline Oil Co. (F559)—Lubricants.  
 Heinze Electric Co. (F536)—Ignition specialties.  
 Hertz & Co. (F513)—Magnetic and ignition devices.  
 Hillman Auto Supply Co. (F531)—Supplies.  
 Hilton Mfg. Co. (D343)—  
 Hoeffcker Co., The (F516-7)—Hoeffcker speed indicators.  
 Holt & Beebe (D357a-a)—Electric lamps.  
 Hopewell Bros. (F509)—Tire casings.  
 Howard Detachable Rim Co. (D359)—Howard detachable rims.  
 Hydraulic Oil Storage Co. (D336)—Gasolene storage systems.  
 Ideal Wind Shield Co. (F563A)—Wind shields.  
 Iver Johnson Sporting Goods Co. (F555)—Accessories.  
 Jones Speedometer Co. (F502)—Jones speedometers, taximeters and live maps.  
 Jordan, R. W. (D314a-a)—  
 Kellom & Co., C. F. (G623)—Lubricants.  
 Kemble, A. M. (E415a-a)—  
 Kempshall Tire Co. (F570a)—Kempshall tires.  
 Kennedy Carburetor Co. (E402)—Kennedy carburetors.  
 Keystone Lubricants Co. (D332)—Lubricants.  
 Kilgore Mfg. Co. (G604)—Shock absorbers.  
 Knapp-Greenwood Co. (G615)—Shock absorbers.  
 Lavalette & Co. (E413)—Eisemann magnetos.  
 Leather Tire Goods Co. (F544)—Woodworth detachable tire treads.  
 Leland & Co., W. H. (E417)—Worcester spark coils and grinders.  
 Lovell-McConnell Mfg. Co. (E415a)—Klaxon horns.  
 Lunt-Moss Co. (D320)—  
 Lyon Non-Skid Co. (D358a-a)—Non-skid device.  
 Marburg, Theo. H. (D352)—Mea magneto.  
 Metcalf Machine Works, Geo. A. (D355-B)—  
 Mezgar Inc., C. A. (F504)—Soot-Proof spark plugs and automatic wind shields.  
 Michelin Tire Co. (E418)—Michelin tires.  
 Miller, Chas. E. (F566)—Brampton chains, accessories and supplies.  
 Moore-Smith Co. (G651)—Fur garments.  
 Morgan & Wright (E438)—M & W tires.  
 Motor Specialties Co. (D301)—  
 Murray Co., P. A. (D301; 324)—Tops.  
 Mutty Co., L. J. (G609)—Top and cover materials.  
 New York & New Jersey Lubricant Co. (E503)—Non-fluid oils.  
 National Carbon Co. (E439)—Dry batteries.  
 Nightingale Whistle Co. (G614; 625)—Exhaust whistles.  
 Noonan Tool & Machine Co. (D355a)—Special tools and utensils.  
 Oakley Steel Foundry (E429a)—Metals.  
 Oulton Motor & Mfg. Co. (C246)—Motors.  
 Panhard Oil (E407)—Lubricants.  
 Pantasote Co., The (F523-4)—Top and upholstery materials.  
 Parker Motor Co. (D352)—Motors.  
 Pennsylvania Rubber Co., of New York (E423)—Pennsylvania tires.  
 Perfection Wrench Co. (G616)—Wrenches.  
 Pittsburg Auto Equipment Co. (F564B)—Pittsfield Spark Coil Co. (E431)—Ignition specialties.  
 Polson, W. F. (E410-11)—Wind shields.  
 Post & Lester Co. (E424)—Supplies.  
 Proctor Supply Co., G. H. (C243)—Republic tires.  
 R. I. V. Bearings (F406)—Anti-friction bearings.  
 Randall Faichney Co., The (F512)—Jericho exhaust horns, B-line grease guns and Bing spark plugs.  
 Rayvello Chemical Co. (D351a-a)—  
 Reliance Speedometer Co. (E426a)—Speed indicators.  
 Remey Electric Co. (F547-8)—Magnetos.  
 Republic Rubber Co. (F545)—Republic tires.  
 Robinson & Son Co., W. C. (F525)—Lubricants.  
 Rogers, Leo N. (D367)—  
 Russell & Co., T. W. (E427a-a)—Accessories.  
 Rutherford Rubber Co. (G622)—Sterling tires.  
 Sage Trunk Co. (G609a-a)—Trunks and suit cases.  
 Salmon & Co., John A. (E447)—Monograms.  
 Sawyer Oil Co., Howard B. (D366)—Lubricants.  
 Seamless Rubber Co. (F532)—Tires.  
 Shawmut Tire Co. (E450-1)—Tires.  
 Sheldon Axle Co. (G624)—Axles.  
 Simmons, Hatch & Whitton Co. (G654)—Sireno Co. (G610-11)—Sireno horns.  
 Smith Co., Wm. J. (E414B)—Tools.  
 Spaulding Mfg. Co. (G653)—  
 Splittdorf, C. F. (E422)—Ignition appliances.  
 Stackpole Battery Co. (E414a-a)—Dry batteries.

Standard Thermometer Co. (E428B)—Standard Speedometer.  
 Standard Tire & Rubber Co. (F500A)—Federal tires.  
 Standard Welding Co. (E421)—Parts.  
 Star Auto Locks (C220B)—  
 Sterling Hardware Co. (D358)—  
 Stromberg Motor Devices Co. (F551-3)—Stromberg carburettors.  
 Suburban Concrete Block Co. (D368)—Garage material.  
 Swinehart Tire & Rubber Co. (F543)—Swinehart tires.  
 Teel Mfg. Co. (D329)—Tire cases and top materials.  
 U. S. Light & Heating Co. (F546)—National storage batteries.  
 Underhay Oil Co. (G621)—Lubricants.  
 Vacuum Oil Co. (F521-2)—Lubricants.  
 Valentine & Co. (F533)—Varnishes.  
 Veeder Mfg. Co. (E437)—Odometers and tachometers.  
 Victor Auto Supply Co. (F511)—Tops and wind shields.  
 Victor Metals Co. (D329)—Metals.  
 Voorhees Rubber Co. (G613)—Tire repair outfits.  
 Ward & Sons, E. T. (D322-3)—Metals.  
 Warner Gear Co. (E415)—Gears and parts.  
 Warner Instrument Co. (E435)—Auto-Meters.  
 Weed Chain Tire Grip Co. (F505)—Weed chain tire grips.  
 Westinghouse Electric & Mfg. Co. (D356-7)—Electric vehicle power plants, batteries and charging outfits.  
 White & Bagley Co. (E425)—Lubricants.  
 Whitney Mfg. Co. (F518)—Whitney chains and keying systems.  
 Whittaker Chain Tread Co. (F553a-a)—Non-skid appliances.  
 Wilkinson & Co., A. J. (F560-1)—Machinery and tools.  
 Y. M. C. A. Auto School (G653)—Demonstrating exhibit.

#### Boston Promoter to Hold Overflow Show.

A new Museum of Fine Arts having been built in another part of the city, the ornamental structure which graces the eastern side of Copley Square, in Boston, now is available for exhibition purposes, and in that capacity has been thrown open for an "independent" automobile show, which is announced to run during the period of the regular exhibition in Mechanics' Hall, from Saturday next, 5th inst, for one week. The affair is being promoted under local unofficial auspices and is offered as a safe harbor of refuge for such intending exhibitors as have been crowded out of the dealers' show at the old stand a little farther out on Huntington avenue.

#### Solars at a Mistaken Sacrifice.

Due to the use of the term "per pair," when the word "each" was intended, in a recent advertisement of the Badger Brass Mfg. Co., it was made to appear that several types of Solar lamp, Nos. 1077, 1078 and 1079, were being sold in pairs for the price of a single lamp. That, despite their great facilities, the Solar people have not been able to perform anything quite so remarkable should have been apparent, for as a matter of fact the cost of material and other things inclines to the increase of lamp price instead of to their reduction.

## PARIS NOW MAY HAVE TWO SHOWS

### Manufacturers' Association and the Automobile Club of France at Odds—Each Schedules a Show.

While last year Paris had no automobile show at all, it is likely that this year there are to be two of them in succession, inaugurated and supported by two different factions who do not appear to agree very well, a situation not unlike that which prevailed in New York a few years ago having been created.

Officially, of course, the Automobile Club of France has all the prestige of years behind it, and with the help of its syndical chamber proposes to hold its Salon in the Grand Palais in December next, Senator Gobron, head of the automobile firm of Gobron-Brillie, having been chosen commissary general of the exhibition, in place of M. Rives, who managed the Salon in former years.

On the other hand, the new Syndical Chamber of Motor Car Makers, which includes nearly all the French automobile manufacturers, has entered into an arrangement with the Industrial Association of Aerial Locomotion to organize a joint Salon at the end of October or beginning of November. The opinion prevails among both the French public and the manufacturers, that two shows are not needed, nor even wanted, and that the A. C. F. will find itself in a very difficult position, being able, it is said, to exhibit only a very few cars and accessories, while the rival show will have a plentitude of exhibits of all kinds and be sure to be patronized extensively by the public. But so strong is the social influence and prestige of the A. C. F. that the rival association actually asked the Club's sanction of the show, and even endeavored to induce a prominent member of the latter, Baron Van Zuylen, to accept the presidency, but without success.

At the present moment the members of the A. C. F. want the Motor Car Makers to affiliate themselves with the club and to exhibit jointly under club management, while the Motor Car Makers are trying to induce the few remaining automobile firms still faithful to the A. C. F., to abandon its cause and to exhibit under the Motor Car Makers management.

#### Bothering the Bay State Taxicabs.

In Massachusetts a peculiar situation has arisen over the recent order of the State Commissioner of Weights and Measures. that all taxicabs are to have their dials illuminated at night. Most of the cabs are gasoline driven and the expense of installing lighting plants would be so great that many of the taxicab companies are seriously considering the advisability of going back to the ordinary motor cab service at the

old rates, which were in excess of what is now charged for taxicab hire. The order has already led two of the smaller companies to take off the taximeters and to run their machines simply as motor cabs. The head of one of the larger firms said that after careful figuring he had come to the conclusion that it would cost from \$4,000 to \$5,000 to equip his cabs with lights for the dials, and that his concern could not afford to do this under the present conditions of taxicab hire.

As a temporary compliance with the order one of the companies has given to each of its drivers a pocket flash light with which he is compelled to illuminate the dial at the end of each trip. As the taxicabs of New York are getting along without permanent lamps in front of the dial, it is thought that the Massachusetts State Commissioner will modify his order so that the flash light may be regarded as legal.

#### Proper Names Now are Common Nouns.

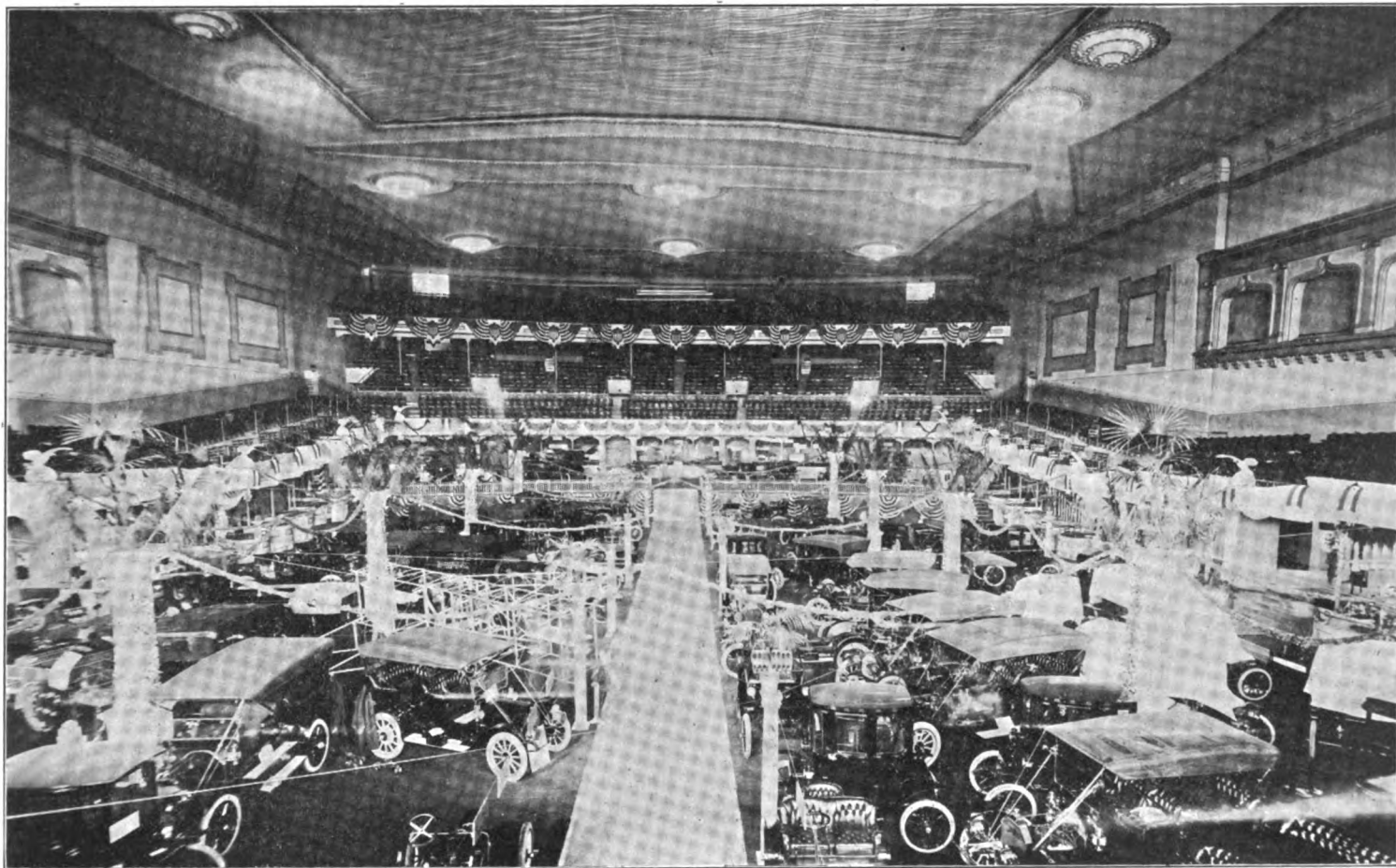
Automobile terminology affords a fine example of the way in which a language may be enriched through the international development of the arts. Tracing the origin of the noun "chauffeur," for example, was a favorite pastime of the daily press for several years; the final and probably correct version placing the term upon the heads of a certain class of brigands which at one time haunted the outlying districts of old France. The popular French and English appellation for the universal jointed propeller shaft, "cardan," it now appears, is hardly more modern in its derivation. After Cardano, the sixteenth century Italian inventor of a certain type of shaft having universal joints, such members came to be known in France as "arbres a la cardan," whence cardan shafts and cardan joints are a natural outcome. Similarly, "carter," the popular French name for a gear box, instead of being of local origin, as might be supposed, is traced to one Harrison Carter, an Englishman, who many years ago invented a gear case for enclosing the driving chain and sprockets of a bicycle.

#### Novel Taxicab "Strike" Brings Results.

Drastic, but effective, means of relief were employed a few weeks ago by the taxicab drivers of Leipzig, Germany, when the police began to arrest them for trivial offenses and fine them heavily in each case. The police persecution had lasted for several days, when the chauffeurs suddenly took the bull by the horns, and at a pre-arranged hour disappeared with their cabs from the streets. For that day the transportation problem in the Saxon city was a difficult one, and the police heard a rather variegated lot of uncomplimentary remarks made by the suffering public. As a result an order was immediately given out by the highest police official to cease unwarranted persecution, and the next day everything went along smoothly. Rarely, if ever, has a difficulty been settled more satisfactorily.



## Six More Local Shows Occupy the Stage



GENERAL VIEW OF DENVER SHOW IN THE AUDITORIUM

### Denver's Auditorium Not Large Enough for its Show

Practically every city and town in Colorado, as well as many outside the borders of the Centennial state, was represented in Denver last week among the throngs of visitors who journeyed to the Mile High city for the second annual automobile show of the Denver Motor Club. Staged in the Auditorium, the city's largest building, the exhibition opened on Wednesday, 23rd ult., and continued for the rest of the week. Overflowing with cars and accessories, the big structure was not large enough to accommodate all who wished to exhibit, and in consequence there were a dozen private shows at local salesrooms. The display was composed of 63 exhibits, all told, about 20 of which were of cars. There were over 200 different machines on exhibition—which was in the nature of high water mark in local show annals.

In keeping with the greater magnificence and splendor of the show itself, the decorations likewise were of an elaborate and beautiful nature. On the main floor, which

was carpeted with green cloth, white lattice pillars marked with greenery marked off the spaces of the exhibitors, the pillars being connected by streamers of blue and white lights. Around the lower balconies at intervals were placed plaster casts of the club emblem—an artillery wheel surmounted by an eagle with outspread wings. On the front of the galleries were placed shields with American flags, and the boxes were similarly decorated. Numerous colored electric bulbs were scattered throughout the hall, over 10,000 lights being used, and when aglow the effect was one that could not well fail to impress the visitor.

Although belonging to the motor club, eleven prominent dealers decided to hold shows at their salesrooms instead of incurring the expense of taking space at the show, and dressed their salesrooms in elaborate form, all using the same color scheme of purple and white, with floral effects. Open house was maintained throughout the week, concerts being given at several establish-

ments, and these private shows also drew large crowds. Those who gave private exhibitions were the following: Tom Botterill, Pierce-Arrow and Pope-Hartford; J. H. McDuffee, Chalmers and Woods electric; McFarland Auto Co., Packard and Buick; Colorado Auto Co., Cadillac; W. W. Barnett, Alco and Stoddard-Dayton; Charles Bilz, Franklin; Felker Auto Co., Stevens-Duryea and Waverley electric; Vreeland Bros. Auto Co., Moon; Central Motor Car Co., Stearns; W. S. Newson, White; A. H. DeGaston, Knox.

With an attendance running up to 15,000 on the opening night, and holding strong on the following days, all previous show records were broken. Not to be outdone by energetic show committees of other cities who provided aeroplanes as drawing cards, the Denverites also had one of the ethereal vehicles on exhibition.

The exhibitors were as follows:

Gasolene cars—E. R. Cumbe, Rambler and Mitchell; Overland Auto Co., Apperson.

Overland, Marion and Winton; Krebs-Covington Auto Co., Haynes, E-M-F. and Flanders; Johnston Motor Sales Co., Premier, Falcar, Peerless and Everitt "30"; Studebaker Colorado Vehicle Co., Studebaker-Garford; Sanford Motor Car Co., Croxton-Keeton; Mathewson Auto Co., Thomas, Oldsmobile, Reo, Oakland, Ohio, Randolph and Reliance trucks; E. W. Swanbrough, Hupmobile; Commercial Motor Car Co., Buffalo trucks; Ford Motor Co., Ford; Welch Motor Car Co., Welch; A. T. Wilson, Kisselkar, Black-Crow and Empire; Havens Motor Car Co., Dorris and Frayer-Miller

trucks; Colburn Auto Co., Colburn and Renault; Michaels & Middlekauff, Parry; F. A. Trinkle, Brush; John Deere Plow Co., Velie; Arapahoe Motor Co., Elmore.

Electric vehicles—Overland Auto Co., Baker; Krebs-Covington Auto Co., Detroit; Studebaker Colorado Vehicle Co., Studebaker; Mathewson Auto Co., Columbus; Fritchle Auto & Battery Co., Fritchle.

Motorcycles—Mead Autocycle Co., Excelsior; Pierce Motorcycle Co., Pierce; Fry & McGill Motor Supply Co., Indian; Boot Motorcycle Co., R-S; Whiting & Wunderlee, Harley-Davidson; New Era Auto Cycle

Co., New Era; George Mayer Hardware Co., Yale.

Accessories—Fry & McGill Motor Supply Co., Great Western Oil Co., Colorado Tent & Awning Co., Meek Trunk & Bag Co., E. Lewis, Westinghouse Electric & Mfg. Co., Denver Gas & Electric Co., Brooke Airless Tire Co., Carstarphen Electric Co., Boss Rubber Co., Whiting & Wunderlee; Globe Storage Battery & Auto Co., Continental Oil Co., Raymond Electric Vaporizer Co., Paine Brier, Hendrie & Bolthoff, Pioneer Motor Supply Co., H. Tenwinkle, George Kindell.

## Los Angeles' "Licensed" Show Held in a Tented Forest

Nestling in a forest of giant redwood trees, beneath a canvas canopy studded with thousands of electric lights, more than 150 of the best known cars of the United States, arrayed in gorgeous attire, together with a generous array of accessories, was the scene which greeted the eye at the opening of the first annual show of the Licensed Automobile Dealers of Los Angeles, Cal., at Fiesta Park, on the 19th ult. There have been numerous shows in the West and on the Coast, each eclipsing its predecessor in lavishness, but for the most gorgeous and entrancingly bewildering motor exhibition ever held west of Chicago the initial effort of the Selden camp in the Angel City is entitled to premier honors. Unique in its housing 'neath walls of canvas which was permitted by the delightful climate of the region, the Los Angeles licensed show was a veritable fairyland.

So common has it come to be that the building selected for an automobile show has been crowded to the bursting point that the licensed dealers when laying out the show hit on a bold plan of holding it in a mammoth tent, where there would be ample room for all, and the plan was a huge success. The broad aisles were like avenues, and at no time were there any signs of congestion. Under a canopy of 90,000 square feet of canvas and a floor area nearly as large the 52 exhibitors of cars and 35 accessory concerns were gathered, with plenty of elbow room on all sides. With the rows of giant redwoods nestling in a green valley and surrounded by canvas scenes of snow

capped mountains and foaming waterfalls, were it not for the motor cars on every hand one easily could imagine himself in the wild and rocky fastnesses of the Golden State.

Hiding the uprights of the tent were redwood branches skilfully interwoven, while the posts were treated with an imitation redwood bark to further aid in the transformation.

Around the four walls was an immense scenic wall of canvas over 1,000 feet long and 12 feet high, representing a forest, which heightened the general effect.

Beginning with the opening night, when the elite were out in force and over 7,500 people passed into the tent, until the close of the show on the 26th ult., all previous daily attendance records were broken.

The exhibitors were as follows:

Gasolene cars—Bekins Motor Co., Atlas; Big Four Auto Co., Regal and Corbin; Bireley & Young, Columbia; W. E. Bush, Pierce-Arrow; Henry & Brown Motor Car Co., Knox; Eastern Motor Car Co., Stevens-Duryea; Elmore Motor Car Co., Inc., Elmore and Stearns; Golden State Garage, Palmer-Singer and Simplex; Greer-Robbins Co., Inc., Mitchell; R. C. Hamlin, Franklin; H. O. Harrison Co., Inc., Peerless and Everitt "30"; W. D. Howard Motor Car Co., Winton; Howard Auto Co., Buick; Don Lee, Cadillac; Lord Motor Car Co., Inc., Studebaker, E-M-F. and Flanders; Los Angeles Motor Car Co., Inc., Locomobile; Maxwell-Briscoe Los Angeles Co., Maxwell; Mercer Auto Co., Mercer; Miller &

Williams, Pullman; Nash & Fenimore, Lozier; Oakland Automobile Co., Oakland; Renton Motor Car Co., Matheson and Overland; W. R. Ruess Automobile Co., Pope-Hartford; Schwaebe-Atkinson Motor Co., Inc., Premier and Randolph trucks; Shafer-Goode Motor Co., Inc., Glide; Smith Bros., Mora; Stoddard-Dayton Motor Co., Inc., Stoddard-Dayton; Charles H. Thompson, Jackson; Woolwine Motor Co., Inc., Cartercar, Oldsmobile and Rapid trucks; Western Motor Car Co., Inc., Packard, Chalmers and Hudson; Wilson & Buffington, Thomas and Moline; Wade Motor Sales Co., Marmon.

Electric vehicles—California Electric Garage Co., Detroit and Columbus; Elmore Motor Car Co., Babcock; Charles H. Thompson, Baker.

Motorcycles—William H. Hoegee Co., Yale; Indian Motorcycle Co., Indian; New Era Cycle Co., New Era.

Accessories—Shugers Mfg. Co., Earl Auto Works, Auto Inner Casing Co., Non-Puncture Inner Casing Co., American Ever-Ready Co., Jackson-Eno Rubber Co., Barnard Specialties Co., Western Mechanical Works, Western Rubber & Supplies Co., Brown & Wall, Chanslor & Lyon Motor Supplies Co., E. A. Featherstone Co., Seeley Specialties Co., Noiseless Automatic Wind Shield Co., Perkins Wind Shield Co., Carl Entomann Jewelry Co., Beacon Auto Body Co., Martin Shock Absorber Co., E. H. Crippen & Co., Pico Auto & Carriage Co., H. & C. Tire Inflator Co., Berlin Dye Works.

## Kansas City's Second Show a Whaling Big Affair

Transformed into an indoor park of elms and apple trees for the occasion, the big Convention Hall in Kansas City, Mo., for the second time this year, is this week the scene of an automobile show. It is the fourth annual function of the Kansas City Automobile Dealers' Association, and despite the defection of a number of dealers from the organization last fall, who held a show in January, the present exhibition surpasses in size and splendor all its predecessors, and is one of, if, indeed, it is not the largest local affair ever held anywhere.

Despite the immense area of the big building, which is one of the largest structures in the West, it is practically bulging with automobiles and appurtenances, there being 81 car exhibits and 30 accessories displays. Over 300 different models of cars are staged.

In order to make room for all the exhibitors who were allotted space the show committee had to install considerable additional temporary flooring. In the balcony all the seats were removed and a platform 22 feet wide with a bridge in front of the band

stand was erected. This extra space together with the main floor gave a total of 40,000 square feet of space for exhibition purposes and there was none to spare. In fact a number of prospective exhibitors were unable to obtain space.

Among the cars on exhibition are several which are uncovered for the first time; they include the Henry, the Lanpher wagon, and the Economy truck. Hailing from Muskegon, Mich., the Henry is a four cylinder machine with cylinders cast in pairs and a power rating of 35 horsepower. Power

is transmitted through a multiple disc clutch to a three speed selective gearset mounted amidships, and the final drive is through an enclosed shaft to a floating rear axle. The power plant is mounted on a pressed steel double dropped frame with 116 inches wheel base, the wheels being 34x4 inches all around. The suspension is on semi-elliptic front and three-quarter scroll rear springs, the latter being extra long. There are two sets of brakes, both the service and emergency systems being mounted on the rear wheels.

The Lanpher is a light delivery wagon distinguished by high wheels and solid tires; it has a double opposed engine and planetary transmission placed amidships. The final drive is by chains.

In the matter of decorations the second Kansas City show suggests the touch of a magic wand. On entering the hall the eye is greeted by a striking white automobile drawn by a score of doves and driven by a bewitching, but inanimate, female, which has been christened "Matoria," the whole piece de resistance being suspended from the ceiling, or rather from the sky, for the roof has been transformed into a night sky of a dark ultra-marine hue and so shaded and illumined by ingeniously arranged lights consisting of electric stars, that the impression is conveyed that it really is an outdoor scene with the genuine sky above. Over the rear seats of the car, which is of open type, is a framework which is banked with flowers, as are the other outlines of the vehicle. The arrangement floats just above the tree tops. At the other end of the building and similarly suspended, but more apparently in its element, is an aeroplane which is lacking in the possession of a

cote of doves to lend a flight effect. On the main floor are over 100 apple and elm trees, the former with blossoms attached and suggesting an apple orchard in spring time. To lend further an aspect of genuineness to the setting, the odor of apple perfume from gallons of imported scent is wafted through the hall by numerous electric fans, while hundreds of canary birds concealed in the trees make more or less music.

The exhibitors are as follows:

Gasolene cars—Taylor & Taylor, Herreshoff; Boyd Automobile Co., Haynes and Sterling; Great Western Automobile Co., Great Western; Woodward Automobile Co., Knox; Hollister Motor Car Co., Great Smith; Lake Motor Car Co., Premier and Stearns; Brooke Automobile Co., Lexington; McIntyre Automobile Co., McIntyre; Kansas City Vehicle Co., Gleason; Monarch Motor Car Co., National, Demot and Cole "30"; Empire Automobile Co., Empire; Kendall Motor Car Co., Pennsylvania; Jackson Automobile Co., Jackson; Rambler Automobile Co., Rambler; Hall Bros., Dorris and Pierce-Racine; Standard Motor Sales Co., Matheson; Lambert Motor Car Co., Henry; Weber Engineering Works, Continental; Selden Motor Sales Co., Selden; Cartercar Motor Co., Cartercar; Enger Motor Car Co., Enger; Inter-State Motor Co., Inter-State, Parry, Warren-Detroit, and Buffalo trucks; Joseph W. Reid, Glide and Westcott; Regal Motor Car Co., Regal; Hunnewell-Scott Motor Car Co., Lozier; Genung Motor Car Co., Falcar; Western Motor Car Sales Co., Speedwell, Davis; H. G. Kirkland, Anhut; Automobile Sales Co., Pope-Hartford; Bond Motor Car Co., Everitt "30"; Pullman Motor Car Co., Pullman; Zartman-Tuller Co., American and Chad-

wick; Bergers Auto Co., E-M-F. and Flinders; L. C. Motor Car Co., Palmer-Singer; Western Commercial Car Co., Reliance, Economy, Monitor and Gramm-Logan trucks; Demster Machinery Co., Locomobile; Post Motor Car Co., Kisselkar; A. L. Bennett & Co., Petrel; Long Motor Car Co., Brush; Missouri Valley Auto Co., White; Kansas City Rapid Motor & Transportation Co., Black-Crow; Ryer & Peycke, Abbott-Detroit and Halladay; A. E. Snow, Beyster-Detroit; Kansas City Auto Truck Co., Frayer-Miller; Meils Motor Car Co., Lambert; Ray-Histed Motor Car Co., De Tamble and Chase trucks; A. M. Wiker, Lanpher; Auburn Motor Car Co., Auburn; Franklin Automobile Co., Franklin; Schacht Motor Car Co., Schacht; Auto Livery Co., Fuller and Whiting; Bradley-Alderson Co., Cameron, Overland and Marion.

Steam cars—Missouri Valley Auto Co., White; Hunnewell-Scott Motor Car Co., Stanley.

Electric vehicles—Woodward Automobile Co., Babcock; L. C. Motor Car Co., Baker; Inter-State Motor Co., Broc.

Motorcycles—Yale Motorcycle Co., Yale; E. B. Saufly, Excelsior; American Motorcycle Co., American.

Accessories—Vesta Battery Co., Fidelity Oil Co., Western Oil Pump Co., Phoenix Auto Co., Kansas City Rubber Belting Co., Mercantile Lumber & Supply Co., W. F. Polson, Triple-Tread Tire Co., Universal Sales Co., Kansas City Auto Supply Co., Excelsior Supply Co., Fireless Cooker Co., Columbia Steel Tank Co., Star Speedometer Co., Multi-Ball Spark Plug Co., Vacuum Cleaning Co., Butler Mfg. Co., Kansas City Vehicle Co., Auto Specialty Co., Pioneer Top Co.

## Milwaukee's Show and Fountain "Played" Even on Sunday

However spacious Milwaukee's Auditorium may appear when unoccupied, it was none too large to house the Milwaukee Automobile Club's show, which held the boards there from February 22 to 27. When noses were counted among the car exhibitors it showed 35 manufacturers and dealers—it largely was a manufacturers' show—who staged some 53 brands and over 150 models in all. Besides this there were a score of motorcycles and a host of accessory people, the total exhibitors amounting to about 75. Making their debut on the show circuit were several cars: The Deal, made by the Deal Motor Vehicle Co., Jonesville, Mich.; the Imperial, of Jackson, Mich.; the Wisco, born of the Wisconsin Motor Car Co., of Janesville, and the Johnson gasolene car, produced by the Johnson Service Co., of Milwaukee.

Adopting the outdoor scenic effect which has been so widely used for show settings by various managers throughout the country this season, the big hall was transformed into a garden. In the arena, aisles marked by white pillars topped with potted plants, were laid out, converging at the stage,

where a profuse bank of potted plants and flowers were massed. In the centre of the arena was an electrical fountain playing incessantly through a film of vari-colored lights and surrounded by banks of flowers and plants. Above these was suspended an aeroplane, without which no show of the current season's vintage seems complete.

No better illustration of the broad minded attitude of the authorities of the Cream City as regards the observance of the Sabbath was needed than the fact that the show was open on Sunday as well as week days and closed on Sunday night, 27th ult., with a grand finale of music and entertainment.

That all was not harmony in the ranks of the local dealers was strongly illustrated by the fact that some fourteen dealers refused to take space at the show and held private displays at their salesrooms, which were elaborately decorated during show week. Some time previous to the show these dealers issued a statement setting forth their position and their reasons for not supporting the Auditorium show. According to the fiat of the insurgent dealers, the exhibition which was promoted by the club was a pri-

vate enterprise to raise funds for the erection of a new clubhouse, and that inasmuch as they claimed that dealers were not given fair consideration in the arrangements for the show, they decided not to take part in it. This, however, was the extent of the dealers' opposition to the show, and they did nothing further towards opposing it.

Those who held private shows at their salesrooms were the following: Akin Motor Car Co., Stevens-Duryea and Columbus electrics; Curtis Automobile Co., Reo; Jonas Automobile Co., Cadillac and Peerless; Edward F. Sanger Co., Maxwell, Oldsmobile and Stearns; Waite Bros., Moline; American Automobile Co., Pierce-Arrow and Babcock electric; Emil Estberg, Pope-Hartford, Woods and Waverley electrics; Mitchell Auto Co., Mitchell; Albert Smith, Palmer-Singer; Bates Oldenbrett Automobile Co., Winton, Overland and Marion; Hickman-Lauson-Diener Co., Ford, Cartercar and R. A. C.; Rambler Garage Co., Rambler; Studebaker Automobile Co., Studebaker-Garford and electric; Welch Bros. Motor Car Co., Packard and R. & L. electric. Cars were furnished by the dealers

to transport visitors from and to the various establishments. The Auditorium exhibitors were:

Gasolene cars—Kopmeier Motor Car Co., Velie and American; West Side Auto Garage, Auburn and Halladay; Franklin Automobile Co., Franklin; Badger Motor Car Co., Badger; Stephenson Motor Car Co., Brush, Staver, Speedwell and Utility trucks; Buick Motor Co., Welch, Buick pleasure and commercial; Ogden-Farwell Garage, Chalmers and Hudson; McDuffie Automobile Co., Courier and Stoddard-Dayton; La Crosse Plow Co., Deal and Imperial; Modern Motor Co., Empire; Gove Automobile Co., Fuller and Jackson; Grout Automobile Co., Grout; Schreiber Motor Car Co., Haynes and Locomobile; Taylor Bros., Hupmobile; International Harvester Co., International; Johnson Service Co., Johnson; Kisselkar Co., Kisselkar; Knox Automobile Co., Knox; W. V. B. Camp-

bell, Lozier and Mercer; J. I. Case Plow Works, Ohio; Pierce Motor Co., Pierce-Racine; H. E. Halbert, Paterson "30"; B. F. Dorsch, Schacht; J. L. Kinz Machinery Co., Warren-Detroit; White Co., White steam and gasolene; Wisconsin Motor Car Co., Wisconsin; Abresch-Cramer Auto Truck Co., Abresch-Cramer trucks; Brodeser Motor Truck Co., Brodeser trucks; Wisconsin Motor Mfg. Co., Clark trucks; H. P. Haushalter, Haushalter trucks; Commercial Auto Co., Gramm-Logan trucks; Meiselbach Mfg. Co., Meiselbach trucks; Welch Bros. Motor Car Co., Packard trucks; Sternberg Mfg. Co., Sternberg trucks.

Electric vehicles—Franklin Automobile Co., Babcock; George F. Gerlach, Baker; Kopmeier Motor Car Co., Detroit; McDuffie Automobile Co., Ohio.

Motorcycles—Comet Motor Co., Comet; Harley-Devidson Motor Co., Harley-David-

son; Wisconsin Motorcycle Co., Indian; F. A. Bremmer, Merkel and Light; R. C. Parson, R-S; J. H. Wagner, Yale.

Accessories—Charles Abresch Co., Julius Andrae & Sons Co., Aquila Chemical Co., Bartles-Maguire Oil Co., Cream City Trimming Co., C. N. Casper & Co., Christenson Engineering Co., Detroit Steering Wheel & Wind Shield Co., Franklin Automobile Co., Garage Equipment Mfg. Co., Philip Gross Hardware Co., Goodyear Rubber Co., Leo Kopmeister Co., Kamlee Co., King Leather Tire Co., A. J. Monday, Milwaukee Trimming Co., Northwestern Storage Battery Co., The Only Grease & Oil Gun Co., O'Neil Oil & Paint Co., George F. Ransom, The Roxine Co., B. Roberts Co., Oscar L. Ritter Co., Wadhams Oil Co., Wallmann Mfg. Co., Wisconsin Motor Mfg. Co., Wisconsin Machinery & Mfg. Co., Wold Bros., Empire Fur factory, Longdin-Brugger Co., Allis-Chalmers Co.

### Four "Native" Cars Included in Baltimore's Display

With twice the number of exhibits that graced the initial function a year ago, the second annual show of the Automobile Club of Baltimore, Md., was ushered in, in the Fifth Regiment Armory on Washington's Birthday, 22d ult., amid a fanfare of horns and band music. The strides which the motor car has made in the Monument City during the past year were well illustrated by the increase in cars shown for the first time, which amounted to 28. All told, there were 241 cars on display, representing 57 different brands.

It may be surprising to some to learn that Maryland figures more prominently in the car manufacturing fields than is imagined, four native products being shown—viz., the Washington, Crawford, Spoerer and Maryland.

Myriads of Japanese parasols and lanterns dangling from the roof of the big hall and sprinkled about the galleries lent an Oriental aspect to the scene. At the entrance an arch of smilax greeted the eye of the visitor, while searchlights hidden in the greens poured forth their beams upon the

luminaries of paper and cane, which were symbolical of the Far East. Dividing the spaces were white posts topped with colored globes, and around the balconies streamers of bunting and winged wheels were tastefully arranged. Bunting was liberally used, the color scheme being pink and blue. The exhibitors were as follows:

Gasolene cars—Auto Outing Co., Haynes, Buick and Palmer-Singer; Bauman & Lilly, Washington; Boyd, Eastman & Co., Apperson; Callahan, Atkinson & Co., Locomobile; Ford Auto Co., Ford; Foss-Hughes Motor Car Co., Pierce-Arrow; General Auto Co., Parry; Griffin Garage, Knox; Hoff-Ford Co., Spoerer; Charles S. Houghten, Overland, Marion and Bobcab; International Harvester Co., International; Lambert Auto Co., Maxwell and National; E. L. Leinbach Co., Matheson; Joseph Weisenfeld, Oakland, Hupmobile and Brush; McMullen-George Auto Co., Stearns; Joseph B. McMullen, Mercer; Mt. Vernon Motor Co., Autocar; Mar-Del Mobile Co., Packard; Motor Car Co., Stevens-Duryea and Thomas; Neely & Ensor, Alco and Jackson;

Norwood Bros., Velie and Demot; Palace Motor Car Co., Klinekar and Manhattan trucks; Royal Auto Co., Rider-Lewis; F. W. Sandruck, Gaeth and Moline; Walter Scott, Crawford; Shaffer Mfg. Co., Pullman; W. P. Shuler, Mitchell; Sinclair-Scott Co., Maryland; J. J. Smith, Chadwick; Standard Motor Co., Cadillac and Oldsmobile; Shaab Auto Co., Stoddard-Dayton, Renault and Rainier; D. C. Walker Auto Co., Studebaker, E-M-F. and Flanders; White Automobile Co., White; Winton Motor Carriage Co., Winton; Zell Motor Car Co., Peerless, Chalmers and Hudson.

Steam cars—H. A. Broadbelt, Jr., Stanley; White Automobile Co., White.

Electric vehicles—D. C. Walker Auto Co., Studebaker.

Accessories—Auto Supply Co., Baltimore Buggy Top Co., E. M. Denton, James G. Davy & Co., Charles Elliott & Co., Howard A. French & Co., General Auto Co., H. W. Johns-Manville Co., Johnson & Johnson, Joseph Weisenfeld, R. Milton Norris, Frank C. Pearre, L. Sonneborn Sons, Inc., Standard Oil Co.

### American Cars Constitute Show in British Territory

Although held in foreign territory, the fourth annual automobile show of the Ontario Motor League, which was inaugurated in the St. Lawrence Arena, Toronto, Ont., on the 24th ult., is essentially an exhibition of American cars, for with few exceptions the cars displayed are of American make. Of course, considering the proximity of the American automobile centers and the fact that several American makers have established factories in Canada to avoid the duty, it is not strange that American cars predominated. Two foreign cars are shown, one from England, the other from France, and the Canadian strength is embodied in a single make—the Russell. However, this

machine is notable in that, although it is an established make, it is shown for the first time this season with the Knight slide valve engine, which has created such a furore abroad. Several other models with the regular type of mushroom valve engine also are displayed.

How great has been the expansion of the present show over previous exhibitions is shown by the number of exhibitors, 125 in all; whereas in former years it has been necessary to fill in much empty space with motorboats and kindred displays, while this year there is but one water craft shown. The large hall is tastefully decorated in red and white, while clusters of large incandes-

cent lamps hung from the roof flood the hall with light.

There are some twenty exhibitors of cars, the remainder showing motorcycles, accessories and marine fittings. The show closes today (Thursday), 3d.

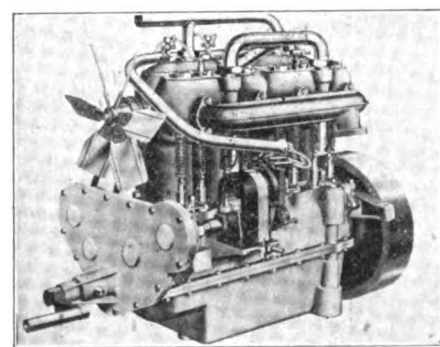
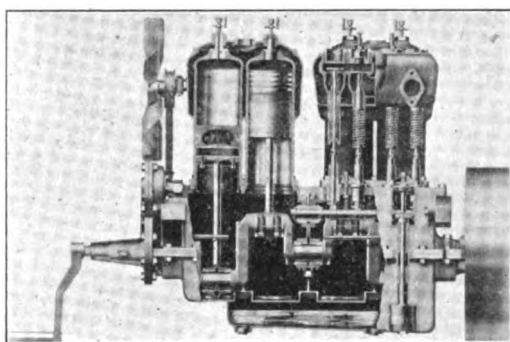
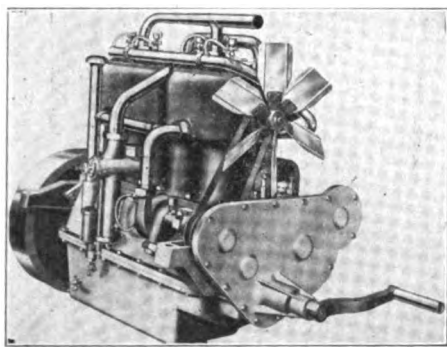
The following American cars are exhibited either direct by their makers or through local agents: White, E-M-F., Cadillac, Oldsmobile, Stevens-Duryea, Welch, Haynes, Overland, Stoddard-Dayton, Ford, Reo, Oakland, Packard, McLaughlin-Buick, Pierce-Arrow, Franklin, Pennsylvania, Regal, Brush, Maxwell, Mitchell, Jackson, Metz, Pullman, Reliance, Rapid and Chase, the latter three being commercial vehicles.



## LONG STROKE AND LONG PISTON

Advanced Practice Embodied in the Excelsior Motor—Rotary Throttle on the Specially Designed Carburetter.

Modern methods of specialization permit the parts maker to keep at the very forefront of the field of design, thus placing his customer in the position of competing on an even footing with such makers as are possessed of the large equipment necessary to the production of their own components. Thus in the new four cylinder motor which has been brought out by the Excelsior Motor & Manufacturing Co., Chicago, Ill.,



RIGHT AND LEFT SIDES AND SECTION OF NEW EXCELSIOR MOTOR

it is not surprising that the long stroke idea has been carried about as far as has yet been done in automobile work, nor that the machine is equally up-to-date in other respects as well.

The cylinder dimensions are  $4\frac{1}{8}$  by  $5\frac{1}{4}$  inches, bore and stroke. By the A. L. A. M. formula, this would indicate a probable output of  $27\frac{1}{4}$  horse. But the maker's figure for the normal driving effort is 35 horsepower, when turning at 1,000 revolutions per minute, while, due to the nature of the design, extreme flexibility is claimed; the statement being made that the motor will carry its load at from 150 to 2,500 revolutions without breaking down.

In keeping with the extension of the stroke to the degree chosen, the pistons are made exceedingly long, while a noteworthy point is that the connecting rods also have been lengthened, thereby reducing wall thrusts as well as contributing to smooth working. Four eccentric packing rings are used, all of which are mounted above the wrist pins. The latter are tubular and of 1 inch diameter. The valves are interchangeable and are of  $1\frac{1}{8}$  inch diameter, with 5-16 inch lift. The valves are mounted on the left side of the engine and are operated by direct lift from the single cam shaft. This, together with the water and oil circulating pumps and the magneto drive, is actuated by spiral gears.

Lubrication is effected by means of the sump system, with forced circulation to all the crank shaft bearings and to the connecting rod bearings through ducts in the crank

shaft. The overflow keeps a constant supply in the troughs which lie beneath the cranks, whence it is caught up by scoops on the under side of the cranks and splashed against the cylinder walls and wrist pins.

Special features about the motor are the carburetter, which is of the multiple jet type with rotary throttle—especially designed for the engine; the use of a heavy support for the starting shaft, whereby the necessity of giving it an outboard bearing on the frame of the car is done away with; and the method of support. The starting shaft is held rigidly in line with the crank shaft by means of a boss cast integrally with the front cover plate of the gear housing. The engine is supported in the frame by means of an arm on either side in front,

both arms being cast integrally with the case; and a cross beam in the rear, which is bolted to the case and held under brackets cast in place for the purpose. No packing gaskets are used anywhere about the motor, ground joints being employed instead, while in the case of the water, oil and other connections, screw couplings are employed.

### How Frame Weaving Racks the Body.

Many shortcomings in body construction may be charged to the way in which cars are handled by their owners; particularly in instances where they are permitted to stand for any length of time upon uneven footing. For since the tendency to weaving in the frame has been found to be so great that in most instances designers have been forced to provide flexible connections between the essential elements of the power plant or else to combine them in a single unit mounting that itself being supported in a flexible manner, it follows that the body, which is unsupplied with such provisions, must be directly the sufferer from such stresses as result from this sort of cause. Under ordinary road conditions, it is evident that the body must be subject to considerable working. But when the car is permitted to remain for any length of time with one of its wheels considerably out of the plane of the others, it is evident that there must be some tendency for the stresses so created to be transmitted through the springs to the frame and so to cause a "permanent set" in the body.

## PROVIDES WARMTH WITHOUT FIRE

Ingenious Adaptation of a Chemical Phenomenon in a Motor Car' Heater—"Sponge" Platinum is Used.

The great difficulty hitherto experienced with foot warmers has been the necessity of using charcoal or of connecting them with the exhaust of the motor. In carriages, on the other hand, heated bricks or metal "pigs," which lost their heat rapidly, have been used, and were far from satisfactory. There has appeared in Germany, however, a novel apparatus which is based on the heat generated by certain chemical reac-

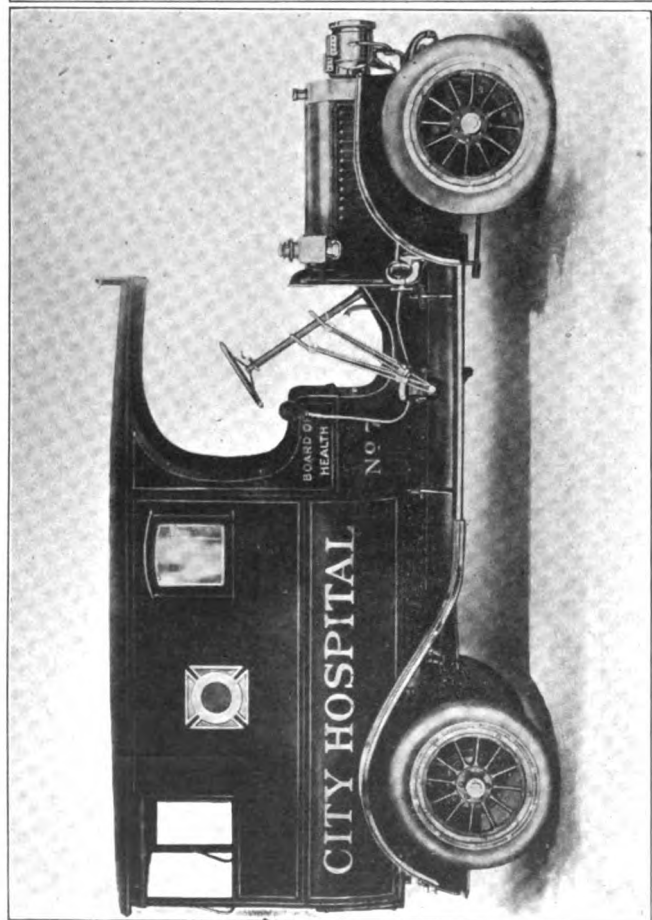
tions, and which requires practically no attention beyond the occasional charging of the fuel reservoir with small quantities of ordinary methyl alcohol, such as is readily and cheaply obtainable.

The warmer consists of a small receptacle filled with methyl alcohol, a tube leading from this receptacle to a second chamber in which platinum in finely distributed, so called "sponge" form is placed, and a small valve in the tube connecting the two receptacles, which can be regulated by hand. The vapor of methyl alcohol, when brushing over "spongy" platinum, has a peculiar quality of heating this metal to about 80 degrees Celsius (176 Fahrenheit). There is no danger of explosion, fire, or overheating, and the apparatus can be used everywhere and in every desired place, whether in the house, in the motor car, carriage, boat, etc. The platinum is practically indestructible, and the only expense is the methyl alcohol, amounting to less than 2 cents per hour. The apparatus which is constructed of bronze, and weighs less than five pounds, is marketed by the Saechsische Export Gesellschaft, Leipzig, under the name "Me Voila."

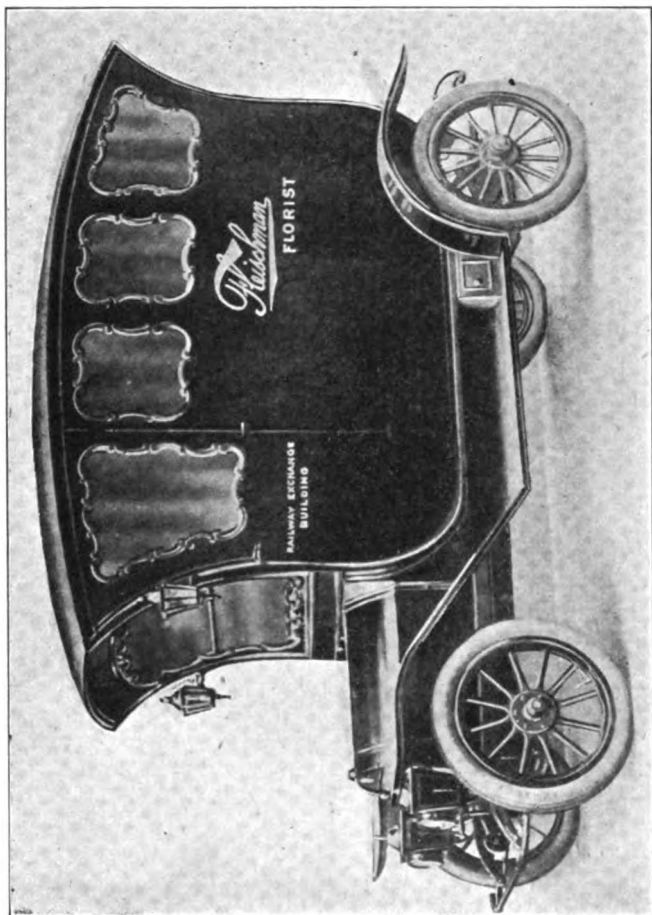
### To Operate Motor Trucks in Grand Forks.

H. W. Sims, who is engaged in the automobile business in Grand Forks, N. D., has placed an order for 10 motor trucks and will conduct a delivery service. He plans to operate the trucks on a half hour schedule to handle all freight, packages, etc., in his locality.

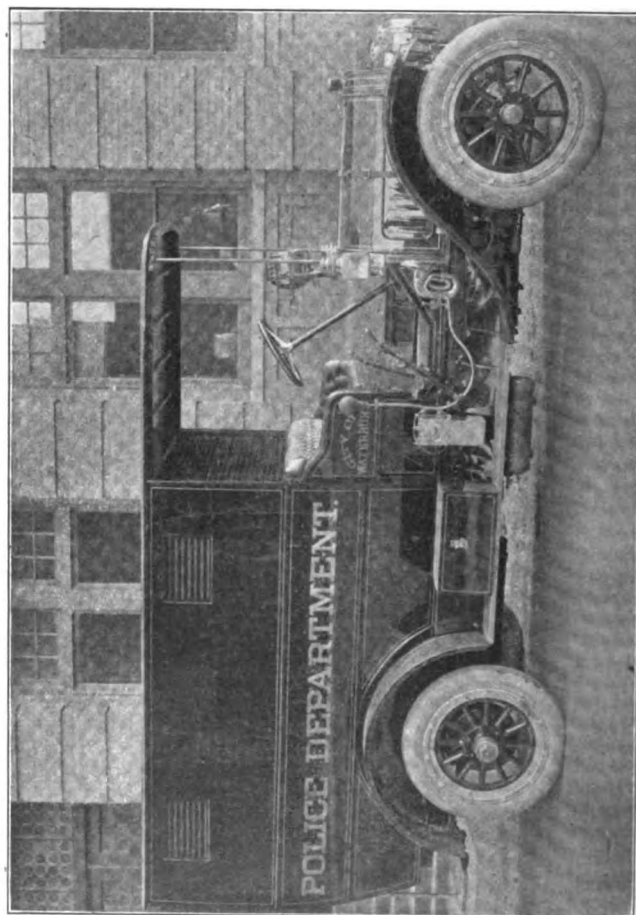
## FOUR SPECIAL SERVICE VEHICLES, EACH OF INDIVIDUAL DESIGN



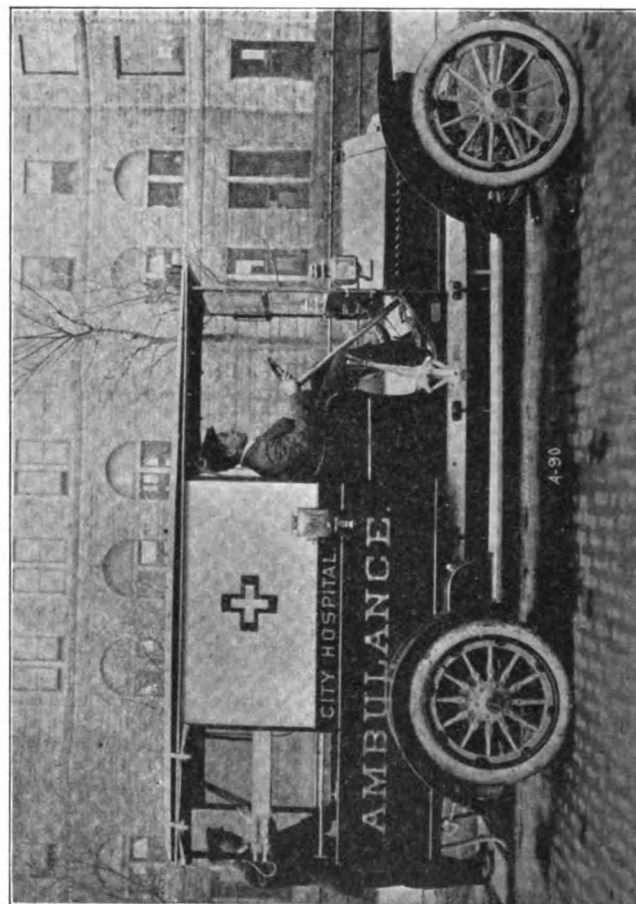
MAXWELL AMBULANCE IN USE IN NEWARK, N. J.



STODDARD-DAYTON FLORIST'S WAGON USED IN NEW YORK



POPE-HARTFORD POLICE WAGON EMPLOYED IN WATERBURY, CONN.



ALCO AMBULANCE IN USE IN RICHMOND, VA.

## BRITISH COLUMBIA COMING STRONG

**Demand for Automobiles Will be Doubled During 1910, Says a Consul—American Cars Dominate the Market.**

According to a report of Consul Abraham E. Smith, of Victoria, B. C., the number of motor vehicles now in use and registered in British Columbia is 625, of which 168 are owned and operated in Vancouver Island, and 151 in the city of Victoria. The advance of price in real estate in the three principal cities of the province—Vancouver, Victoria and Westminster—has caused a greatly increased demand for automobiles during the last few months, and dealers everywhere in the province are anxiously awaiting shipments of the cars ordered long ago, which have been delayed owing to the great floods and snowstorms of the past few weeks.

"Automobiles have become here, as in other places, no longer luxuries, but necessities," writes Consul Smith. "The insular prejudice which formerly existed against American manufacturers has measurably disappeared, as is significantly shown by the automobiles now in use in Victoria. A visit to the dealers and importers here shows that of the 151 automobiles in use in this city, one was manufactured in Belgium, two in Italy, three in France, 39 in England, 47 in Canada, and 59 in the United States. Of those manufactured in Canada, 36 bear American names and are the product of American houses, though built in Canada, their engines being made in the United States and the vehicles in Canada to save customs dues. A few runabouts are in use, but generally the car seating three or five persons is preferred."

As the roads in the more thickly settled portion of Victoria, and particularly on the island of Vancouver, are generally good, automobiles are used to a great extent for long trips to the west coast and to the mines and settlements in the northern portion of the island. Consul Smith predicts that the number of motor cars used in Victoria will be doubled during 1910.

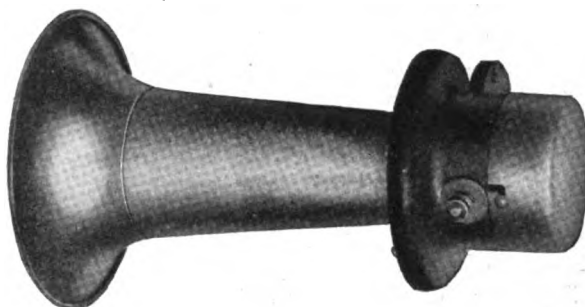
### Even the Canaries Call for Motor Cars.

Teneriffe, Canary Islands, boasts the possession of 15 motor cars at the present time, four of which are American made, seven French and four English. At Grand Canary there are seven cars at the present time, according to American Consul Solomon Berliner, two of which were produced in the United States and five in France. In addition, three German omnibuses are in service. Improved highway conditions and increasing interest in the automobile movement has resulted in orders for four addi-

tional cars from America and two omnibuses from France. One 'bus service already is in operation in Grand Canary, and another is to be started in Teneriffe within a short time.

### Electric Horn that Affords Variable Tones.

With a diaphragm which is vibrated by means of an electro-magnet, an electric horn has been brought out by the Atwater Kent Mfg. Works, of Philadelphia, Pa., makers of the "unisparker" ignition system, which for several years has been familiar to the trade. The new horn is styled the "Monoplex," and its exterior appearance is indicated by the accompanying illustration, the brass horn, which is 11½ inches long, being mounted on a black enameled



base containing the sounding mechanism. It is attached to the dash by a bracket cast in one piece with the base, and is operated by a push button placed wherever most convenient, generally on a spoke of the steering wheel. By the turning of a screw the strength of the horn note may be altered to suit the needs or wishes of the owner. The current for the horn's operation may be supplied from dry cells, storage battery, or charging dynamo, and, if desired, from the same source that supplies the ignition. The best results are obtained on from 6 to 12 volts and the current consumption is from 1 to 1¼ amperes.

### Proper Adjustments that Save Trouble.

It is a hard matter to convince many users of automobiles that any piece of machinery, no matter how carefully made or how well designed, will, in time, wear, and this wear must be taken up. The right policy to employ in regard to connecting rods and main engine bearings is that "a stitch in time saves nine." Therefore at the first suspicion of a knock or pound, investigate the trouble and make the proper adjustments.

### Why Cylinders Should be "Bathed."

Too much stress cannot be laid on the importance of thoroughly washing out the insides of the cylinders with kerosene. The quality of oil is a factor in the amount of carbonization that takes place. There is no oil, no matter how good, but that will carbonize somewhat. The cylinders should be treated to a bath of kerosene certainly once a week, and if time permits it is advisable to flush them out twice a week, or even more frequently.

## SPAIN OFFERS OPPORTUNITIES

**Price of Gasolene a Drawback, but Hoover Declares There are Openings for Americans—How One Made Headway.**

Heretofore, owing to a number of reasons not at once apparent to the general public, Spain has not played any important part in the trade with automobiles. It has not been a great importer, neither has it been in the public eye as a manufacturing country for motor cars. A report of Consul Charles S. Hoover, of Madrid, Spain, in answer to an inquiry from the State Department, tends to shed some light upon the peculiar conditions confronting the intending importer of automobiles in the land of the Dons.

"In the Spanish capital," says the consul, "with a population equal to that of St. Louis or Boston, with the diplomatic corps, the government officials, the large numbers of people who have made fortunes in the Americas, and nearly all the nobility, there are only 725 licensed automobiles, and no automobile trucks. The reasons assigned for this relatively small use of automobiles are as follows: (1) The cost of gasolene, 48 cents a gallon, which hinders all but the rich from the use of the machines; (2) the conservatism of many influential families in clinging to horses and carriages—although this is gradually disappearing in the face of the fact that the automobile has been adopted by royalty and the leaders of the nobility; (3) the high prices which have been demanded for the machines, which preclude their use by all but the very rich—prices which would be considered exorbitant in the United States. Most of the machines in use are from 10 to 16 horsepower. As many of those are out of date their owners are anxious to sell them and purchase new machines of higher power."

It is in this desire of the early purchasers to dispose of their antiquated vehicles that the future of a good market in Spain for modern motor cars may be found.

Naturally, when the general public, particularly the middle class merchant or official, views the ramshackle contraptions masquerading under the name "Automobile" at present in the Spanish capital, it is not consumed by any overpowering desire to invest in similar machines. If, however, some good modern cars were introduced and driven continuously over the main thoroughfares of the city, there is every reason to believe that a demand for similar excellent vehicles would be created.

Consul Hoover, in discussing the conditions prevalent in Spanish cities, says that the streets in the city of Madrid are smooth and broad, and that large extensions are made to its system of boulevards. "The roads in the vicinity of Madrid, and in many other parts of the country," he

adds, "are fully as good as the famous French roads, and motoring excursions are becoming the fashion. But manufacturers who wish to compete for this market must have their own representatives on the ground to look after their interests. All the dealers are bound up by contracts so that they cannot handle American goods; in fact, nearly all the dealers are employees of the manufacturing concerns, who are merely in charge of the sales rooms established by the companies. American manufacturers have been writing to these people for some years past, with the net result that there is not an American car in use in Madrid."

On the other hand, and as an example of what may be accomplished by proper methods and personal effort, Consul Hoover relates the experience of a representative of an American automobile concern who recently visited Madrid.

"He canvassed all the dealers in the city trying to secure an agent for his car," says Mr. Smith, "but found them either unwilling or unable to accept the agency. Through a proper medium he was eventually placed in communication with a party not in business at all, who accepted the agency, purchased a car immediately, and contracted for twenty more to be delivered within the year. The car put out by this company will sell for about \$1,800 to the local trade, including the body. Its motor is 30 horsepower.

The consul calls further attention to the fact that no sales can be made from catalogs, that American factories must deal through independent representatives who will be loyal to their interests instead of using their agencies to prevent the sales of American cars.

"To sell cars to the trade here it will be necessary to show the prospective purchaser the car and tell him exactly what it will cost him laid down in Madrid. European manufacturers do this and they will continue to get all the trade until American manufacturers meet conditions as they exist here. Unattached agents may be secured, but it would be better for each company to exploit its own output through a competent salesman who can speak the Spanish language. The companies here advertise very little, and it is believed that a campaign of advertising of any car would produce good results, especially if there were a salesroom where the car could be shown to people while they were interested."

When an American manufacturer decides to invade the Spanish market, he must remember that in Spain as well as in many other European countries, the chassis only is furnished by the manufacturer, the body usually being made to order elsewhere. This division of work on one car precludes a lump sum being fixed for each car; for the price of the body will naturally depend on

the taste and requirements of the purchaser, but the consul furnishes a guiding list showing the prices of chassis put out by a well-known European factory, laid down in Madrid: 12-15 horsepower motor, \$1,785; 15-25 horsepower, \$2,200; 25-35 horsepower, \$2,291; 40-50 horsepower, \$3,667; 40-50 horsepower, six cylinder, \$4,053; 75 horsepower, six cylinder, \$5,404.

#### Body Built for Carrying Tires.

Instead of wrapping tires in yards of burlap and paper and then having a boy roll them like a hoop along the streets to deliver them to the purchasers, a firm of dealers in San Francisco, Cal., The Weinstock Nichols Co., has evolved a motor car delivery scheme which is rich in suggestion



for other large dealers who are endeavoring to solve the tire delivery problem. A light runabout has been equipped with a big hollow drum in the rear, as shown in the accompanying illustration, and in this the tires may be carried any distance and over any kind of roads without the slightest danger of chafing and without the necessity of wrapping or packing them, as has been proved in the strenuous service of the runabout in delivering Morgan & Wright tires to retail purchasers and agents.

#### Sager Still Strong for Comfort.

With a view to permitting the springs of the car a free movement in the middle range but presenting an increasing resistance to their deflection either up or down when they exceed the normal, the J. H. Sager Co., of Rochester, N. Y., is putting on the market the Peerless shock absorber, which differs from most devices of this character in that friction plates or surfaces are not an essential feature of the construction. The fork from the frame fastening is attached to a three point cam, while the lower arm, which is connected with the axle, incorporates a cover and casing holding a triangle of springs. The movement of the car frame in relation to the axle turns the cam resting within the triangle, and the greater the movement the more resistance the cam encounters, according to the degree that the springs in the shock absorber

are deflected. A price of \$50 per set of four or \$25 per pair has been set on the devices.

Detail improvements have been made also in the Sager bumper, made by the same company. The bumper stands about six inches above the spring hangers, protecting not only the lamps and the radiator, but also the fenders and tires. The bumper bar itself is a steel tube, covered with a heavy brass tube and containing a wood filler. The bell cranks are made of manganese bronze and the whole construction is designed to be "non-rustable." The I-stud bolts carrying the coil springs are fitted with nuts which permit a variation in the adjustment of the degree of spring tension on the bumper.

#### Old Trick Leads to the Law.

One of the old tricks of a small part of the trade, that of renting out an automobile placed for sale in a garage, has landed E. R. Kent and Carrie Kent, of Denver, Col., in the District Court, Judge Whitford presiding. Clarence Cobb, also of Denver, alleged that he placed an automobile worth \$1,700 in the hands of the Kents on April 16th, 1908, to be sold on commission. They rented it, he claims, until May 19, 1908, thereby damaging the property to the amount of \$1,200. The case was argued at considerable length, Judge Whitford reserving his decision.

#### How Spain Levies on Motor Cars.

The Spanish tariff on motor cars is very high; on chassis alone it amounts to 7 cents per pound. Cars with open bodies pay besides the chassis duty an extra \$38.60 for the body; cars with closed bodies must pay \$61.76 plus the rate for the chassis. In case the machine is imported complete, the weight of the chassis is determined by the Spanish authorities by subtracting 440 pounds from the gross weight of open cars, or 880 pounds from that of closed cars.

#### Mexico Leans to European Cars.

Despite its neighborly advantages, the automobile market of Mexico continues to exhibit a decided leaning toward the European made product. According to American Consul William W. Canada, of Veracruz, a total of 74 automobiles was received at that port during the latter half of 1909, destined for the interior. Of this number one came from England, 66 from the Continent, and only seven from the United States.

#### How Horse-Drawn Trade is Affected.

As a manufacturer of both automobiles and horse drawn vehicles, John M. Studebaker, head of the big company in South Bend, Ind., which bears his name, has made a commentary on the effect of the motor car industry on the carriage trade.

"The automobile has practically killed the business in fine horse drawn vehicles," he declares, "but it has increased the output of the medium class vehicle."



## HAS A SLIDE VALVE IN THE HEAD

Radical System Employed in the Drummond-Bostock Engine—Advantages Obtained by the Construction.

Slide valve engines in one form or another continue to multiply in Great Britain at a rate which threatens the ultimate extermination of the poppet valve type—or at least would do so were it not for the fact that up to this time most of the inventions of this character still are confined to blue print paper. Several practical designs have been committed to cold metal, however, and with encouraging results to those who are enthused with the principle. One such is the Drummond-Bostock, which is the invention of two engineers in the employ of the English Lorraine-Dietrich Co., and has been in operation on the road since last June. So successful has it proved that manufacturing arrangements between the inventors and the Dietrich company are said to be in prospect.

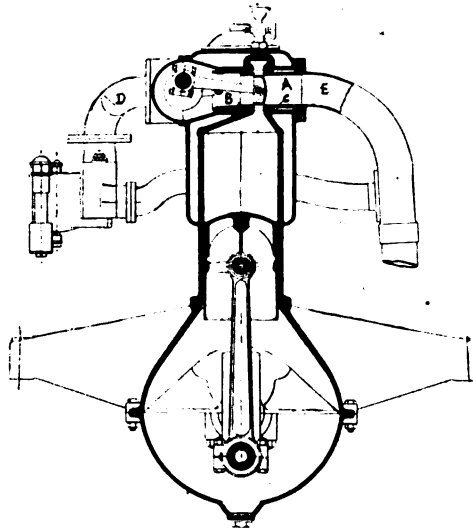
Despite the radical character of the slide valve principle as applied to internal combustion engine construction it must be admitted that the Drummond-Bostock design is one of the most promising of the great number of new inventions along this line which have come to light during recent months. Its construction, in a word, provides for a single ported sleeve valve mounted in a cylindrical chest over the combustion chamber, the sole purpose of which is alternately to close the cylinder and to open it to communication with the interior of the sleeve. Within the latter a second valve member is mounted which alternately opens communication with one end or the other of the cylindrical space. According to the position of the second valve, the cylinder proper is put into communication with the inlet or exhaust:

As will be seen from the illustration, the general formation of the engine is little different from that of the ordinary engine, save that the cylinders are cast without pockets, but with the peculiarly shaped head formation which is necessary to the operation of the system. In the motors thus far produced the valve gear, which consists of a single crank mounted along side the cylinder heads, is driven by chain and sprocket mechanism.

The construction is such that despite the use of two valves, only one is required to be a gas-tight fit with the cylinder. This is the outer sleeve B, which is designed to open the cylinder during the exhaust and the succeeding intake strokes. During the two strokes remaining in the cycle the cylinder is closed, only the blind face of the valve being presented to the interior of the combustion chamber. On this account practically two revolutions are consumed in making each stroke.

The inner valve, which acts as a distributor only, also runs at half piston speed. Its action is merely that of a simple piston, as it alternately closes the distributing chamber first in one direction and then in the other. As shown at A, it is in mid-stroke position. As this part of the system is not exposed to high pressures, it does not require to be more than a good running fit, while its travel being slight, and its motion unincumbered by high pressures, very little power is required to drive it.

It will be observed that the valve chest or cylinder forms practically a straightaway passage from the intake manifold D and



the exhaust main E. The piston A therefore acts as a deflector and automatically selects the proper avenue of communication according to the period of the cycle.

Another important element in the design is the stationary cylindrical sleeve, C. This provides at once an interior guide for the main valve B, and also a seat for the distributor A. Also it assists materially in packing the main valve member. A junk ring closes the pocket on the right hand side of the motor and therefore on the exhaust side, while the valve is equipped with a single set of rings on its left hand end, to prevent leakage of the cylinder gases in that direction.

Cooling of the valve surfaces is secured in part through the water jacketing of the cylinder, and in part as a result of the cooling influence of the incoming charges, which leave the interiors of both valves during the suction strokes. Needless to say, the valve construction is almost completely balanced. This means that the parts work silently and without shock, and that very little power is required to drive them. As a matter of fact, on the first engine tried out in a practical way, the valve gear was driven by only a half-inch roller chain, and this was found to be adequate for the work it was called upon to perform. Unfortunately no data as to the performance of this as compared with other engines of corresponding cylinder dimensions are as yet obtainable.

## PROSPECTIVE CHANGES IN DESIGN

Points that Manufacturers Must Consider Before Making Alterations in Models—The Course of Improvement.

Show time, with its influx of new developments invariably gives rise to some question as to the reasons impelling certain manufacturers to introduce a large number of improvements in their lines, while others bring out few improvements, if indeed, any at all. Superficially, questions as to the advisability of making changes in the design of a product might appear to be governed solely by considerations of relative serviceability, restricted to some extent by demand. Actually, the manufacturer who is in a position to command certain alterations finds himself obliged to weigh with extreme delicacy a large number of conditions more or less conflicting in their nature, and is able to arrive at a definite conclusion only after mature deliberation. Some of the considerations involved are analyzed by a foreign authority who gives expression to a great deal which is in the mind of every manufacturer, whatever his product may be, when considering upon improvements.

"The difficulty which the manufacturer labors under when endeavoring to arrive at a decision as to whether he shall adopt some new device or adhere to his last year's design is not alone the uncertain factor of the practical working of the device under the conditions of public use, but—and this is quite as important—it may be questionable how the new device will appeal to the public taste," he observes. "And here it may be remarked that the automobile engineer has to face a problem which perhaps has no parallel among the other branches of engineering; he must be sure that any appliance he introduces will appeal to a somewhat unmechanical public, or in any case to a body of buyers who are not trained engineers. In other branches of engineering, in most cases the purchaser is himself an engineer, or is in a position to receive the opinion of a trained engineer before effecting a purchase . . .

"Then again some few people hold the opinion that whenever a manufacturer alters to any great extent an important part of his chassis, he may be considered to have admitted error of design of that particular part on the previous year's chassis. This may have the effect of causing some amount of loss of faith in the manufacturer on the part of the public. The loss of faith may not be merited, however, as there are several reasons which may cause a manufacturer to change his designs. He may change, as before suggested, principally to engage public attention; he may change in order to introduce some innovation which was not even in existence at the time of last exhibiting; it may be essential for him to

change in order to meet some new public requirement—such as, for example, a demand for a more roomy body; and, finally, he may change in order to reduce cost of manufacture in some way.

"It may be remarked that the large amount of extra expense entailed in getting out a new design, such as cost of the designs themselves, of new patterns, of new jigs and tools, and perhaps a considerable amount of reorganization in the works generally, is a sufficient guarantee to the public that the innovation is worthy of their most serious consideration. I am inclined to think that the public are prone to expect too much of a new device—for example, a new engine—and they are not aware of the extreme difficulties to be encountered before even a small genuine advance can be made in matters engineering. For a manufacturer to secure the patent rights of any device which can claim to be really very much in advance of other devices of a similar nature is, in these days of keen competition, almost an impossibility. The more successful devices on the market may, perhaps, be superior mechanically to their rivals by some five per cent., if one may be permitted to describe their superiority in this way. Good workmanship and good management are responsible for the greater part of their success."

It is pertinent in this connection to note the observations of another authority, a British engineer, on the visible improvements which are being wrought out in the English branch of the industry just at the present time.

"The most striking feature of the latest productions," in his estimation, "is the better balance given to the chassis." He adds:

"Formerly no attention was given to the disposition of weight, with the result that unequal loads were imposed upon the springs, and on bad surfaces excessive rolling of the frame was set up. The best practice is to trace an imaginary fore and aft center line through the chassis and dispose the weights equally on either side, keeping the greatest weights actually on this center line.

"Spring design has not varied greatly, but length and width have both been increased. Three-quarter and full elliptics vie for popular favor. The transverse front cross spring which once seemed likely to gain in popularity now appears on few cars, the Sizaire et Naudin being perhaps the best known example, and even the original arrangement is not followed. But the usual types are not likely to be displaced by any other kind of steel spring, and if it ever is superseded, it will in all probability be by some arrangement such as the Cowey pneumatic suspension.

"The use of the springs to take the driving thrust and torque of the live axle is not an advance, although it may be excused where cheapness and simplicity are the first considerations. With stout shackles and large bearing surfaces well lubricated no

undue wear may result, but the fact still remains that the springing designed to take these strains will not be best for efficient suspension.

"Steering gear continues to improve. The old ball and socket joint has given way to stirrups, or where retained is of the horizontal, and not vertical, type. Swivel centers are now mostly designed to bring the axis produced to a point where the tire touches the ground, but such arrangements have their drawbacks, such as the wheel lifting when turned, but no maker seems to have the courage to tackle the wheel with the swivel center in the hub. It can be done, and one day will be done, for there is nothing to prevent it. The wheel may be a little heavier and the bigger hub may look strange at first, but we do not notice changes in appearance as much as we used, and the perfect steering with absence of strain on wheels and tires will give more than adequate compensation. The stub axle is not really good engineering, and it is upon this that I base my opinion that it must go sooner or later. Another direction of advance is in providing easy adjustment for backlash in the steering. Whilst an absolutely tight wheel is not necessary, or, indeed, desired, by many good drivers, yet beyond a certain degree lost motion in the steering becomes dangerous, owing to time lost and want of surety. Therefore the provision of complete worm wheels which can be rotated when worn and another point used, double nuts, etc., is to be recommended, and any car without adjustment for worm and wheel or nut will soon be out of date, and rightly so.

"As regards general chassis design, it is probable that the development of the unit system will become very popular. The old unit with crank case, fly wheel casing, and gear box all sealed up together had not much to recommend it, but the present practice of using one casting for engine and gear box bases or two or more bolted together, with the fly wheel and clutch gear uncovered, is excellent. The future will probably bring forward a pressed steel design of crank case and gear box in one, whereby machining and handling will be simplified. It is not likely that these details will be pressed out with the frame, for the advantages of the scientific unit are that it can be supported at three points, thereby ensuring immunity from any distortion of the main frame.

"In gear boxes the chief advance is in using helically cut pinions for the constant mesh wheels, and it is only the impossibility of engaging wheels of this type which prevents them being used throughout. On many cars every fixed gear is helically cut, but it is doubtful whether the complication of a constant mesh gear box and locking device would give sufficient return for replacing the existing cut pinions by helical gearing.

"One of the most significant features of the 1910 cars is the increase of the worm

drive, and I should not be at all surprised if in five years the bevel drive has not been relegated to the position now occupied by chains. Formerly considered most suitable for heavy work, the worm drive is now to be found on low powered cars also, and as experience of it increases so will its popularity, for there is no question of its silence and efficiency. Whether the drive should be to the top or bottom of the worm wheel seems undecided, for we see the same firm employing either method on different models. At the bottom it may have more efficient lubrication, but unless a very low setting is given to the engine and gear box a somewhat sharply inclined shaft is necessary, although the engine can be inclined slightly to overcome this. The drive on top is apt to mean a chassis with the weight high, so that altogether the worm at the bottom is probably the best if the mechanism can be kept low enough. . . .

At one time it was common to see torque, radius and brake rods and cardan shaft all jointed at different centers—a bad feature now fast disappearing. The enclosed shaft with forked or ball-ended front end seems to be likely to become the most popular. It gives the utmost freedom to the axle while relieving it of all strains, but driving. The only objection is that the driving thrust comes on the center of the axle, whereas side radius rods divide the thrust and impose the loads as near as possible to their points of application.

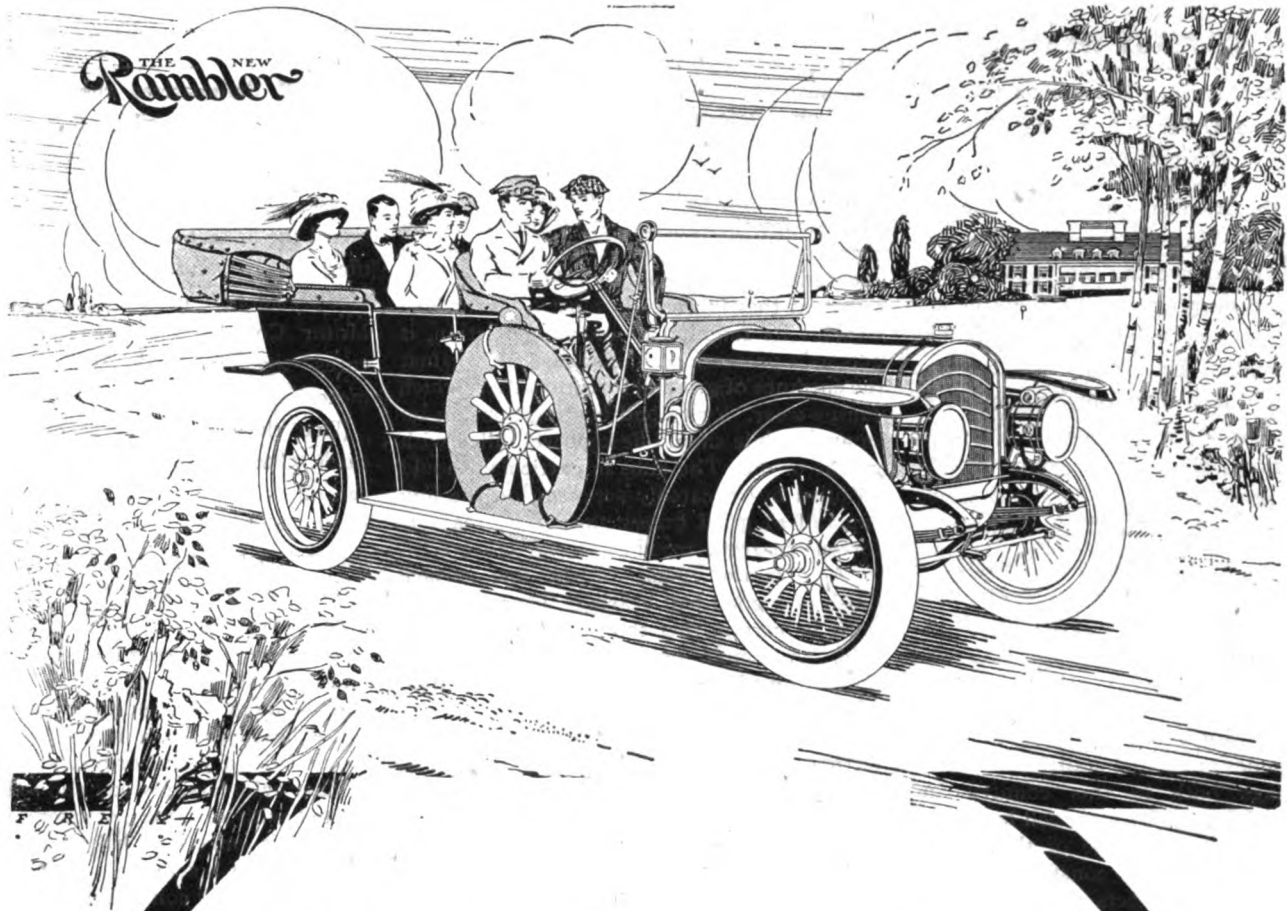
"In conclusion, it is obvious that we are far from finality at the present time. . . . The tendency is undoubtedly towards refinements which make for efficiency, and when side by side we see the development of the cheap car on the lines of reducing working and assembling costs, and not by low grade material and work, it is evident that the industry is in a healthy and virile state."

#### Ice in the Acetylene Generator.

Although the water in acetylene gas generators is liable to freeze during cold weather, so long as the container is made of proper strength there is small danger of its being injured and little likelihood of inconvenience resulting therefrom. The addition of a small amount of water to a frozen generator—in emergencies a little saliva will do—is sufficient to start the generator working, when the heat of the chemical action will be sufficient to thaw out the main supply and permit the action to go on in the usual way.

#### Britishers May Show at Paris.

In connection with the forthcoming Paris Salon, to be held next winter, the project of promoting a collective automobile exhibit is being discussed in British trade circles. Representation secured on such a co-operative basis as this is already being applied in preparation for the Brussels international exposition, which will open this coming summer.



**T**HE new Rambler, because of its quiet ease of motion, reserve power, and dignity of comfort, affords to the busy man pleasing relaxation and healthful recreation with family or friends at the end of the day. For satisfactory operation in crowded city traffic, on boulevard, or country road the new Rambler, because of the offset crank-shaft, is capable of three or sixty miles an hour, on high speed, climbing any hill with gratifying ease. The Spare Wheel obviates tire trouble. With straight-line drive, big wheels and tires, and new expanding clutch the new Rambler is superior to all in efficiency and better than any in quality, silence, and comfort.

Rambler automobiles, \$1,800 to \$2,500

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## ACID BALL BEARINGS' WORST ENEMY

**So Declares Matt in a Lecture on the Subject—Some Other Interesting Facts Brought Out.**

Despite the frequent and rapidly increasing use of ball bearings in automobile construction it is noteworthy that a number of popular misconceptions as to the true nature and operating requirements of such mountings exist. Due in part to the term anti-friction which commonly is applied to them, it has come about that the average layman regards them as not only frictionless, but entirely divorced from the necessity of such attentions as are deemed requisite to the proper service of bearings of the plain type. A number of these erroneous impressions are dissolved by W. L. Matt, of the Hess-Bright Mfg. Co., who lectured upon the subject last week before the New York School of Automobile Engineers. He said in part:

"Automobiles are so generally mounted on ball bearings both in this country and abroad that this practice may well be considered as standard. In spite of this almost universal use, we have constant evidence that many important facts about ball bearings and their care are not appreciated by the using public.

"Bearings are, broadly speaking, of two general types—radial bearings that carry the load at right angles to the shaft, and thrust bearings carrying loads parallel to the shaft. The first of these consists of an inner and outer raceway, between which a series of balls roll in grooves. These grooves guide the balls in their correct path and give additional strength over that which would obtain with a flat running service. This is the type of bearing largely used on automobiles. While this bearing is designed to carry only radial load, it will carry a reasonable amount of endwise loading, and is especially desirable for this at high speeds.

"The number of balls that can be gotten into these grooves is limited to about half of the total circumference, unless it is desired to cut a so-called filling slot, as is sometimes done. In such a case the continuity of the running surface for the balls is broken and the advantage of more balls is more than lost by the weakened race construction. The end thrust bearing consists of two plates in between which the balls roll; one of these is fastened to the end of the shaft and the other seated in the housing. Of course, a full circle of balls can be used in this type of bearing. This is the type of bearing frequently used behind the bevel gear to carry the severe load due to driving thrust.

"An impression that ball bearings will successfully operate without lubricant is more general than one would think. This is absolutely untrue. There is a slight amount

of sliding friction in the best of all ball bearings due to the fact that the materials are, after all, elastic, and there is of necessity some deformation under load. In addition, there are small inaccuracies of workmanship that make for more or less sliding. HB-DWF bearings are made to shop limits of a few ten-thousandths of an inch, but even that is a deviation from the essentials of theoretically pure rolling. Therefore, it is apparent that lubrication must be furnished. Besides its function of reducing friction, it acts as a protection against rust and against the entrance of grit and foreign matter which causes wear. Every ball bearing housing on an automobile should be kept well filled with grease or oil. The hubs in particular should be filled by repeatedly screwing on the hub cap full of good grease until the grease is forced out from around the rear closure.

"Acid is the enemy of the fine surface finish of a good ball bearing. Therefore one must be certain that the grease contains no acid. A simple test for this is to place a thin film of it upon a highly polished piece of steel and allow it to lay exposed for several days. Any discoloration or evidence of pitting should be sufficient to bar the use of such grease. If this careful attention is given whenever there is a ball bearing it will be found to pay for itself in the extended life of the bearing.

"The use of ball bearings is as wide as the machinery world. Wherever there is a rotating journal of any sort, there a ball bearing may be profitably used. Small spindles of but a fraction of a pound and immense turbines of a hundred tons are today running on HB-DWF bearings; and this from a speed of a few revolutions per minute to many thousands per minute."

### Unusual Cause of Over-Lubrication.

Commonly it is supposed that automatic, constant flow lubrication when properly regulated, is calculated to overcome any tendency to smoking at the exhaust which, in the older splash system results from irregular and frequently overabundant supply. In the case of the system in which the oil is forced through ducts in the crank shaft, in particular, it is supposed that except where the regulating device is badly out of order there should be no tendency to over-feeding. That such is not necessarily the case has been proved in more instances than one, somewhat to the mystification of operators and repairmen. In one instance, at least, the difficulty was located in an unexpected point when the "big end" bearings of the connecting rods were taken up after having developed an inordinate amount of play. It was found that as a result of the undue lost motion, the effective area of the delivery openings at the connecting rod bearings was increased. Consequently, although the pressure in the system was in no way affected, larger quantities of oil were delivered, with the result that the engine began to give unmistakable signs of over-lubrication.

## CAUSES NINE-TENTHS OF TROUBLE

**Maxwell Summarizes the Several Things that are Responsible—Most of Them are Small Ones.**

Asked what in his judgment would safeguard the upkeep expense attending the running of an automobile, J. D. Maxwell, vice-president of the Maxwell-Briscoe Motor Co., offered the following "make sures" against the usual "guesses" of the motorist:

That there is plenty of oil in the lubricator, that it is feeding properly and that the oil is the best obtainable. A little oil in the right place at the right time, will forestall a big repair bill.

That all bearings are properly adjusted. One loose bearing has a tendency to loosen others, causing knocks, loss of power and crystallization of metal. More harm can be done to a motor by running it on loose bearings for a few days than would result from a year's ordinary use.

That cylinders, pistons and valves are not coated with carbon. Kerosene oil will not remove it, once it is baked on, without the assistance of a scraper.

That steering connections are cleaned and oiled. This will prevent the excessive wear and play so common in steering gears.

That front wheels are properly adjusted. It will save tires and cones.

That rear axle and drive pinion bearing are always well oiled, and that your universal joints are never allowed to become dry.

That all bolts and nuts are kept tight. Ten minutes use of a wrench each week will prevent many a break.

That the motor is kept clean. Better results will be obtained from a machine, and better work from any repair man, who is obliged to work on it. A dirty motor is a sure sign of neglect.

"My experience has taught me," added Mr. Maxwell, "that neglect of these details is responsible for nine-tenths of the repairs necessary on an automobile. Aside from the repairs, attention to these matters will save many dollars in depreciation of the car, and assure the owner of his full quota of pleasure."

### To Get at Cost of Commercials.

With the object of obtaining authentic information as to the costs of commercial vehicle operation, the Commercial Vehicle Users Association, of Great Britain, is considering a plan to offer cash prizes for the most satisfactory practical working results. It is proposed to offer a substantial reward for the best economy obtained with a single light delivery vehicle of less than one-ton capacity; the competition incidentally being expected to develop a considerable amount of information which will be of value from an educational standpoint.



# **"This Advertisement is Published for the Protection of Automobile Buyers"**

By the

*Ford Motor Company*

DETROIT, U. S. A.

An advertisement recently published under this heading was for the intention of intimidating prospective buyers, who, deciding on merits only, would overlook all of the "71" varieties mentioned and purchase a FORD.

**History repeats itself.** That same sort of advertising appeared in 1903, warning against the purchase of an Unlicensed Car. After nearly seven years the Licensed Association has unexpectedly received a *Lower Court* decision and the advertising of 1903 is repeated.

**They tell you in bold face type** that "There is no reason why anyone buying a car should not buy a Licensed Car." There are many reasons why anyone should *NOT* buy a car licensed under the Selden Patent, because by so doing trust methods are encouraged, the evolution of the industry curtailed, and the maintenance of high-priced and poor quality cars assisted, because it is obvious that a protected monopoly does not try to please the public by producing better goods by more economical means.

**Who has constituted this "Divine Body"** to tell the public the names of manufacturers who market honest or dishonest cars? Who will say that FORD cars are dishonest after all they have done to promote the advancement of the industry? In this connection we were speaking to one of the prominent Licensed members the other day, and during the conversation he stated that without doubt HENRY FORD had done more, in building and marketing his low priced machines, to advance the industry than any dozen other manufacturers in the business.

**It is a safe bet** that the car will be honest as long as the manufacturer pays his dues to this "Divine Body." And would this same body deign to pronounce the FORD car dishonest in the face of what it has done for the development of the entire car industry? Would the FORD be a dishonest car if FORD would join the "71" varieties?

**Our opinion and our position, taken from the beginning, is unshaken**—that this Selden Patent is a *freak among alleged inventions and is worthless as a patent and worthless as a device.*

**The advertising campaign** in the newspapers of this "Divine Committee" represents commercial morals and business methods which are very questionable. If the Ford Motor Company cared to resort to such tactics it has patents that cover many of the leading features of automobile construction a thousand times more valuable in the automobile industry than Selden's, and could also threaten and bring suits against many of this "Divine Committee" as infringers of its patents. Not for a moment, however, had it entered our heads to harass or annoy individual users of Licensed product by suing them as infringers of Ford patents.

**Although the opinion of Judge Hough** was filed on September 15, 1909, no decree has been entered. It would really seem, then, that this threatening cabal should get through with us first before they make any attack upon our customers. The court will not permit our customers to be sued and persecuted as individuals while this suit is pending against us as manufacturers.

**A Lower Court Decision** is far from final. It is only the first round of a patent battle. There remain the Court of Appeals and then the Supreme Court, to both of which we can, and, if necessary, will, carry the case. This is a right granted us by the Constitution of the United States, which right we will exercise, so that it is hardly becoming of our esteemed Licensed competitors to take this decision as final and by it endeavor to intimidate present and prospective owners of Ford cars.

**The opinion of the patent in the lower court** was rendered by District Judge Hough, showing on its face that he expected an immediate appeal to the higher court from the doubtful questions disclosed by his opinion.

**Although it is seven years** since this fight was started and nearly six months since the decision was rendered, no decree has yet been entered, and there is no immediate likelihood.

**There are millions of dollars** invested and more being invested every day in the building and marketing of Unlicensed automobiles which will unquestionably bring advanced methods of manufacture into vogue and will mean better and more economical cars to buy and maintain.

**It is a well known fact** that prices are already too high, although this "Divine Executive Committee" says to the Unlicensed makers, "Before we will place upon you our 'Divine' blessing we desire you to advance your prices several hundred dollars per car and to limit your production," and while they do not say, it is clearly implied, "so we will not have such keen competition."

**Because the unlicensed makers** are not organized they do not present such an array of names as their self-constituted saviors of the public, but we assure you that there are sufficient independent manufacturers who will continue to fight against turning the automobile industry into a monopoly.

**It is clearly the duty** of every law-abiding American citizen to respect exclusive rights secured by a patent, when that patent has been honestly obtained, honestly operated and declared to be an honest patent by the highest courts in the land. Such, however, cannot be said of the Selden patent.

**We take issue** with the statement that the members of the Licensed Association individually and collectively are chiefly responsible for the development of the automobile to its present perfect state. HENRY FORD alone has done more to develop the automobile industry than the combined members of the Licensed Association, which fact cannot be honestly contradicted. We believe the public will agree with us in this.

**It is not true** that those Licensed under the Selden patent have been and are now leaders in the production of medium, low and high priced cars. We can prove by figures and facts, that HENRY FORD produces more low priced cars than any other maker in the world. So it can hardly be stated that these Licensees are the leaders in the production of low priced cars. We ask our friends who have heard or read some of the statements made by these "Divine" people to call upon them to furnish their proof.

**In conclusion we beg to state** if there are any prospective automobile buyers who are at all intimidated by the claims made by our adversaries that we will give them, in addition to the protection of the Ford Motor Company, an individual bond issued by the National Surety Company of New York whose assets, combined with those of the Ford Motor Company, aggregate approximately \$12,000,000.00, so that each and every individual owner of a Ford car will be protected until at least \$12,000,000.00 of assets have been wiped out by those who desire to control and monopolize this wonderful industry.

**The bond is yours for the asking,** so do not allow yourself to be sold inferior cars at extravagant prices because of any statement made by this "Divine" body.

**N. B.—**This fight is not being waged by the Ford Motor Company without the advice and counsel of the ablest patent attorneys of the East and West.

**This announcement is made so that buyers of Automobiles may know the facts and be governed accordingly.**

## RECENT PATENTS.

942,328. Igniter for Internal Combustion Motors. Howard A. Johnston, Toronto, Ontario, Canada. Filed Sept. 27, 1907. Serial No. 394,869.

1. An igniter for internal combustion motors comprising a sparking plug provided with suitable electrodes, one electrode being shaped to form a cup, and the other shaped as a wire extending from without the cup within sparking distance of the rim of the cup.

942,467. Starting Device for Internal Combustion Motors. Eliel L. Sharpneck, Boston, Mass. Filed Feb. 6, 1909. Serial No. 476,579.

1. The combination with an internal combustion motor having an exhaust furnished with two outlets, of a valve movably mounted in said exhaust, for controlling the flow of fluid therethrough, and a second valve actuated by the opening movement of said first mentioned valve to close one of said outlets.

942,567. Automobile Tire. Iva B. Kempshall, Boston, Mass. Filed Aug. 13, 1909. Serial No. 512,700.

1. An anti-skidding tire for automobiles provided with a rubber surface, formed along the tread with a series of continuous edges extending around the tire, and is formed with a series of pockets.

943,671. Hanger for Shock Absorbers. Ernst Flentje, Cambridge, Mass. Filed Sept. 27, 1909. Serial No. 519,776.

1. In a shock absorber, the combination with a cylinder and a piston therein, of a clip adapted to be secured to the axle of a car, a member having a stem swiveled to said clip and provided with a laterally extending foot which is connected to the cylinder, a bracket secured to the frame of the car, and another hanger device provided with a stem which is swiveled to the bracket and provided with an overhanging portion that is connected to the piston rod.

943,689. Radiator. Samuel Lavine, Detroit, Mich. Filed July 6, 1909. Serial No. 506,248.

1. A radiator comprising tubes of cruciform in cross section arranged in rows with the laterally projecting portions of the tubes of one row projecting into the spaces between the laterally projecting portions of the tubes of the adjacent rows with spaces between the rows forming tortuous passages.

943,697. Magneto Electric Machine. Theodor M. Mueller, Dalton, Mass. Filed Feb. 25, 1909. Serial No. 480,038.

1. A magneto electric machine having in combination with the permanent field magnets thereof, a rotatable inductor element, an adjustable, but normally stationary element, located between the field magnets and the inductor element for varying the magnetic flux through the inductor element, an induction coil, the core of the same being included in the magnetic circuit, and means carried by the inductor element for making and breaking the primary circuit.

943,744. Automobile Driving Mechanism. Charles B. Hatfield, Jr., Oshkosh, Wis. Filed Aug. 3, 1908. Serial No. 446,698.

1. In driving mechanism for a self-propelled vehicle, the combination, with the driving road wheels of such vehicle, of an axle on which such wheels are mounted to rotate reversely arranged ratchets mounted to rotate and correspondingly reversed

pawls operatively connected to said wheels on their inner faces, means for driving said ratchets, and means for shifting said ratchets to engage one or the other set of pawls; substantially as described.

943,745. Automobile Driving Mechanism. Charles B. Hatfield, Jr., Oshkosh, Wis. Filed Aug. 3, 1908. Serial No. 446,699.

1. In a driving mechanism for a self-propelled vehicle, the combination, with the driving road wheels of such a vehicle, of a live axle on which the wheels are mounted to rotate, a ratchet carrier at each end of the axle and secured directly thereto, a pair of reversely acting ratchets secured to each carrier, pawls for said ratchets, a pawl carrier or support secured to each vehicle wheel, and means for shifting the ratchet carrier longitudinally on the axle for disconnecting one set of ratchets and pawls and connecting another set thereof at each end of the axle; said ratchets and pawls performing both driving and differential functions; substantially as described.

943,746. Automobile Driving Mechanism. Charles B. Hatfield, Jr., Oshkosh, Wis. Filed Aug. 3, 1908. Serial No. 446,700.

1. In a driving mechanism for a self-propelled vehicle, the combination, with the driving road wheels of such a vehicle, of a divided live axle connected to such wheels, ratchet carriers arranged at the proximate ends of the members of such axle and mounted to rotate with but move longitudinally thereof, a pawl support adapted to be driven by a prime mover, sets of pawls thereon, ratchets mounted on said carriers and having reversed ratchet teeth, said ratchets being adapted to co-operate with said pawls, and means for disconnecting one set of ratchets and pawls and connecting another set thereof; substantially as described.

943,764. Spring Running Gear for Automobiles. Clarence P. Boomer, Muncie, Ind. Filed Jan. 2, 1909. Serial No. 470,455.

1. The combination with a pair of axles provided with double bowed springs, of a bolster mounted on the springs of one of the axles, an arched bar pivotally mounted on the springs of the other axle, an arched bar pivotally connected to said arched bar, and a frame mounted on the last mentioned arched bar and the bolster.

943,774. Shock Absorber for Automobiles and the Like. Robert B. Ewart, New York, N. Y., assignor of one-half to Benjamin A. Seitz, Kansas City, Mo. Filed March 10, 1909. Serial No. 482,439.

1. A shock absorber comprising a fluid containing casing having main and auxiliary compartments, connected reciprocatory elements in the respective compartments, means for permitting displacement of the fluid from one compartment to the other, means for permitting displacement of the fluid from one end to the other of the main compartment, and separate fluid-controlling devices carried by said means.

944,213. Tire Pump Attachment. Harry H. Rung, Philadelphia, Pa., assignor of one-half to Robert F. Whitmer, Philadelphia, Pa. Filed Sept. 7, 1907. Serial No. 391,826.

1. The combination with a traction wheel of an automobile, of a crank arm detachably connected to the same, a pump cylinder detachably hinged to the automobile, a piston in said cylinder connected to said crank arm, and a hose leading from said pump to the tire of a wheel whereby said tire may be inflated by driving the wheel to which the crank arm is attached.

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Warehouses and Shipping Depots in Boston, Mass.;  
Springfield, Mass.; New Haven, Conn.;  
Bridgeport, Conn.

939,972. Front Wheel Drive for Traction Vehicles. Lewis K. Brown, Tsotin, Wash. Filed Sept. 8, 1908. Serial No. 452,156.

1. With an axle casing and housing inclosing a centrally disposed differential gear and inclosed driving sprocket wheel, having live axle pieces rotatably located within the casing and connected at their inner ends with a differential gear, the combination of coaxial perpendicular hinges on the axle casing between the central housing and the wheels, near each end of the casing and a short distance from each of the wheels, a bell crank fastened on the back of each of the laterally swingable portions of the axle casing and extending rearwardly therefrom, a universal joint in the live axle intersected by the axis of the vertical hinge on the axle casing, a laterally swingable portion of the live axle connected with the universal joint and journaled in the laterally swingable portion of the axle casing and protruding outwardly through the end of the swingable portion of the axle casing, a wheel hub with an outwardly projecting collar keyed rigidly on the protruding end of the swingable piece of live axle, a roomy recess being formed on the inner side of the hub on the rim of which a wheel is built in a plane intersecting the swingable piece of live axle through its bearing in the swingable piece of axle casing; horizontal gudgeons forwardly and rearwardly disposed on the centrally located housing of the differential gear, a recess on the back end of the back gudgeons, rollers in the recess and a bearing on the yieldably supported body of the vehicle back of and against the rollers, bearings rotatably fastened on the gudgeons, leaf springs across the bearings and fastened thereto the outer ends of the springs being fastened across under the front end of the body of the vehicle supporting it yieldably and hiding the axle mechanism substantially at right angles across the front of the vehicle.

942,883. Hub Odometer. Harry P. C. Browne, New York, N. Y. Filed Nov. 4,

1907. Serial No. 400,605.

1. In a hub odometer, the combination with a fixed axle and a rotating hub of a hollow housing mounted over the end of said hub and axle a supporting piece secured in said hollow housing, a spindle pivoted in said supporting piece, a cyclometer carried by said spindle, an arm also carried by said spindle, and a second arm held against rotation and engaging the first arm, substantially as described.

942,910. Speed Changing Mechanism. Emil E. Keller, Pittsburg, Pa. Filed Nov. 14, 1905. Serial No. 287,312.

1. In combination with a motor driven shaft, a shaft to be driven therefrom, a friction gear device between said shafts and means movable longitudinally of the shaft to be driven and the operation of which is dependent upon the torque encountered for varying the speed ratio of said friction gear device.

942,913. Power Transmission Mechanism. Emil E. Keller, Pittsburg, Pa. Filed Dec. 13, 1905. Serial No. 291,512. Renewed Aug. 24, 1909. Serial No. 514,451.

1. In a power transmission mechanism, a plurality of power transmission gears, co-operating clutch devices, a load responsive device for controlling the operation of said clutches which comprises a driving member, a driven member, yielding means whereby said driven member is caused to move longitudinally in response to variations of load and means for rendering the motion of said driving member effective in controlling the operation of said clutches.

942,957. Starting Device for Internal

Combustion Engines. Paschal G. Caspian, Chicago, Ill. Filed Nov. 6, 1908. Serial No. 461,390.

1. In starting devices for internal combustion engines, a valve plug connected to and operable by one of the engine shafts, a valve casing within which said valve plug is located, connections leading from the valve casing to the several cylinders, each of said connections being disposed in a common plane transversely of the valve casing, an arcuate port formed in the valve plug and arranged to consecutively register with the said connections, a supply port leading to the casing and arranged in a horizontal plane distant from that of the other connections, and a connecting port leading through the valve plug and communicating with the arcuate port.

942,977. Carburetter. Johan C. Simonson, Elkhart, Ind. Filed Dec. 28, 1908. Serial No. 469,598.

1. A carburetter including an L-shaped carburetting chamber, a diluting chamber above the carburetting chamber and communicating therewith, a hydro-carbon chamber surrounding the carburetting chamber, a valve chamber at one side of the last named chamber, a boat controlled valve in the valve chamber, an iris diaphragm to adjust the intake opening to the carburetting chamber, a nozzle communicating with the hydro-carbon chamber and terminating near the axis of the diaphragm and also having its axis substantially at right angles to the axis of the diaphragm, a needle valve to the nozzle, a spring controlled valve to admit air to the diluting chamber, and a throttle valve to regulate the flow from the diluting chamber to the engine.



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943,029. Vehicle Wheel Rim. Paul W. Litchfield, Akron, Ohio, assignor to The Goodyear Tire and Rubber Company, Akron, Ohio, a Corporation of Ohio. Filed Aug. 10, 1908. Serial No. 447,770.

1. A vehicle wheel rim of the class described having a seat for a tire, an outwardly extending flange along one side edge thereof and an offset extending inwardly from said tire on the opposite side edge, the latter provided with a channel, a split locking ring adapted to be sprung into said channel provided with a rabbeted portion adjacent to said tire seat, the horizontal face of said rabbeted portion being approximately flush with said tire seat, and a pair of endless tire retaining devices capable of lateral movement on and a reversal of position around said rim, one of said tire-retaining devices adapted to be engaged by said outwardly extending flange, the other by said locking device and when positioned to lap the horizontal face of the rabbeted portion thereof when in either position, one of the sides of each of said tire retaining devices fashioned to engage a clincher tire shoe and the other an inextensible edge tire-shoe, respectively, substantially as and for the purpose described.

943,215. Electric Switch. Henry J. Carrigan and Arthur J. Sangster, Buffalo, N. Y., assignors to Auto Safety Specialty Company, a Corporation of New York. Filed Sept. 22, 1908. Serial No. 454,196.

1. An electric switch comprising an annular row of fixed contacts any two of which are adapted to be connected with opposite sides of an electric current, two rotatable contact arms which are adapted to engage with said fixed contacts independently of each other, an outer hollow shaft carrying one of said contact arms, and an inner shaft arranged within the outer shaft and carrying the other contact arm.

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## RUBBER RISES AND SOLIDS GO UP

Up-river Para Reaches Record Breaking Price and May Advance to \$3 per Pound—Effect on Tire Prices.

Rubber this week reached the highest price that it ever has attained since being put on the market as a commercial product, the fine upriver Para quality being quoted at \$2.56 per pound, and as a consequence of the high prices now prevailing the tire manufacturers have made a horizontal advance of 15 per cent. on the prices of solid tires. Confidential advices from South America to one of the big tire companies indicate that a price of \$3 per pound or more is not only possible, but extremely likely before the year is out, which would have the effect of again raising the prices on all rubber tires, whether pneumatic or solid.

Col. Samuel P. Colt, president of the United States Rubber Co., which through its subsidiary, the Rubber Goods Mfg. Co., controls the Hartford Rubber Works, Morgan & Wright and the G & J Tire Co., offers partial confirmation of the expectation of continued high prices in the rubber market.

"I would not be surprised to see the price of crude rubber continue to rule high during the balance of 1910," he declares, "although I look for some relief next year when a large increase is expected in the output of the plantations at Ceylon and the Strait Settlements, the quality coming from these plantations being of the same botanical order as that of fine Para from the Amazon used for similar purposes."

Although this week there arrived from South America the steamer Clement with 1,432 tons of rubber, a cargo worth about \$7,000,000, there was no drop in the quotations in the New York market, as practically all of the cargo had been contracted for far in advance. It is explained by a prominent dealer that the recent sharp advance has caused the dealers to withdraw offerings and that the quotations at present

are to a great extent nominal, the American buyers holding off for more favorable prices. Europe, however, is taking a heavy supply, so that crude rubber is being delivered as fast as it is shipped.

The extent of the advance in the price of rubber is made sharply apparent when it is recalled that in 1908 upriver Para was as low as 67 cents per pound, making the record price of this week equal an advance of 282 per cent.

### Bosch to Build Plant Near Springfield.

Brightwood, a part of Chicopee, Mass., and a suburb of Springfield, has been selected by the Bosch Magneto Co. as the place where it is to build a series of three large factories for the manufacture of Bosch magnetos. Arrangements have been made for the purchase of seven acres of land, between the Boston & Maine railroad tracks and North Main street, the company asking that the railroad move one of its crossings and supply spur tracks to the site, and that Chicopee provide a curb line and a sewer for the property. The first factory is to be started as soon as the frost is out of the ground and will employ about 700 men. The second and third factories will not be built immediately, but are to be put up after the first factory is under full headway, the plant ultimately employing 2,000 men, according to the company's estimate. Each of the buildings will be concrete, 385x66 feet, and will have an equipment of from \$75,000 to \$100,000 in machinery and tools. Meanwhile, the Bosch plant in New York will be maintained.

### Willys Gives Dallas High Hopes.

Dallas, Tex., is basking in the possibility of having an assembling factory for cars made by the Willys-Overland Co., of Toledo, O. President Willys is making a tour of the Southwest with a view to establishing such a factory, it is said, and Dallas may be made the point at which cars for that portion of the country will be assembled, from parts supplied from the Toledo or the Indianapolis plants and shipped in bulk.

## STUDEBAKER BUYS E-M-F

Detroit Owners Finally Yield at a High Figure—Purchase Effected by Morgan & Co.—Flanders to Remain and All Litigation Terminates.

All the difficulties which have existed between the E-M-F. Co., of Detroit, Mich., and the Studebaker interests, of South Bend, Ind., this week were swept aside by the outright purchase of the E-M-F. Co. by the Studebakers. The deal, which is sensational in its magnitude and in the abruptness with which it was consummated, was brought about by the acceptance on the part of the E-M-F. stockholders in Detroit of eight times the par value of their stock, after their having refused several recent tempting offers.

About \$5,000,000 in cash was paid for the 64 per cent of stock held in Detroit, the deal being accomplished through the aid of J. P. Morgan & Co., acting in accordance with an agreement with the stockholders of the Studebaker Bros. Mfg. Co., of South Bend. The Studebakers already owned 36 per cent., but the remaining 64 per cent. was held as a unit by the Detroit group consisting of Walter E. Flanders, president and general manager of the E-M-F. Co.; Charles L. Palms, treasurer; Dr. J. B. Book, vice-president, and William T. Barbour, together with E. Le Roy Pelletier, advertising manager, and the holders of smaller blocks of the shares. These stockholders were paid by Morgan & Co. on a basis of \$8,000,000 for the total issue of \$1,000,000 par value of E-M-F. stock, and it is estimated that they received an equivalent of \$32 for every dollar originally invested a year and a half ago.

Under the new arrangement Walter E. Flanders will continue as president and general manager of the E-M-F. Co. for a period of three years. He also remains as a member of the board of directors, and retains a block of stock under the reorganization.

Messrs. Book, Palms and Barbour retire as members of the board of directors, and their places will be taken by Messrs. Delafield and Stevens, of the Morgan firm. Pelletier is scheduled to remain with Flanders. Almost needless to say, all litigation between E-M-F. and Studebaker is to be dropped.

The whole transaction was concluded in New York City early yesterday (Wednesday), in time for President Flanders to take the Wolverine Flyer back to Detroit. On the same day there was incorporated at Albany, under New York State laws, a corporation known as the Studebaker Vehicle Co., of New York, with a capitalization of \$8,600,000, "to manufacture automobiles and other vehicles and supplies." The directors of the new company include Frederick P. Delafield, the Morgan representative on the reorganized E-M-F. board; Clement Studebaker, Jr., Frederick S. Fish and Scott Brown, of South Bend, and Frederick W. Longfellow, of Riverdale-on-Hudson, N. Y. This incorporation is taken to be the creation of the Studebaker holding company for the E-M-F. property, and may even pre-empt the big flotation which Fish, who is chairman of the Studebaker executive committee, admitted in court, during the injunction litigation against E-M-F., had been contemplated, with a proposed capitalization of from \$80,000,000 to \$100,000,000. Dr. Book, the retiring E-M-F. vice-president, is quoted as saying that the property ultimately will be capitalized at from \$30,000,000 to \$50,000,000.

Because of the late split between the Studebakers and the E-M-F. Co., as a result of which the latter refused longer to supply the Studebaker selling organization with E-M-F. cars and proceeded to appoint its own agents direct, a somewhat delicate situation has been created, but assurance is given that all contracts made by the E-M-F. Co. with agents will be carried out. In those cities where the Studebaker agents have not been succeeded by E-M-F. appointees in the handling of E-M-F. cars it is likely that the line will be restored to them promptly.

The fact that J. P. Morgan & Co. appeared as the purchasers of the E-M-F. property created a host of more or less wild rumors among the uninitiated, one report having it that Morgan personally was organizing a \$300,000,000 combination to control the whole automobile industry and in time would devote some of the present big automobile plants to aeroplane manufacture as well. Others traced a connection between the E-M-F. purchase and the recently organized United States Motor Co., in which a son-in-law of Morgan is known to be interested, but officials of the latter enterprise deny that E-M-F. is related to their plans.

The E-M-F. plants in Detroit are among the largest in the country, and the company, according to official figures, has sold over \$3,000,000 worth of cars during its com-

paratively short period of existence. At present it is shipping 65 or more cars of the E-M-F. "Thirty" type per day, and last month it commenced the delivery of the Flanders "Twenty," of which it is planned to have a production of 100 per day by the first of May.

#### New Departure Takes Over Houpt.

The New Departure Mfg. Co., of Bristol, Conn., which for some time has been making the Houpt cars for the Harry S. Houpt Mfg. Co., of New York City, has taken over the latter concern, and in addition to its other activities will continue to manufacture the car, the name of which is to be changed to the Houpt-Rockwell. The separate identity of the two concerns will be maintained, but A. F. Rockwell, president of the New Departure company, has assumed the presidency of the Houpt company, with De Witt Page as vice-president, and Charles Terry Treadwell treasurer. Harry S. Houpt has been retained as secretary and general manager, and the salesrooms at 2008 Broadway will be continued. The Houpt-Rockwell will be supplied in two models, these being a four cylinder 60 horsepower car at \$5,000, and a six cylinder 90 horsepower type at \$6,000.

#### Evince Confidence in Croxton-Keeton.

Satisfied as to the future of the company members of the board of trade of Massillon, O., have themselves bought \$12,000 worth of the 500 preferred shares of stock in the Croxton-Keeton Motor Co., of that city, which they have arranged to dispose of in order that the company's plant may be greatly enlarged. E. C. Merwin and Frank H. Synder have been added to the board of directors, representing Massillon stockholders. O. P. Bernhart, until recently vice-president and general manager of the company, has removed to New York, to become vice-president and general manager of the Croxton-Keeton company of New York, which handles the Croxton-Keeton product in the East.

#### Newbro Heads Beyster Truck.

The Beyster Motor Truck Co., of Detroit, Mich., has been reorganized and with new capital will erect two factory buildings at an estimated cost of \$200,000 for buildings and equipment. D. M. Newbro is the new president, the other officers being Benson E. Brown, vice-president and sales manager; E. E. Gallogly, treasurer, and Edgar E. Murray, secretary and general manager. Henry Beyster will be the general superintendent and chief engineer. Alexander McPherson, president of the Old Detroit National Bank is one of the stockholders. The company plans to make a 1,250 pound truck to sell for \$1,250.

#### To Make Bearings in Spokane.

The Patent Holdings & Mfg. Co., of Spokane Wash., a new concern recently incorporated at \$3,000,000, has taken over the

stock of the Diamond Carriage Works, one of Spokane's big industries, and will use the factories thus acquired for the manufacture of Ban Luben roller bearings. An additional factory, to cost \$15,000, will be built on Second avenue, adjoining the carriage works, to make bearings for automobile purposes. The company also has arranged to build a branch plant in Calgary, Alberta, Canada. The officers of the concern are C. O. Bassett, president and business manager; J. C. Mountain, vice-president and general manager, and S. S. Bassett, secretary-treasurer.

#### Berkshire Bought Out and Reorganized.

Controlling interest in the Berkshire Motor Car Co., of Pittsfield, Mass., has been bought by Stuart H. Clapp and James Addison, who will assume active management of the property. John McQuaid, who has been manager of the company for the last few months, will retire, having disposed of his holdings. The concern, which is capitalized at \$120,000, will have Addison as president and treasurer, and Clapp as vice-president and sales manager. After the company has completed its contemplated output of 75 cars for this year, the plant is to be enlarged with the aid of additional capital which has been enlisted.

#### Snutsel Sails on Splitdorf Mission.

Paul L. Snutsel, of the Splitdorf Laboratory, New York City, sails for Europe on the 12th inst. for an extended trip of six months or more in the interests of the Splitdorf magneto. He will go direct to Turin, Italy, where he will have charge of the Splitdorf exhibit at the automobile show to be held there in April, after which he will visit automobile manufacturers in France, Belgium, Germany and England, with a view to extending the already considerable use of Splitdorf magnetos on "the other side."

#### Bailey Truck Another Detroit.

The Bailey Motor Truck Co. is among the most recent additions to Detroit's constantly expanding list of automobile manufacturing enterprises. The concern has been capitalized at \$100,000, and proposes to make the Bailey truck, of about one ton capacity. The backers of the enterprise include Thomas E. Reeder, manager, and C. F. Mellish, assistant manager of the Hargreaven Mfg. Co.; E. R. Stoughton and C. W. Baird.

#### Tracy Gets Michelin Chicago Branch.

R. B. Tracy has been appointed manager of the Chicago branch of the Michelin Tire Co., of Milltown, N. J., to succeed C. C. Harbridge, who, with J. C. Zimmerman, William Seward, Jr., and Hugh Jackson, has resigned from the Michelin service in Chicago to open at 1312 Michigan avenue as the Federal Rubber Co. of Illinois, handling Federal tires. Tracy has been manager of the Michelin branch in Cleveland, O.

**EXPORT YEAR BEGINS BOOMLIKE**

**January Shipments Total Nearly a Quarter Million Dollars—Gains are Fairly General Throughout the World.**

Exports of American motor cars are continuing to rise. During the month of January, 1910, there were shipped abroad three times as many machines as during the corresponding month of the preceding year, the quantities being 492 and 167, respectively. The average value of the exported cars decreased, however, from \$1,428 to \$1,183. As the average value of exported cars during the month of December, 1909 was \$1,099, a slight upward tendency is noticeable once more. The aggregate value of the 492 cars was \$582,255; that of the parts \$136,335; the total value of both being \$718,590, compared with \$292,995 during the same period of 1909; the gain in car values amounts to 244 per cent.; that in the value of parts to over 250 per cent.

Italy, which had been steadily reducing its imports of American cars, this month shows a gain, amounting to \$3,000, while Mexico, which so far has been a growing customer, took \$1,137 less than during January, 1909. The greatest actual gain is presented by British North America where the value of cars imported from this country increased from \$53,271 to \$269,111, an advance of 405 per cent. The greatest proportionate gain, however, was shown by Germany, to which country were shipped during January \$6,292 worth, compared to \$210 in the corresponding period of 1909, a gain of almost 3,000 per cent. Noticeable increases also are shown by the United Kingdom, from \$45,785 to \$176,806, British Australasia from \$14,712 to \$40,874, and Oceania from \$5,707 to \$15,769.

For the seven months ending January, 1910, the figures generally are proportionate to those of the month of January, with the exception of Italy, where a total shipment of only \$25,761 is recorded for the full period, while January alone shows exports amounting to more than half this sum. The report in detail:

	January 1909	January 1910	Seven Months-Ending 1908	Seven Months-Ending 1909	January 1910
Automobiles and Parts of—					
Automobiles .....	\$238,456	\$582,255	\$2,391,460	\$1,950,143	\$3,795,952
Parts of .....	54,539	136,335	321,999	321,406	695,609
Exported to—					
United Kingdom .....	45,785	176,806	899,249	682,324	1,060,464
France .....	33,084	30,366	274,224	136,377	318,270
Germany .....	210	6,292	80,743	58,402	104,515
Italy .....	10,784	13,970	43,452	40,167	25,761
Other Europe .....	13,916	18,875	83,322	121,089	132,553
British North America .....	53,271	269,111	469,541	667,902	1,627,804
Mexico .....	49,183	47,926	273,906	186,478	292,013
West Indies and Bermuda .....	48,549	68,236	182,519	146,989	248,932
South America .....	11,254	20,818	169,348	64,692	170,979
British East Indies .....	1,736	2,387	19,357	14,784	9,865
British Australasia .....	14,712	40,874	137,018	68,883	259,626
Other Asia and Oceania .....	5,707	15,769	66,963	58,649	159,111
Africa .....	2,822	4,915	6,600	16,389	46,235
Other countries .....	1,982	2,245	7,217	8,424	35,433
<b>Total .....</b>	<b>\$292,995</b>	<b>\$718,590</b>	<b>\$2,713,459</b>	<b>\$2,271,549</b>	<b>\$4,491,561</b>

**To Build Bodies in Salt Lake.**

With the approval of the White Co., of Cleveland, O., there is to be built in Salt Lake City, Utah, a factory for the manufacture of bodies and for automobile repairs. P. R. Melchert, who for three years has been a White western representative, will be manager, and the enterprise is to be backed by Salt Lake capital. The plant, which will have three stories and a basement, will cost approximately \$50,000, and will be the Salt Lake headquarters for White cars. It will include a large display room and a garage, and will be built on First South street, between Second and Third East streets.

**American to Move to Lafayette.**

Negotiations have been completed by which the American Motor Car Co., of Indianapolis, Ind., will establish a factory in Lafayette, Ind., provided the citizens of the latter place purchase \$125,000 worth of 6 per cent. bonds of the company, pay \$25,000 to cover the expense of moving from Indianapolis, and donate five acres of land for a factory site. Lafayette business men have appointed a committee to carry out these provisions of the contract.

**Stephens Strikes Out for Himself.**

G. W. Stephens, who recently resigned as advertising manager of the G & J Tire Co., of Indianapolis, Ind., has been succeeded by W. B. Harding, the company's former purchasing agent. Stephens has gone into the tire and accessory business in Chicago on his own account.

**Pope to Produce a Six-Cylinder.**

Although the Pope Mfg. Co., of Hartford, Conn., heretofore has confined itself to a maximum of four cylinders, a new six-cylinder Pope-Hartford model is indicated as being in preparation. It is scheduled to make its appearance on the Pacific Coast in September or October.

**Jobbing Firm Starts in Oklahoma.**

Burwell & Smith are to establish a jobbing house of tires and accessories in Oklahoma City, Okla. The concern will open its establishment this month.

**DE LISSER GOES FROM TIRES TO CARS**

**Resigns Ajax-Grieb Presidency to Direct United States Merger's Sales—Also Becomes Official of Big Corporation.**

General management of the sales department of the United States Motor Co., the \$16,000,000 Maxwell-Briscoe and Columbia merger enterprise, has been placed in the hands of Horace De Lisser, whose election as a vice-president of the company was announced early this week. De Lisser, who has been president and general manager of the Ajax-Grieb Rubber Co., has resigned his connections with that company, and William G. Grieb, who has been vice-president and who before the organization of the Ajax-Grieb Rubber Co. was president of the Grieb Rubber Co., of Trenton, N. J., is to succeed De Lisser as president of the Ajax company, in which the Maxwell-Briscoe Co. is considerably interested.

Some slight hitch in the arrangements delayed the announcement of De Lisser as a vice-president of the United States Motor Co. following the organization meeting last week, and although it was understood on the outside that he had been included, official confirmation was withheld until the disclosure of his being given entire charge of the sales. His association with the United States company was at first taken as evidence that the Ajax-Grieb company had formally entered the merger, but that this is not the case is made plain by the emphasis that is placed on the separation of De Lisser from his Ajax connections in assuming his duties with the bigger company.

In 1894 De Lisser became identified with the rubber business when he conducted a large cycle tire factory in England, which later was sold to a London syndicate headed by Ellis Parr, the banker. In disposing of this business De Lisser agreed to remain out of rubber manufacturing for a term of five years. He then took the American agency for Worcestershire sauce, which condiment he popularized throughout the United States.

At the expiration of his agreement he went with the International Rubber Co., of Miltown, N. J., remaining with that company until the formation of the Ajax-Grieb Rubber Co., two years later. His wide experience in the management and the sales departments of his various enterprises is regarded as especially fitting him for the responsibilities involved in the management of the United States Motor Co.'s sales organization.

**Webb Jay Becomes the Chatauqua.**

The Webb Jay Motor Co., of Dunkirk, N. Y., has changed its name to the Chatauqua Motor Co. It will commence the erection of an automobile factory in the near future.

**THE WEEK'S INCORPORATIONS.**

Dunkirk, N. Y.—Webb Jay Motor Co., changes name to Chautauqua Motor Co.

Bellevue, Pa.—Bellevue Automobile Co., under Pennsylvania laws, with \$10,000 capital.

Philadelphia, Pa.—Taylor Motor Distributing Co., under Pennsylvania laws, with \$10,000 capital.

Philadelphia, Pa.—Krit Sales Co., under Pennsylvania laws with \$10,000 capital. Corporators—T. W. Pritchard and others.

Wilmington, Del.—Otto Motor Car Sales Co., under Delaware laws, with \$100,000 capital. Corporators—W. N. Akers, W. J. Maloney and E. B. Davis.

Wilmington, Del.—Railway Motor Car Corporation, under Delaware laws, with \$150,000 capital. Corporators—F. M. Shive, M. L. Rogers and H. W. Davis.

Dover, Del.—Auto Transit Co., under Delaware laws, with \$100,000 capital. Corporators—J. G. Gray, Thomas F. Magarity and C. P. Douglass, Wilmington.

New York, N. Y.—Hall Development Co., under New York laws, with \$100,000 capital; to manufacture motor vehicles, engines, etc. Corporators—H. A. Van Liew, H. P. Hall.

New York, N. Y.—Polar Motor Car Co., under New York laws, with \$5,000 capital; to manufacture automobiles, etc. Corporators—F. M. York, C. Kenney and M. Jones.

Buffalo, N. Y.—Seneca Rubber Co., under New York laws; to deal in vehicle tires and mechanical rubber goods. Corporators—Roswell Park, Jr., William L. Cramp and others.

South Bend, Ind.—Diamond Automobile Co., under Indiana laws, with \$50,000 capital; to manufacture and sell automobiles. Corporators—Joseph, Hannah and Grace E. Ricketts.

Columbus, O.—Reliance Truck & Garage Co., under Ohio laws; general automobile business. Corporators—Theodore Leonard, Andrew Timberman, George C. Bohn and Frank Trau.

Indianapolis, Ind.—Toops Auto Hood Co., under Indiana laws, with \$25,000 capital; to manufacture automobile specialties. Corporators—Emory D. Toops, Frank Schlusser and C. B. Clarke.

New York, N. Y.—Black Motor Car Co., under New York laws, with \$25,000 capital; to manufacture automobiles, engines, etc. Corporators—C. C. Darnall, Chicago, Ill.; O. F. Rost, Mt. Vernon, N. Y.

Peekskill, N. Y.—Lawson Motor Car & Garage Co., under New York laws, with \$75,000 capital; to manufacture and deal in automobiles, etc. Corporators—W., A. and M. S. Lawson, all of Peekskill.

Detroit, Mich.—Bailey Motor Truck Co., under Michigan laws, with \$100,000 capital; to manufacture commercial vehicles. Corporators—Thomas E. Reeder, C. F. Mellish, E. R. Stoughton and C. E. Baird.

Peoria, Ill.—Mackemer Motor Car Co.

Co., under Illinois laws, with \$5,000 capital; to repair and deal in motor vehicles and appliances. Corporators—E. M. Mackemer, H. B. Pinkerton and Sieboa Reents.

Newark, N. J.—Newark Motor Car Co., under New Jersey laws, with \$50,000 capital; general automobile business. Corporators—Jerome M. Schwerin, William F. Schupe, Fred Dudley and A. A. Russell.

Guttenburg, N. J.—Hudson County Automobile Co., under New Jersey laws, with \$10,000 capital; to manufacture automobiles, motors, cars, etc. Corporators—Stuart J. Lebach, George W. and Henry H. Kern.

New York, N. Y.—Modern Storage Battery Co., under New York laws, with \$125,000; to manufacture and deal in storage batteries and electrical goods. Corporators—J. J. Harper, E. J. Forhan and G. F. Martin.

Camden, N. J.—American Taxicab Co. of Pittsburg, Pa., under New Jersey laws, with \$50,000 capital; general transfer and express business. Corporators—V. A. Murray, J. R. Bradley and H. C. Elliott, all of Camden.

Buffalo, N. Y.—Polson Mfg. Co., under New York laws, with \$5,000 capital; to manufacture wind shields, glass fronts and automobile accessories. Corporators—Frank F., William F., and Mrs. William F. Polson.

White Plains, N. Y.—Cobb Motor Car Co., under New York laws, with \$5,000 capital; to manufacture and deal in automobiles, accessories, etc. Corporators—Frederick W. Cobb, J. O. Hobby, Jr., and Arthur I. Strang.

Bridgeport, Conn.—Automobile Dealers Association of Bridgeport, under Connecticut laws; to promote the general welfare of dealers in automobiles and accessories and to promote contests and exhibitions of the same.

Chicago, Ill.—Motor Body & Trimming Co., under Illinois laws, with \$2,500 capital; to manufacture and deal in motor vehicles, machinery and appliances. Corporators—D. H. Mann, Adolph Lindholm and W. S. Jameson.

Camden, N. J.—Chester Automobile Tire Co., under New Jersey laws, with \$500,000 capital; to manufacture tires and wheels for automobiles, bicycles, carriages, etc. Corporators—Joseph F. Swain, George M. Bryson and Wynn Armstrong.

New York, N. Y.—Liberty Radiator Co., under New York laws, with \$1,000 capital; to manufacture and repair radiators and automobile accessories; to deal in same. Corporators—Maxwell H. Elliott, John J. Quencer and George R. Casey.

New York, N. Y.—United Horse Subdrier Co., under New York laws, with \$50,000 capital; to manufacture and deal in electrical vehicles, etc. Corporators—P. J. Minck, Brooklyn; J. A. Marin, New York City, and W. A. Cooper, Jersey City, N. J.

New York, N. Y.—Hub Motor Co. of America, under New York laws, with \$1,000,000 capital; to manufacture and sell motors, engines and machinery of all kinds. Corpor-

ators—C. A. Spofford, New York City; P. S. Smith, C. Berg, Philadelphia, Pa.

New York, N. Y.—Duford Garage Co., under New York laws, with \$50,000 capital; general automobile business. Corporators—J. J. Pheelan, J. Santora and W. Kerruish.

Seattle, Wash.—Pennsylvania Motor Car Co. of Seattle, under Washington laws, with \$10,000 capital. Corporators—David W. West and John C. Hollingsworth.

**Increases of Capitalization.**

La Crosse, Wis.—R. L. Kenyon Co., from \$25,000 to \$50,000.

Akron, O.—Swinehart Tire & Rubber Co., from \$200,000 to \$400,000.

Detroit, Mich.—Metzger Motor Car Co., from \$500,000 to \$1,000,000.

Elkhart, Ind.—Elkhart Motor Car Co., from \$200,000 to \$1,000,000.

Milwaukee, Wis.—Variable Speed Clutch Co., from \$25,000 to \$100,000.

Findlay, O.—Findlay Carriage Co., from \$50,000 to \$150,000, and will engage in the manufacture of automobiles.

**Bretz in a Drop Forge Enterprise.**

J. S. Bretz and Jack L. Straub, of the J. S. Bretz Co., New York City, have become financially interested in the Rivetless Chain & Engineering Co., of Lebanon, Pa., an old established concern which heretofore has devoted itself wholly to producing a rivetless drop-forged chain, largely used in mining and conveying work, but which is now increasing its drop forge capacity, and is undertaking the manufacture of drop-forged parts for motor cars. The J. S. Bretz Co. has been appointed sole selling agent for the latter class of work.

**Freeman is Made Mora Manager.**

W. N. Freeman has been appointed to succeed W. W. Burke as manager of the New York branch of the Mora company. He has been with the company for several years, first as traveling representative and latterly as treasurer.

**Diamond Takes a Long Lease.**

The Diamond Rubber Co., of Akron, O., has taken a five years lease on the property at 807-9 Race street, Cincinnati, O., for a branch. The lease provides for the Diamond company adding another story to the one-story structure.

**Knox Buys More Factory Land.**

The Knox Automobile Co., of Springfield, Mass., has acquired an additional parcel of land, 132x50 feet, adjoining its present property. The purchase was made as a provision for future factory expansions.

**Brodhead to Build Motor Cars.**

The Brodhead Motor Car Co., of Brodhead, Wis., is preparing to build automobiles. The concern plans to make a four cylinder, five-passenger car at a low price.



## IN THE RETAIL WORLD.

Michael Back, Jr., Albany, N. Y., will erect a garage at 831-835 Madison avenue.

The Waynesboro (Pa.) Garage Co. has purchased the old market house and will convert it into a garage.

The Collins & Drake Automobile Co. has changed its name to the Collins Auto Co.; Drake has sold his interest to his partner and retired.

Caleb L. McKee, Columbus, O., will erect a garage on the west side of North Fourth street in the spring. It will be a one story brick structure.

Charles Broughton, De Kalb, Ill., has let the contract for a new garage to be built early in the spring. It will be located on West Main street.

F. L. Rinehart, Hartford, Ind., sees an opening for a garage in his town and is preparing to fill it. His establishment will include a repair shop.

H. C. Harrison, Lockport, N. Y., has leased the Holly water works building, which will be devoted to the manufacture of automobile supplies.

The Crown Automobile Co., Peoria, Ill., has completed arrangements for the erection of a one-story brick garage at 800 Main street. It will cost \$8,000.

The Des Moines (Ia.) Vulcanizing Co., located at 420 Eighth avenue, is figuring on an enlargement of its plant. Work on the addition will be begun shortly.

Robert Wright, Orange, N. J., has had plans drawn for a large garage to be located on the east side of Cleveland street. The building will be 40x100 feet.

F. M. Hoffman and A. Sharboro, Chicago, Ill., have joined forces to exploit the Cutting in western territory. They will have show rooms at 1330 Michigan avenue.

M. R. Dillin, of Philadelphia, Pa., is building a six-story garage, 51x83 feet, at 142-144 North Broad street, in the Quaker city. The cost will approximate \$80,000.

William Frisbee, Sheldon, Ia., has acquired an interest in the Sheldon Automobile Co. He will not be a stranger in his new venture, having had ripe experience.

E. G. Reimers, Louisville, Ky., is preparing to erect a two story brick and concrete garage in the rear of 716-718 Baxter street. The plans call for an expenditure of \$8,500.

D. V. Purdy, Ft. Wayne, Ind., has taken possession of a garage in Van Wert, O., which he recently purchased. He formerly was connected with the Wayne Oil Tank Co.

Headed by George M. Weber, the Weber Automobile Co. has been formed in Indianapolis, Ind., to handle Apperson cars. It will have salesrooms at 16 South Capitol avenue.

J. M. Clarke, sales manager of the National Motor Vehicle Co., of Indianapolis, Ind., has resigned to enter the retail field.

He has taken the National agency in Denver, Col.

Everitt S. Hilton, former manager of the Eastern branch of Morgan & Wright, has taken over the Regal-Detroit Auto Co. The concern has the New York city distribution of Regal cars.

William D. Clarkson, now at Waynesboro, Pa., will open a garage in Hagerstown, Md., this month. The establishment will be located in the rear of the Shelton, on West Franklin street.

The Central Garage Co. is the style of a new firm which has "opened up" at 125 South Park street, Streator, Ill. The building is 53x140 feet, of concrete blocks; Moline cars are shown.

Thomas W. Meiklejohn, Fond du Lac, Wis., has purchased an interest in the agency of A. T. Haber, and the firm will be known as Haber & Meiklejohn. They have the Ford representation.

Bridgeport, Conn., automobile dealers have formed an association and filed articles of incorporation. Its objects are to advance the general welfare of its members, and to promote contests and exhibitions.

The Woodsdale (W. Va.) Motor Car Co., which is located in a suburb of Wheeling, W. Va., has taken possession of its new garage, which includes a well appointed repair shop. They handle the Chalmers and Hudson.

The Texas Motor Sales Co., which has headquarters in Fort Worth is preparing to establish branches, in Dallas, Oklahoma City, Okla., and several other southwestern cities. It markets the Marmon, Cole and Richmond.

Glenn Frazell, a prominent Springfield (O.) dealer, has invaded Dayton, and has taken show rooms at 227-229 South Main street, where he will handle the E-M-F. He, however, will retain his Springfield establishment.

Johnson & Fortune, Findlay, O., are remodeling the Edwards property on North Main street, preparatory to embarking in the automobile business. They will take the agency for a car and also conduct a general garage business.

Newell Matthews Co., Los Angeles, Cal., who represent the Whiting and Westcott cars in the Angel City, have joined the Olive street motor colony. They have taken quarters in a handsome establishment at 595 South Olive street.

The Electric Auto Station Co., Hartford, Conn., one of the hardy young concerns of the Nutmeg capital, soon will let the contract for the erection of a large garage on Church street below High. It has the agency for the Baker electric.

The Ford Motor Co., Detroit, Mich., has conducted a blacksmith shop in connection with their garage on Seventh street, have discontinued the former enterprise and will devote themselves exclusively to automo-

biles. The building will be remodeled to meet the business changes.

C. P. Brewster, manager of the United Manufacturers branch in Cleveland, O., has resigned that position to enter the field of motor car selling. He has joined the forces of the Olds-Oakland Co., of Cleveland, as state and city salesman.

The Ford Motor Co., Detroit, Mich., has purchased a plot at the northeast corner of Woodward avenue and East Grand boulevard with a frontage of 117 feet on the former thoroughfare. It will erect a large sales building on the property.

New quarters are being prepared at the corner of Main and Globe streets, Peoria, Ill., for the Crown Auto Co., to be ready for occupancy on April 1st. Besides doing a general garage business the company will handle the Waverley electrics.

McArthur & Zollar is the style of a new firm in Minneapolis, Minn., which has the agency for the Black Crow, Everitt, Babcock and American Simplex. The salesrooms and garage are located at Nicollet avenue and Thirteenth street.

The City Motor Car Co., Houston, Tex., just has opened up in that place at 709 Louisiana street. W. W. and C. O. Weir and E. F. Holmes constitute the firm, which in addition to conducting a general garage business, will market the Pittsburg Six.

The garage of Tynan & Reynolds, 173-175 Van Houten street, Paterson, N. J., which recently was wiped out by fire, will be rebuilt by the owner of the property, M. A. Beekman. The new structure will be two stories, 50x100 feet, and will cost \$3,800.

The Atwood Automobile Co., Toledo, O., has leased the former Dollar Savings Bank building on Madison avenue and will occupy it as a downtown branch salesroom. The new quarters, which are in the heart of the financial district, will be opened about April 1st.

L. S. Mariger, Salt Lake City, Utah, who operates a line of sight seeing cars in the Mormon capital, has entered the commercial selling field and will handle the Rapid line. For the present the new venture will be exploited from his bus garage, 257 First South street.

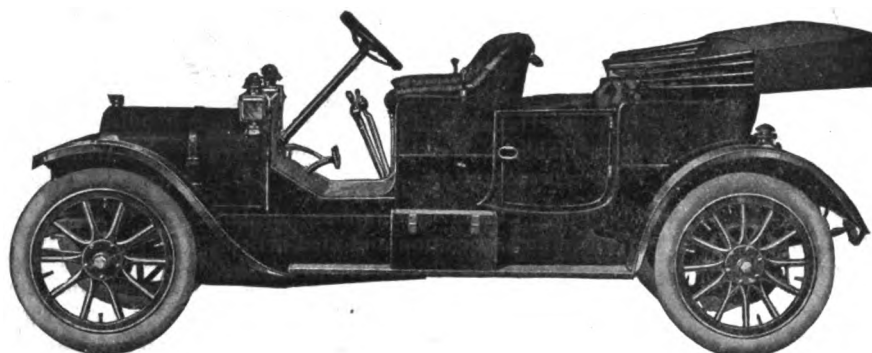
The Taylor Motor Distributing Co., is the style of a new concern which has begun business in Philadelphia, Pa., with offices in the Real Estate Trust building. William T. Taylor is president of the concern, which will market Warren-Detroit in the Middle Atlantic states.

The Broadway Automobile Exchange, New York City, of which Louis C. Jandorf is president, has acquired the property at the northeast corner of Eleventh avenue and Fifty-eighth street, consisting of a two-story and basement factory building 100x100. After extensive alterations the purchasers will occupy the premises for manufacturing purposes in connection with their present business of selling used cars.

# The Satisfaction of being "Up-to-Date"

A Little Talk on owning a

# White Gasoline Car



**T**HERE is a certain real satisfaction which comes through the possession of any article which is, in every respect, thoroughly up-to-date. In fact, almost all "shopping" consists of a search for the goods of latest pattern and embodying the latest ideas. In purchasing a motor car, it is particularly important to secure the latest design because the art has been advancing so rapidly that those cars, the design of which dates back two or three years, do not possess many of the desirable features which the present state of the art makes possible.

The owner of a White gasoline car has the satisfaction of knowing that the design of his car is at least one year in advance of any other American machine and that he will see the features which he NOW has in his car adopted by other makers next year and the year after. Among these up-to-date features are the "long-stroke" engine, the casting of the four cylinders en bloc with only about one-fourth of the usual amount of piping, the four-speed transmission, etc.

The owner of a White gasoline car can be even more proud of its QUALITY than of its up-to-date design. There is no part of the car which could be made of any better material or could be constructed with more care, even if the selling price of the car were one thousand dollars greater.

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Write for catalog of the White Steam and Gasoline cars.

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## THE WHITE COMPANY

Licensed under Selden Patent.

New York, Broadway at 62d St.  
Boston, 320 Newbury St.  
Philadelphia, 629-633 N. Broad St.  
San Francisco, Market St. at Van Ness Ave.

830 East 79th Street  
CLEVELAND, OHIO

Chicago, 240 Michigan Ave.  
Pittsburg, 138-148 Beatty St.  
Atlanta, 120-122 Marietta St.  
Toronto, 170 King St., West



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### Clause that Should be Amended.

There is one clause in the bill drafted by the American Automobile Association, which is pending in New York State and which is held up as a model law, that is not easily defended—i. e., the clause applying to the use of non-skidding devices, which is as follows:

Subd. 2.—Use of Nonskidding Devices.—No person shall operate or drive on the public highways of this state a motor vehicle on any of whose wheels is a tire chain or a nonskidding contrivance or tire composed in whole or in part of metal, except when such highways are wet and slippery or covered with ice or snow.

This clause will clearly legislate out of use a number of well known tires possessing permanent non-skid treads; as they cannot be removed when snow disappears or mud and water dry, they cannot be used at all. This would serve to leave the field clear for tire chains which readily can be detached, and this circumstance has led

to charges or insinuations affecting the motives which inspired the clause. The Motor World, however, has too much regard for Mr. Charles Thaddeus Terry, the head of the A. A. A. legislative board and the author of the bill, to share these suspicions. But as the effect of the clause is apparent and as its sweeping nature scarcely can have been realized, it does appear that no time should be lost in amending it. This easily can be done to the satisfaction of all parties.

If the language of the clause is altered so as to prohibit the use of "a tire chain or other detachable nonskidding contrivance composed in whole or in part of metal, except," etc., all difficulty will be obviated and all unpleasant suspicions be allayed. As tire chains readily are detachable, their use will not be affected, and as the idea that non-skid treads such as form parts of present day tires injure the roads has been pretty well exploded, there is no occasion for legislating against them. The amendment should be effected without delay or much argument, and it most gracefully can come from those who proposed the bill.

### "Marooning" New Jersey's Motorists.

New Jersey men are said to be taking more than usual interest in the much-mixed effort to evolve a new automobile law for New York State. They are more or less fearful that New York, like Pennsylvania and Delaware, may impose a reciprocity condition on non-residents, which means chiefly themselves, since, thanks to the lovely Senator Frelinghuysen, who lives in New York and votes in and makes laws for New Jersey, the latter state has set itself against reciprocity and demands an "admission fee" from all motorists who would cross its borders.

If New York adopts a reciprocity clause, the New Jersey men will be indeed "marooned," as one of them not inaptly describes it. Before they will be able to enter any of the three neighboring states, they must "stand and deliver," as already they must do when they go into Pennsylvania and Delaware. It is a sorry state of affairs and a stiff price to pay for Frelinghuysenism and is sufficient to cause the victims of it to reflect long and bitterly. The wonder of it all is that Frelinghuysen is able so persistently to maintain his position and block every effort to make New Jersey a "free" state. He is said to be holding up the bill passed by the Assembly

which will open the state to non-residents and the adjoining states to the Jersey men, and apparently the only hope of relief rests in his reported ambition to become Governor; political selfishness or expediency may cause him to move himself out of the way and thus permit the bill to become a law.

For more than one reason it is to be hoped that this may come to pass and that Frelinghuysen will become a gubernatorial candidate. It would enable the motorists of New Jersey to strike a blow that would be heard from ocean to ocean and that would do more to promote the passage of sane and reasonable legislation everywhere than all the legislative hearings that ever have occurred or may occur. There is one power which all politicians respect, and that is the power of the ballot. The defeat of a Frelinghuysen at the polls would demonstrate possession of that power in a fashion that is not to be denied and that would exert immediate and far-reaching effect. The motorists of New Jersey ought to be able to bring enough of it to bear to swing the balance of power, and after such a long period of oppression, which their prospective marooning makes worse, they will be queer creatures if they do not make the effort. It will be worth all it may cost.

### Amazing Influence of Star-Gazing.

It's about time for whoever has been doing so to quit "kidding" The Automobile. Our intensely profound and almost reverend contemporary deserves better treatment. Its desire to be taken seriously should be respected, even if it has fallen into the habit of erecting tombstones or semi-mourning borders in the center of its pages and of "dressing" cars in semi-quivers and curlicues and trimming engines with Scotch plaids and other dry goods effects, to say nothing of including well known men in its department of more or less "prominent accessories." That sort of thing represents serious effort—effort of the kind that causes brains to operate like accordions and that affords entertainment for all those who desire to obtain it without moving out of their chairs.

But just because The Automobile thus is striving to prove that it really is blithesome and gay and not nearly so heavy as it feels, is no reason why anyone should fill it fuller with prunes or "kid" it with figures, in boxes or out of them. "Figures don't lie," they say, and when anyone induces

a publication to fly in the face of such a maxim it is time for protest—serious protest. It is taking mean advantage of a trusting nature. Who, for instance, could have induced our respected and highly respectable contemporary to take such a long, sweet peep, first into that dim, dead past which is beyond recall and then a longer and sweeter excursion into the far future and the future which is not so far and of which men—most men—know nothing?

The effect is delicious, but it should cause the wholesale issuance of search warrants; for if what The Automobile says is even half true, there are nearly two hundred thousand motor cars that have disappeared so mysteriously as to suggest that they were carried off under the coats or in the vest pockets of men who were supposed to be far, far above suspicion. The Automobile says there were 80,000 cars produced in America in 1907, 130,000 in 1908 and 200,000 in 1909, whereas men versed in industrial statistics have placed the production of those years at not exceeding 40,000, 60,000 and 130,000, respectively. The discrepancy—the loss of 180,000 automobiles in three years—is too great to pass unnoticed. They must be somewhere, and they should be sought for. Every man should search himself. He may have one or more concealed about his person without knowing it. If he finds none, he should look into his children's playroom. Santa Claus may have left a few of them there and the kiddies may be playing "choo-choo cars" with them.

It is rather important that these missing cars be located, as The Automobile's flight into the future portends similar and greater mysteries. After reading the stars and the Milky Way it has found that during the present year of grace not less than 300,000 cars will be manufactured—a figure which will cause that optimistic prophet who reached to the 200,000 mark to feel queer and to sing small forevermore. But the worst—or best—is yet to come! For star-gazing has convinced The Automobile that during each succeeding year the production will increase 50 per cent., so that in 1915 there will be manufactured a trifle of 2,278,000 cars and there then will be in use 5,900,000 of them, or one for every sixteenth person in the United States.

Those will be happy days, for mankind and for horses, too. There probably will be a garage attached to every flat and tene-

ment house for the use of the tenants, while Dobbin will be gamboling on the roof or seated on silken cushions on the parlor sofa. For by 1913 "every delivery wagon, truck, farm wagon, cab and omnibus" having been "replaced by an auto"—that's what our contemporary says—the horse probably will take the place of the lap dog, while the street cars, subways and elevated lines will be covered inches deep with cobwebs. If the simple 50 per cent annual increase holds true after 1915 it will not be long thereafter before schoolboys will be able to use automobiles as marbles and schoolgirls to play "jacks" with them.

We confess ourselves out of patience that our contemporary should have left its story incompleting. Why it did not figure how many times its automobiles placed end to end will reach around the earth, or, piled high, how near they will reach to heaven, is almost inexplicable. We hope this omission will be rectified, and if the rectification brings with it tables showing the number of times the engines will turn over and the number of times the valves will open, etc., the added figures will increase the impressiveness of the presentment.

Seriously, The Automobile should cease fooling itself or trying to fool others. Such figures as it prints are a reflection on its intelligence and its sources of information and they serve no useful purpose. They do more harm than good. If The Automobile is not "fooling," it should engage some one to awaken it and to keep it awake. We all can enjoy a good dream, but most men can distinguish between a good dream and a nightmare.

No craze ever attained greater proportions than the bicycle craze and no vehicle of locomotion was or is so simple, so convenient, so compact, or so economical as the bicycle; its price was within the reach of the masses; it was easily and quickly manufactured, and there were just as many factories engaged in producing them as now are producing automobiles; but not in its wildest delirium did its production attain such proportions as The Automobile so blithely places to the ultimate credit of the automobile industry. The bicycle has its limitations; so, too, has the motor car. Among other things, while one bicycle carries but one person, one automobile will carry from two to seven persons, which means something when calculating at a 16 to 1 ratio.

## COMING EVENTS

March 1-19, Fort Worth, Tex.—Fort Worth Automobile Dealers' Association's first annual show in Coliseum.

March 5-12, Boston, Mass.—Boston Automobile Dealers Association's eighth annual show in Mechanics Building.

March 5-12, Cleveland, O.—Cleveland Automobile Club's eighth annual show in Central Armory.

March 5-12, Des Moines, Ia.—Des Moines Automobile Dealers Association's first annual show in Coliseum.

March 12-19, Syracuse, N. Y.—Syracuse Automobile Dealers Association's annual show in State Armory.

March 14-19, Cedar Rapids, Ia.—Automobile show in Auditorium.

March 15, Daytona, Fla.—De Palma-Oldfield match race.

March 17-19, Louisville, Ky.—Louisville Automobile Dealers Association's annual show in Armory.

March 19, Altadena, Cal.—Annual Pasadena-Altadena hill climb.

March 19-26, Aberdeen, S. D.—First annual automobile show.

March 20, San Francisco, Cal.—San Francisco Motor Club's hill climb on Nineteenth avenue hill.

March 21-26, Spokane, Wash.—Spokane Automobile Dealers' Association's first annual show in Princess Rink.

March 22-24, Daytona, Fla.—Florida East Coast Automobile Association's eighth annual beach speed carnival.

March 26-April 2, Montreal, Can.—Fourth National Automobile and Sportsmen's show.

March 26-April 2, Pittsburg, Pa.—Pittsburg Automobile Dealers Association's fourth annual show in Duquesne Garden.

March 28-April 2, Indianapolis, Ind.—Indianapolis Automobile Trade Association's first annual show in individual show rooms.

March 28-29, Savannah, Ga.—Savannah Automobile Club's 675 miles endurance run to Jacksonville, Fla.

April 4-9, Elmira, N. Y.—Elmira Chamber of Commerce's first annual automobile show.

April 8-17, Los Angeles, Cal.—Inaugural meet on the new Los Angeles Motordrome.

April 11-18, Springfield, Mo.—Springfield Chamber of Commerce's first automobile show.

April 12-16, Springfield, Ill.—Springfield Chamber of Commerce's first annual automobile show in Arsenal.

April 18-23, Bangor, Me.—Second annual automobile show in Auditorium.

June 1, Berlin, Germany.—Start of Prince Henry tour, finishing at Homburg on 8th.



# Boston's Big Show and Some Apple Trees

Nearly All the Well Known Cars in Evidence and Some That Were Not Shown Before—Display of Commercials Particularly Impressive—Apple Trees, Such as Never Grew, in Full Bloom, Canaries Carol and the Spirea Van Houtii, too, are there.

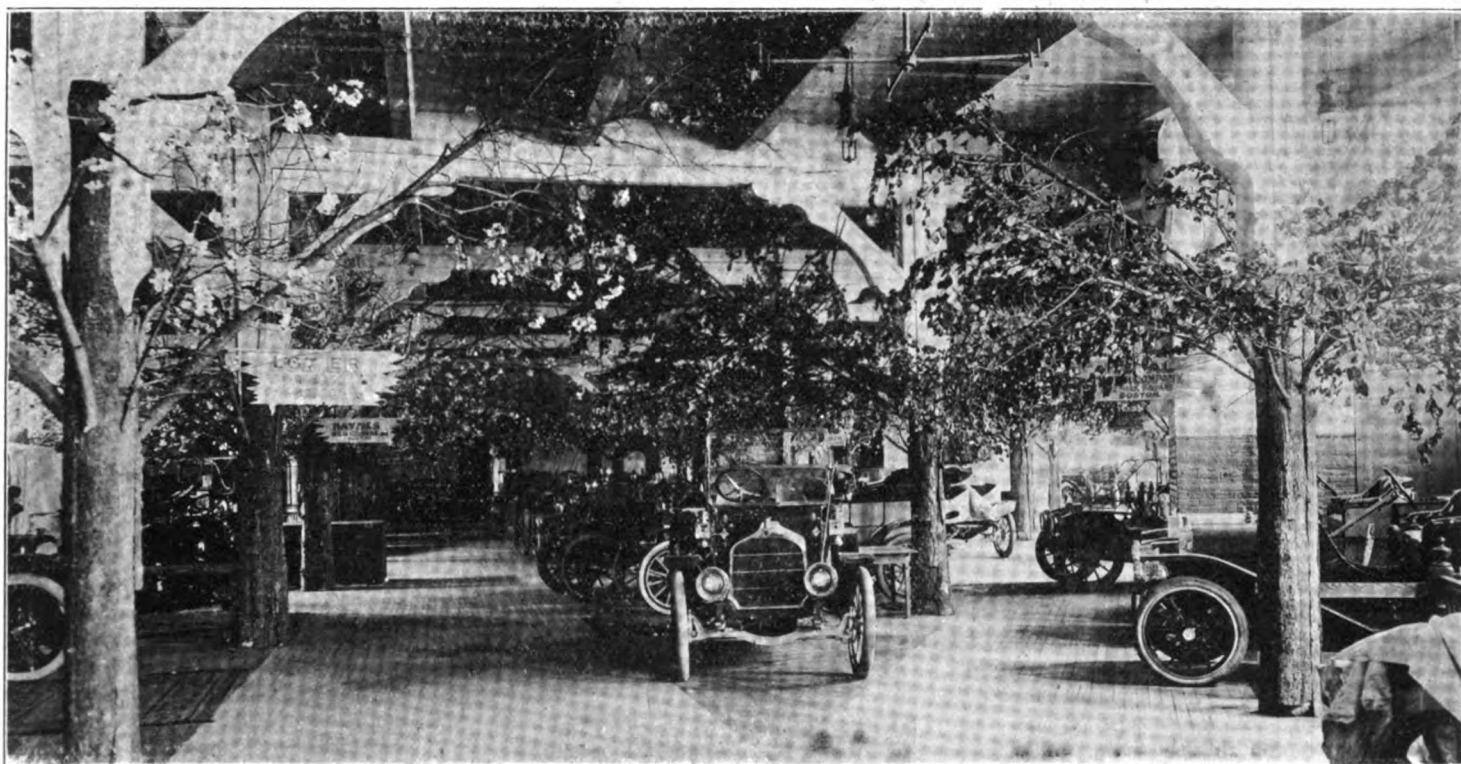
Dear old Boston! There are some things in which it is not easily possible to beat the prim old lady.

She long and justly has had the reputation for being able so deftly to "make over"

sands of dollars expended for decorative treatment, Boston never even clucks about its costs. Rather do her word-painters portray mind-pictures of buds and blossoms, birds and brooks, pergolas and peristyles,

tinctly pleasing, even if critics may observe that some of them are reminiscent or have been "warmed over."

To say nothing of the balcony and the basement, which do not readily lend them-



SOME OF THE CARS AND PART OF THE "APPLE ORCHARD" IN EXHIBITION HALL

her old bonnet or her old gown that even her next door neighbor has difficulty in recognizing it, and her skill in warming over a meal so that it appears or tastes like a fresh one, equally is well known. They are thrifty folk in that neck of the woods. They can stretch a dollar bill until it looks like a landscape, and their nimble fingers can do it with such adroitness as to compel admiration.

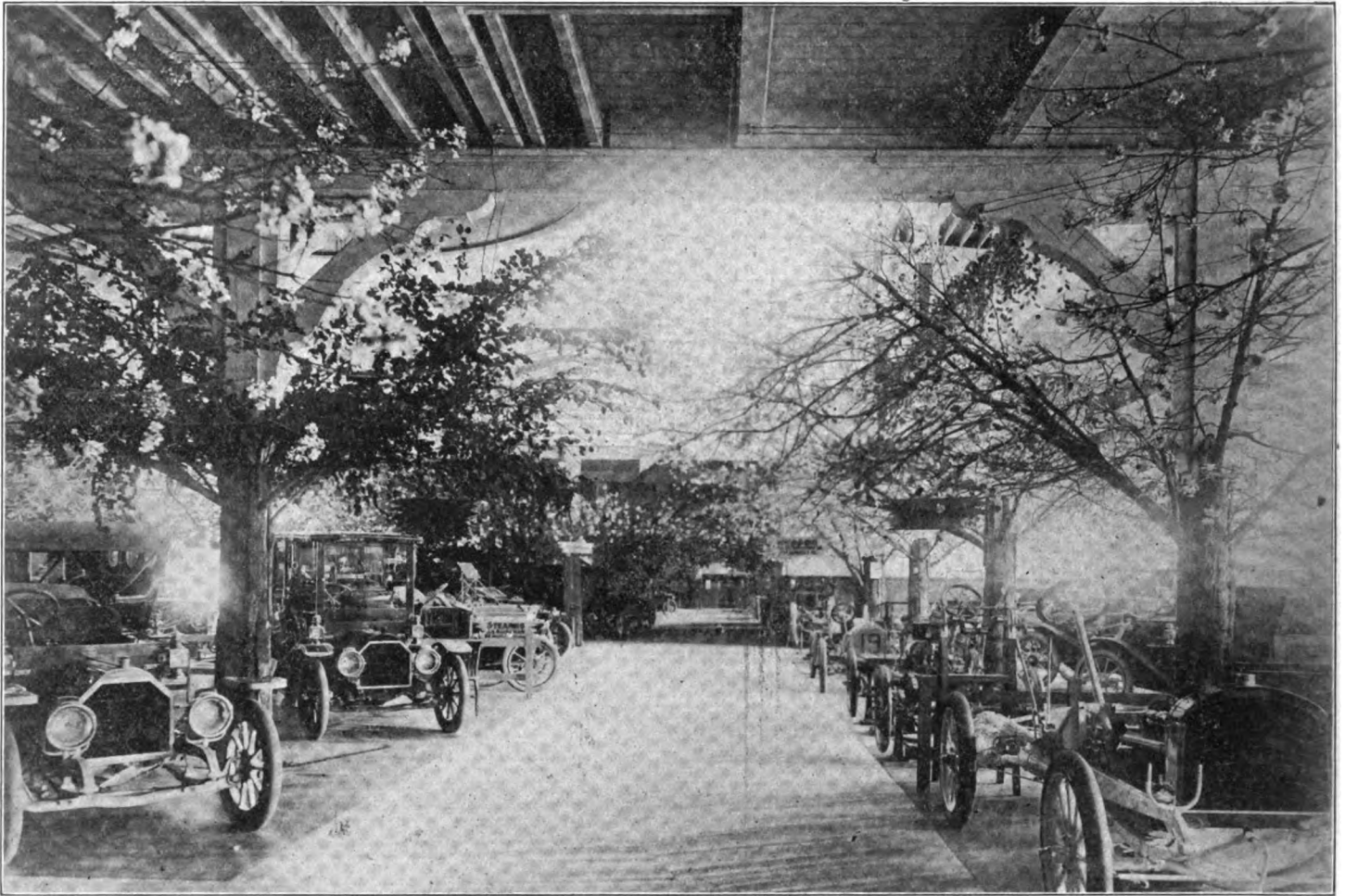
For several successive years, the Boston automobile show has served as an apt illustration of such deftness, and the one which opened in Mechanics Building on Saturday evening last, and which will hold the boards until next Saturday night, is no exception to the rule. There is none of the big shows that can compare with it in this respect. While the chanticleers of the New York and Chicago functions crow lustily of the twenty-five, fifty and one hundred or more thou-

colonnades and columnar effects and such like; and the net result is quite as effective as the dollar-trumpeting.

This is true of the show now current. The crowds have flocked in satisfying numbers and they have not cared a rap or a button or a bean whether the decorations cost thirty-three cents or thirty-three thousand dollars.

"It's a pretty show," is a very general verdict, which occasionally is varied by a "Prettier even than New York or Chicago" remark of men who viewed the national exhibitions in both of those cities. And p-o-s-s-i-b-l-y it is prettier, in the same sense that dainty Dolly Twinkletoes may be prettier than the queenly Evelyn Devere, or the stately Madame Elderberry; anything is possible, you know—and in this case it doesn't make any difference, any way. For the effect of the Boston decorations is dis-

selves to decorative treatment, the Boston show comprises two parts—one part made up of the exhibits staged in Grand Hall, with its high and lofty ceiling, the other comprising the displays in Exhibition Hall, with its low and obtrusive posts and rafters; the halls connect one with the other. The visitor first enters Exhibition Hall. Forgetting motor cars for the moment, and agitating the accelerator of his imagination, he beholds himself in a bully make-believe apple orchard in full bloom, and if his ears are sharp and one of the two female orchestras—"patented" in Boston and rarely infringed by any other show—is not making music, he will hear the warble of birds—real ones—not in gilded cages, but real canaries in those little wooden prisons just as they come from the bird stores. The birds are positioned in the apple trees. And those apple trees! Wow! Their trunks



ANOTHER VIEW OF THE APPLE ORCHARD IN EXHIBITION HALL

are slabs of bark—chiefly spruce—about as they came from the sawmill, which are nailed around the obtruding posts which support the rafters; the boughs, which are nailed to the bark, are of all sizes, shapes and varieties, and the job of nailing the bark to the posts, and the boughs to the bark was roughly and cheaply done, and at close range the "trees" are remarkable creations. Some are in leaf, others are leafless, but all are abloom; the blossoms are large and their delicate whites and pinks cause the imperfections of the "trees" to be forgotten, and despite anything that may have been said, the effect obtained is surprisingly pretty and from a distance strongly suggestive of the apple orchard which it represents. The exhibitors' signs, of rough board, are suspended from the trees and the exhibits themselves are separated by low fences stained a weathered green. Grey-green rugs contribute harmony, and a painted and continuous landscape covers the walls and furthers the outdoor "atmosphere." The landscape is not done in either oils or water colors; it is a splendid piece of kalsomining and looks all right in a photograph. In the "light well" of Exhibition Hall there are loopings of white and green bunting—and an aeroplane, without which apparently no local or neighborhood show of 1910 appears to have been complete.

And, passing this way, ladies and gentlemen, we enter Grand Hall! Pretty, isn't it? Observe the sky! No, it did not cost \$10,000 like the one at Chicago, and it is not the largest sky in captivity. It is mere-



A TREE AND A BIRDIE

ly sky blue bunting, price 5 cents per yard. Take notice of the white colonnade or arbor erected on the balcony, and the vines thereon. A little later the white-gowned orchestra will play there, and still later, a human canary—also of the female gender—will thrill you with her tuneful carolings and carry your minds far from motor cars. (Boston still loves her sweet voiced songstress.) Of course, you have not failed to notice the festoons of pink roses and foliage around the balcony railing, which lend such dainty coloring to the scene; and your eyes could not well fail to absorb the central piece—that white pergola banked high with real flowers. And talking of flowers, ladies and gentlemen, we call your attention to the fact that real flowers, and not rail fences separate the exhibits in Grand Hall. Those are lilacs and tulips in those green troughs, and that tall shrub with the small white blossom is the famous spirea van houtii. It is of the same family as the spirea reevesii and the spirea prunifolia, and it is the first time in history that the van houtii plant ever has blossomed in an automobile show. Please remember that whenever you think of Boston! And now, if you please, we will visit the galleries where there is not so much decoration, but a wealth of accessories, or we will descend to the basement and view the trucks and

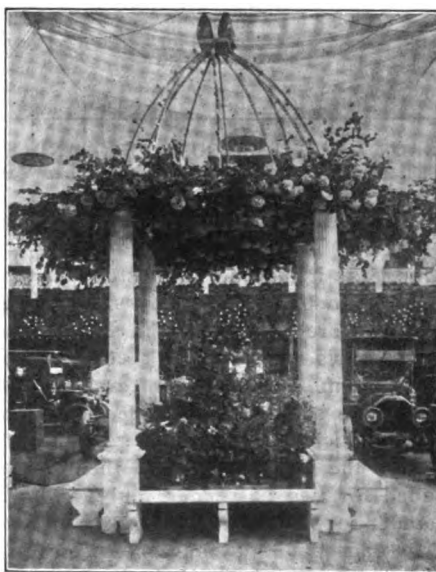


GENERAL VIEW OF THE DISPLAY IN GRAND HALL

the wagons. Meanwhile, if you desire peanuts, popcorn, lemonade or candy, you will be able to purchase it at any of the several stands we have passed. You will find the prices very reasonable.

In addition to or wholly apart from its decorative treatment, the Boston show is, as usual, a fine large affair. No one except the management ever is able to say exactly how many exhibitors the big building houses, as in respect to accessories at least, there always seems room for "one more" even after the eleventh hour, and, in fact, until the doors close on the last day. Numerous small jimcracks creep in during the week and not all of them pertain to motor cars. The program always contains not a few names wholly unknown to the automobile industry and which cause the man who compiles the summary of exhibitors some vexed moments. Last year, one of these compilers took a chance when he found an unknown spring company listed as an exhibitor by promptly writing it down as displaying automobile springs. His eyes bulged when at the show he found the company had spring water for sale. This year, John Quincy Adams was found to be selling dictionaries, while exhibitors possessing less famous names were found to be marketing such things as candy, face grease, pianos, vacuum cleaners and photo papers.

Because of this condition of things, the total number of exhibitors at the show always is subject to discount. Last year there were 258, of whom 87 staged 409 vehicles



CENTRAL PERGOLA IN GRAND HALL

and 168 other things. This year there are 87 exhibits of cars and 197 of accessories and "other things," a total of 284. The num-

ber of vehicles in evidence again is 409. Most, but not all, of them are shown in the names of the local agents, but practically all of the eye-catchers which were displayed at New York and Chicago by the manufacturers themselves are in evidence. The Thomas tumbling chassis and New York-Paris car and trophy are there; so, too, are the cutaway and working chassis of the Chalmers and the Hudson. The P-S, the Winton and the other striking torpedo bodies likewise are on hand, together with the usual display of silverware, not forgetting even the Vanderbilt cup, which, of course, is an Alco exhibit.

The display of commercial vehicles in the basement is an impressive one. It probably is the best representation of such cars that ever has been made and illustrates vividly the progress that has been made of the construction of the "big fellows." One of these truck exhibitors introduced a new wrinkle, too. His truck being so large and his space too small to permit of a desk and chairs being placed on the floor, this office equipment was placed in the truck itself. It was a novel sight to thus see men climbing onto the truck to seat themselves beside a man doing business at a desk and with telephone and electric drop-light and other office appointments in plain sight. The adaptability of the big trucks



was also illustrated by the White company, whose vehicle came to the show loaded with all of the White show furniture and fixtures.

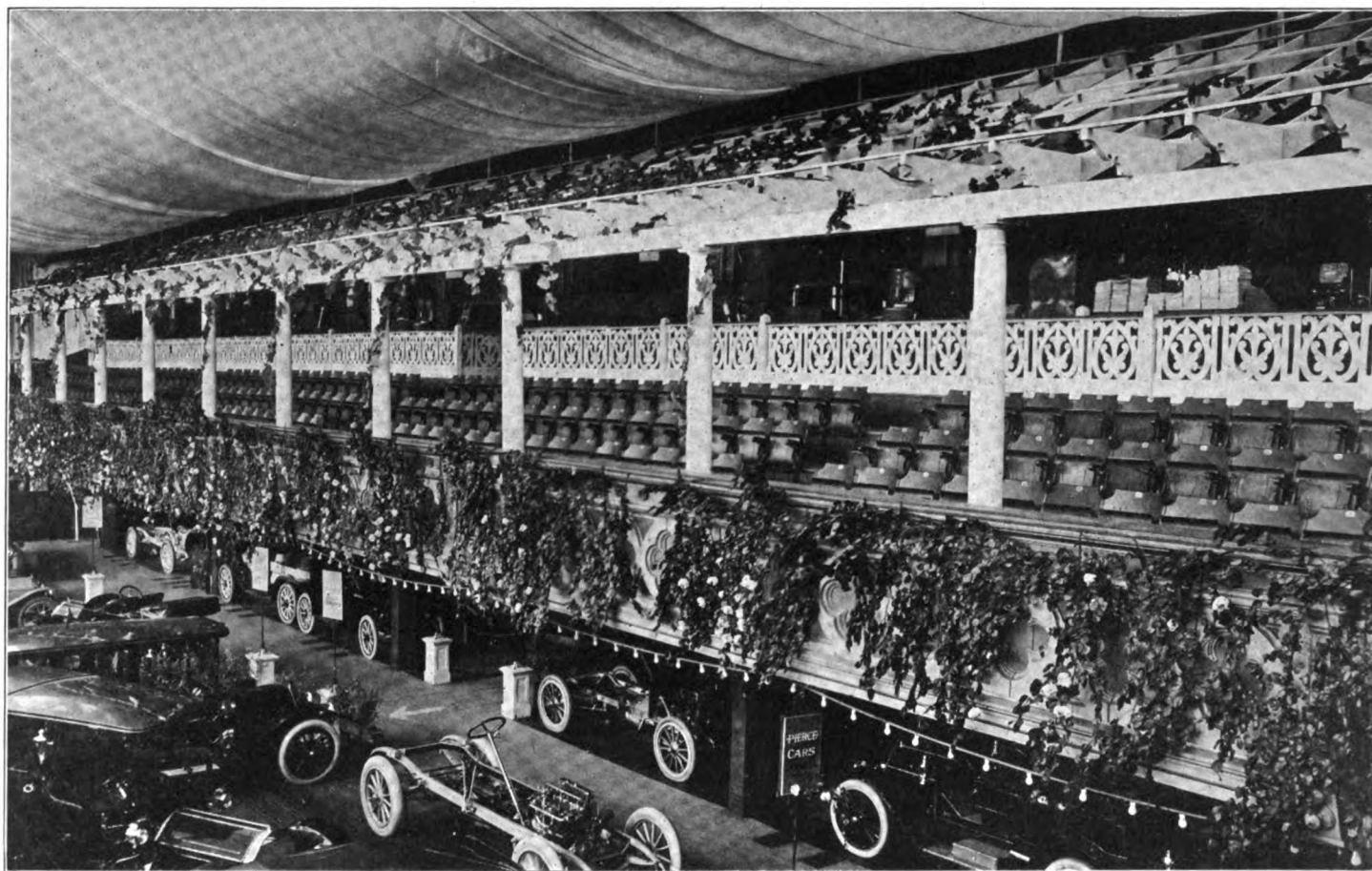
It was in the basement, too, that two real novelties of the show cropped out—the Hariman rotary gas engine and the Teel valveless two-cycle motor without crank case compression.

Most of the accessories were displayed on the galleries, however, and at least one, the Casgrain hydraulic speedometer, is displayed in strikingly original fashion. One

new but no less striking body designs are on view. But perhaps nothing could give just the required touch of up-to-dateness, which it is necessary to cultivate in the terminal city of the Boston and Maine Railroad, than the influx of torpedo bodies. Because, as everyone knows full well, while some of the structures which are limited in the picture books under this warlike title really suggest very strongly just a plain touring car with high side doors in front, they really are in a class by themselves for the reason that they afford a degree of pro-

tection for the passengers hitherto undreamed of. Strange as it may seem, Boston musters more torpedo bodies than any single show yet held—more even than the Palace and Garden shows in New York could count between them. There are an even 20 machines to be seen in and about Mechanics Building which answer to the general definition of the torpedo, five of them being designed for two passengers only, and the remainder for four stout passengers or four normal ones and one thin one. Chicago's display accounted for a baker's dozen of the sort, while in New York there were seven in the Palace and just 10 in the Garden.

Other torpedos shown in various parts



COLONNADE ON THE BALCONY IN GRAND HALL.  
The arrow indicates the location of the famous Spirea Van Houti

of the instruments is frozen fast in the center of a large cake of ice, while another of them is contained in a glass-front oven provided with a thermometer which indicates that it is being subjected to 110 degrees of heat. As the accompanying placard makes plain, this novel demonstration is designed to prove that the speedometer is not affected by temperature.

#### Torpedoes and "Show Cars" Plentiful.

Considering the general display of cars, it is noteworthy that the manufacturers as a whole have by no means skimmed their local representatives in affording them material for exhibition purposes. Indeed, in many instances, the show cars which have done duty at the four national shows of the season—the last one having been in Chicago—again appear. In other instances,

tection for the passengers hitherto undreamed of.

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Among the cars of this type which have not appeared before may be mentioned the Franklin, which, instead of the French type

of the big building include the two P-S creations, the Winton runabout, which has traveled the whole show circuit, and incidentally has come to be known as the "hard boiled egg," owing to its spheroidal posterior; the black Winton touring torpedo, and the White, Columbia, Selden, McCue, and Stoddard-Dayton cars. The new Morse car is similarly equipped as to one of its examples, while the new Marmon torpedo broadly suggests that some day someone may invent a design convertible from touring to "torpedoing" operations. While a true torpedo, it has much the same lines as the stock touring car, with a few necessary modifications.

That highly ornamental feature of all automobile exhibitions, the show car, however, is by no means all torpedo, in Boston. For example, there are a number of most



excellent and distinctly practical limousines—such, for example, as the Stevens-Duryea, Pierce-Arrow and Stearns, while the Chalmers product is brought out in the form of a most attractive little inside driven coupe, among others. Aided in its spectacular effect by its conspicuous position in the very center of the stage in Grand Hall, the Packard double limousine is calculated to attract a deal of attention in consequence of its vermilion and black color scheme, as well as because of the complete enclosure of all the seats which it effects. The same product is displayed in the white and gold confection which has been the rounds of all the big shows of the present season. Immediately in front of the stage a peculiarly effective shade of green masks a Winton rumble runabout, which is distinguished, among other things, by an ingenious form of folding top which when collapsed is released from its normal fastenings, the lower ends of the bows being dropped sufficiently so that the upper portion of the top ceases to obstruct the vision of the recluse on the dicky seat. A somewhat similar device is used on a Knox runabout.

There is a green Pope-Hartford car also, while a Pierce-Arrow roadster in grey affords somewhat the practical effect of the "battleship" shade, which is much affected by some sporting motorists, without the unfinished and raw suggestion which that unglossed pigment produces. As a rule, however, bright and glaring colors are replaced by the more ordinary shades of the stock cars on such stands as the Mitchell, Jackson, Apperson, Premier, Studebaker and Alco. The little Krit is the only brand new car shown in this portion of the exhibition, though the Ohio, in a neighboring booth, is both a new product and one not before seen in Boston.

Under the apple blossoms in Exhibition Hall a number of the older and better known manufacturers are represented at stands with which they have been identified at practically all the Boston shows. Exhibits of this order include the Rambler, Locomobile, Ford, Marmon, Columbia, Stearns and Maxwell cars. The sectioned and moving chassis illustrative of the Chalmers and Hudson methods of construction occupy the same space as was used for Chalmers products one year ago, while the new four-cylinder Reo and its stand mates, the practical Overland and the Marion racing runabout have a cross-connecting aisle all to themselves. Three Matheson sixes and one of the big four-cylinder touring machines are placed at the head of the hall, while the Inter-State, Selden, National—shown only in chassis and racing runabout forms—the little Hupmobile and the Kline car, the latter making its bow to New England, line the second of the two avenues which lead from the principal entrance to Grand Hall.

Despite the good offices of the decorators, a certain feeling of depression, due perhaps to its subterranean location, attends

the visitor on his way to the basement. Nor is the feeling wholly relieved by the gross confusion of the exhibits, which have been shuffled about until they are sadly lacking in classification. Accessories and commercial cars are there in goodly array, not to mention the telephone operators ensconced in their glass cage. Also, there are an abundance of good pleasure cars which deserve better treatment at the hands of the management. For instance, the little Brush runabout is jammed in between the flamboyant and more or less noisy display of a manufacturer of stationary gas engines and charging outfits and the huge bulk of the Morgan truck. Just opposite it is the Corbin display, where the visitor is rendered more or less uncomfortable by the heat which radiates from the adjoining power plant from which the feeble light of the basement is derived. Back to back with the Brush display is that wherein are demonstrated the advantages of the Lambert friction drive, and also the pedal motor starting device with which one of the Lambert models is regularly equipped this year.

Various other cars, mostly rather large ones, overhang very small spaces in the neighborhood, their attendants complaining that because of the small area available other cars have had to be garaged during the show, instead of being put on view, which, in instances where such machines have been freighted long distances just for show purposes, tends to induce unpleasant thoughts in the breasts of the visitors.

The Schacht exhibit is on a well-traveled thoroughfare, but in an ill-lighted corner, where the advantages of the "three-purpose" car are hard to see, if easy to comprehend. Better fortune has befallen the exhibitor of the Fuller line, however, which, by the way, is counted among those new to Boston, and also among those which, upon the purchaser's requirement, may be equipped with solid tires. Firestone gasoline and electric cars and the two white chassis, which render conspicuous the location of the E-M-F. "30" and Flanders "20" cars, are in an even better situation as regards accessibility and visibility. The latter car, of course, makes its initial appearance in Boston at this time, and is conspicuous among the newcomers because of the logical way in which it has been developed as a companion to the widely known "big sister" E-M-F.

#### CARS NOT SEEN AT OTHER SHOWS.

One or more "native" products invariably appear at Boston, as at many other local shows of greater or less magnitude, but this year only one of the sort is to be found, as against four which made their debut at the 1909 show. The new standard bearer for New England is the Morse, which is built by the Easton Machine Co., of South Easton, Mass. The makers have been producing cars in a small way since 1904, while developing their design, but the present exhibition is the first at which the

machine has made a public appearance.

In construction the Morse evidences a number of entirely original devices. As a whole, it is of generally standard proportions, but it is entirely free from the marks which invariably identify the parts which have been bought in the open market. It is a high class product, in that expensive materials are used throughout, and no marks of manufacturing economy are visible. The motor, which is the most distinctive portion of the chassis, is of entirely original construction. The valves are located side by side in the head, an unusual point being the enlargement of the upper end of the cylinder bore, which is cored away at the combustion head to permit the application of valves of greater diameter than would be possible were the bore proper carried up to the head. The valves are liberally jacketed and are actuated by short walking beams from a single cam shaft. Incidentally, a neat detail is revealed in the method of enclosing the push-rod lifters and their springs, which are capped by brass covers secured by an adapted form of bayonet lock, instead of screw threads. The four vertical cylinders are of  $4\frac{1}{2}$  inches bore and 5 inches stroke, the rating being quoted at 24 horse—"European."

The engine base is cased with strong flanges on either side, which extend out to the side frame members, forming a closed dust pan and also staying the front part of the chassis against distortion. The lower part of the case is divided into two sections, the lower forming a sump, for the oiling system. This system is distinguished by the use of only two external pipes, the remainder of the circulation being carried out through cored passages. The gear pump itself is housed in a chamber which is cast in the base.

The transmission system includes multiple disc clutch, four-speed selective change gear and shaft drive. The clutch is original in form, contains only nine saw-blade steel discs, and is applied by a helical spring through adjustable cone and finger mechanism, the adjustment feature being such that any slack may be taken up without disarranging any of the connecting parts. The change gear is distinguished by direct through third speed connections, and a geared up fourth speed. The rear axle is of massive construction, employing a torsion tube shaft housing, stayed and swung on a ball pivot in front. Scroll and full elliptic springs in the rear and semi-elliptic in the rear, 36 by  $4\frac{1}{2}$  inch tires and 127 inch wheel base complete the major specifications. From Eisemann dual ignition apparatus throughout, the standard equipment is of the best.

Of the several cars which are new to Boston and the East, as well as of recent introduction to the market, one of the popular small runabout class is the Krit. Unfortunately for Boston show goers, only the chassis is to be seen, owing to an unlucky

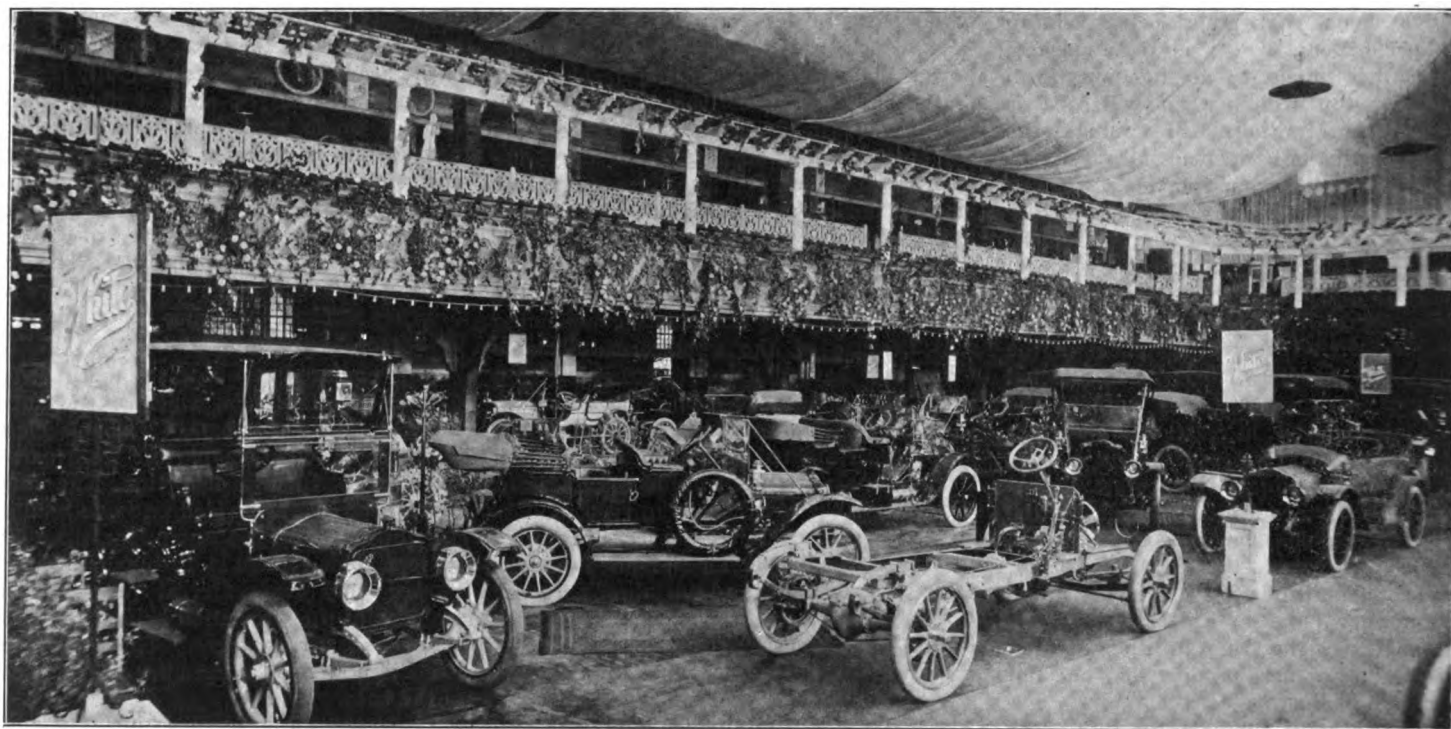
smash which the finished vehicle suffered while in transit by freight from the factory. The chassis reveals neat lines, compact construction and a number of thoroughly up-to-date and pleasing features. The motor is of the four-cylinder block type, with  $3\frac{3}{4}$  by 4 inch bore stroke, 22 $\frac{1}{2}$  rated horsepower, thermo-syphon cooling and Bosch magneto ignition built with set spark adjustment. The power plant is of unit construction, the flywheel, clutch and change gear being housed with the engine crank shaft in a separable aluminum enclosure, which is hung from three points, a single cradling point in front, and one on either side in the rear. The clutch is of the multi-

sis is remarkably free from superfluous mechanism, and appears well fitted for the work for which it is intended. Double internal and external rear wheel brakes, one set of which is applied by the single pedal which also throws out the clutch; 32 by 3 inch tires and 96 inch wheel base, are the principal dimensions not already mentioned.

Another new Detroit product, which has not before been shown in the East during the brief interval which has elapsed since its introduction, is the Warren-Detroit. It is shown in three-passenger roadster run-about form, and in clean and modish lines and comfortable appearance is suited to take

with a round 30 gallon tank in the rear, replacing the extra seat. The same chassis also may be had mounted with a small tonneau body and fitted with 34 by  $3\frac{1}{2}$  inch tires, but otherwise unchanged. The standard equipment includes, in addition to the dash and tail lamps, a pair of 8 inch headlights, generator, horn and complete set of machine and engine tools.

Paterson, a name long associated with the traditions of the carriage trade, lately has come to be listed among automobile products by reason of the W. A. Patterson Co.'s introduction of the Patterson "30." It is shown here for the first time, being, in-



GENEROUS EXHIBIT OF WHITE CARS IN GRAND HALL

ple disc type, and the gearset affords two forward speeds in addition to the reverse, with selective actuation.

The most original feature of the car is the rear axle design, which embodies the idea which is best expressed by the term lever suspension, which has been adopted by another maker who uses somewhat the same principle in a slightly different manner. Instead of being mounted on the axle in the usual way, the single transverse, semi-elliptical spring which supports the rear of the chassis is shackled at either end to an arm extending forward from the axle for a few inches. The tendency to rotate the axle which this brings about is resisted by the torsion tube itself and by the two diagonal braces which serve to maintain the alignment of the axle. Thus a part of the dead load of the car is carried forward to the ball socket joint back of the gear change, where it reacts against and practically counteracts the upward moving tendency of the torque tube, which is caused by the torsional stresses due to propulsion. The chas-

a favorable position in the growing line of 30 horsepower cars. It is equipped with a block motor of 4 by  $4\frac{1}{2}$  inch bore and stroke, with valves on the same side, double ignition, leather-faced cone clutch, three-speed selective gearset and shaft drive. The general arrangement and proportions of the parts are thoroughly standardized—indeed, it is one of the selling arguments of the machine that it is completely standardized throughout. Special design has been adopted in the gearset, however, which is of the type in which the main and lay shafts lie side by side.

The wheels are 32 inches in diameter, shod with  $3\frac{1}{2}$  inch tires; the spring suspension is  $\frac{3}{4}$  elliptic in the rear and semi-elliptical in front; the frame is of pressed steel construction, with sub frame to carry the power plant, the rear of the main structure being raised in the rear to afford proper clearance over the axle. In the form of body shown, the gasoline tank is carried under the front seat. As an option, however, the runabout type may be equipped

deed, one of the latest innovations of the middle West, and hailing from Flint, Mich. The car is driven by a compact little four-cylinder engine of rather conventional design, having a single cam shaft on the right, which involves the concentration of the valves and gear and the carburetter on the left side of the vehicle, while only the magneto is carried on the right. The cylinders are of "square" dimensions—that is to say, having 4 inches bore and stroke, thus affording an A. L. A. M. rating of 25 $\frac{3}{4}$  horsepower. Cooling is by gravity circulation.

With the gear case and clutch housing, a unit power plant is formed, which is hung from four points, the gearset overhanging the rear support so that the lugs which are attached to the frame bear the load at points of high concentration, and the casing which is used mainly for protective purposes is relieved of stresses which are foreign to its principal intent. The change gear affords three forward speeds and is selectively actuated. Final drive is through a double jointed cardan shaft to a semi-floating rear

axle. The rear axle is mounted on roller bearings; the forward member, which likewise is of tubular construction, is equipped with ball bearings for the wheels. The wheel base is 106 inches, 32 by 3½ inch tires are used, and the spring suspension is full elliptical behind and semi-elliptical in front. The vehicle is exhibited in touring form, with a clean lined, conventional body equipped with top and full equipment.

The Standard Six, rather an impressive looking machine of many original, though few radical, points, is also among those shown for the first time in Boston. Although a new car in construction, it is of well-known lineage, being a direct descendent, in a commercial sense, of the American Mors, which it has superseded. In the use of high grade materials and parts constructed with an eye to performance rather than manufacturing economies, it evidences careful work on the part of the designer, and is distinctive especially in point of engine design.

The valve-in-the-head type of design has been adopted, with overhead walking beam actuation, from a single cam shaft, which is placed on the left side of the car. The valve construction, including the removable cages, is noteworthy for the considerable length of jacket space which is carried over the combustion chamber, as well as by the way in which the inlet and exhaust ports have been cored out of the heads, leaving the cylinder exteriors of smooth contour. The cylinders are cast in pairs, 4½ by 5 inch dimensions, and the horsepower output is 50 under brake test. Dual ignition is employed, the magneto and pump being mounted accessibly, on the cam shaft side of the motor. The intake and exhaust piping and the carburettor alone occupy the right side of the engine. The crank case is of simple exterior formation and is suspended by heavy independent brackets, which afford the effect of three point suspension.

Three-speed selective gearset, shaft drive, and inverted cone clutch with cork inserts are the transmission features, while the rear load is carried on a full floating, Timken bearing axle. The wheel base is 124 inches, and the tires are 36 by 4.

Johnson cars, but little known in the East, have been familiar for a number of years in the middle West states. Within a twelve-month they have been metamorphosed and, having been deprived of their steam power plants and otherwise altered, now appear as practically a new line. Although the Johnson Service Co., of Milwaukee, Wis., its producer, also is engaged in the production of a full line of commercial vehicles, only the pleasure car is exhibited in the show. This is known as the Johnson Special, and is a touring car. It is well to note also that two larger models are known respectively as Elite and Empress, although they are practically enlarged versions of the special model.

This vehicle is characterized as assembled from parts produced almost entirely by the manufacturers of the car, who also specialize in components to the trade in general. While its design is not strikingly radical, it reveals originality at every point, from the mere formation of the dome head cylinders, which have the valves mounted side by side on the left side of the car, to the rear axle, which is of torque tube construction and distinguished by a very large spherical differential housing, together with tapered sections for the axle ends and torsion tube.

The motor has 4¼ by 4¼ inch cylinders, water cooled, and is rated at 30 horsepower. Atwater-Kent ignition is standard equipment, with magneto installation furnished optionally and under protest, as the makers are convinced of the superiority of the single spark system. The wheel base is 112 inches, and the tire equipment is of 32 by 3½ inch sizes. Other details of construction are the splash lubrication system for the motor, which has pump feed and automatic leveling provision; the cone clutch with leather facing and relieving springs, and the selective sliding gearset.

Welch cars have been on the market for a long time, but the Welch-Detroit is a new product, despite the familiarity of the first part of the compound appellation. The new Welch, as its name indicates, is to be distinguished from its older relative, now known as the Welch-Pontiac. The latter, as shown, retains many of its original characteristics, and continues to be produced at the old stand. The newer model, which has not before been shown in the East, which is built by the same company, but in Detroit, instead of Pontiac, Mich., is intended for a slightly different class of buyer, and accordingly is produced in a little smaller power than the original car, and, at a lower price.

The new machine is a four-cylinder, water-cooled machine of 45 rated horsepower, with 5 by 5 inch cylinders, 36 by 4 by 4½ inch tires, and 122 inch wheel base. The cylinders are cast in pairs, the change gear is selective and the transmission by shaft and live rear axle.

A new model of the Pontiac car, promised for the show, had not arrived during the early part of the week. Its rating is 80 horsepower, and it is listed to carry either selective change gear control or the peculiar individual clutch and selective control system, which long has been identified with the name.

Age has somewhat increased the size of the Velie cars. It was only a year ago that the first machine of its class brought the name to New England. The remodeled product is known as the Velie "40," to distinguish it from the "30" car of the last show, which is to say, among other things, that it has a larger motor. The dimensions of the new prime mover are 4½ by 5¼ inches, bore and stroke. Other new features

are the 115 inch wheel base, Gemmer steering gear and full floating rear axle, instead of semi-floating, such as was used formerly. Some idea of the care with which the parts are assembled may be gained from the statement that the motor and clutch together furnish employment to no less than eight F & S. ball bearings, while 16 sets of Timken roller bearings are used on the front and rear axles and in the selective gearset. One neat and rather novel detail in the control of the mechanism, which should appeal to the driver of experience, is the placing of the accelerator and muffler cut-out pedals side by side, between the clutch and brake controls, in such a way that they can be operated simultaneously, if desired. Both take the form of rocking segments, which may be applied without lifting the foot from the toe board.

Grout cars have been known in Massachusetts ever since the days when steam was universally popular and the gasoline engine was regarded with deep distrust and more or less awe as well. In the new models the engine power has been increased from 35 to 45 horse, and a few other changes have been made. But in the main the construction is retained, much in the same form as that which was used last year, when the car was brought out in generally remodeled form. The cylinder dimensions of the new motor are 4¾ by 5 inches. The cylinders are individually cast, with the valves placed side by side on the right side of the machine, and magneto ignition is employed. The cone clutch, selective gearset and shaft drive are other leading features. The wheel base is 123 inches, and the tire sizes are 36 by 4 inches, instead of 34 by 4, as last year. The five and seven passenger bodies are from new designs, and considerably assist in the modernizing of the product.

After the lapse of two years, the Berkshire has come into the high light of the show with an improved chassis, which, nevertheless, differs little from that of the previous model, so far as the structure is concerned. Limited space allotment in the basement prevents the display of the finished vehicle, but the stripped running gear is complete and instructive as far as it goes. The engine dimensions are 4 11-16 by 5½ inches, and the rating is 35-40. The engine is of standard water cooled form, with 2¼ inch valves, well, proportioned circulating system, Bosch magneto ignition and other thorough going details.

Lubrication of the engine is carried out by means of the popular pressure feed, crank case circulatory system; but the precise arrangement employed has been worked out especially for this machine. Instead of the usual sight-feed indicator on the dash, a gauge is employed, which at all times records the pressure in the system.

In the main, the car is of standard construction; but considerable stress is laid upon the structure of the front axle, in demonstration, as it is of special design. It is

of the familiar I-beam section. Instead of being cast or drop forged in this form, however, it is forged in solid square section, and afterward the superfluous metal is profiled out. By this means the fibers of the metal are not subject to the distortion which it is considered may result from forging the part to its ultimate shape. The knuckle construction is solid looking, and provides for carrying the steering connecting rod behind the axle, while the drag link is led above the axle, instead of below it, where it is out of harm's way.

For a number of years Boston has been the scene of varied projects of the English Napier interests, and only a year ago, the American Napier Co. was incorporated to revive the business which had been carried on in a desultory way at Jamaica Plains, just outside the city. The Napier car exhibited in the basement, however, is not an offspring of this venture. Loud protestations on the part of the stand attendants affirm that, like themselves, the car is imported, and is being marketed in this country by A. N. Perry, who though maintaining headquarters at 47 Union avenue, Jamaica Plains, is in no way connected with the undertaking which was launched to flood the country with cars assembled from imported materials and parts built according to imported designs. The car displayed is the characteristic long green creation which is associated with the Napier name, and which is one of the oldest as well as one of the best known six cylinder products built. Structurally its features do not change from year to year to any important degree. Its synchronized ignition and hydraulic air regulator, which is a detail which has been adopted successfully by one or two American builders, are among its most strikingly original points.

Rainier cars of the latest model do not differ materially from those which were in use last year. In common with one or two other makers, they appear in several different parts of the show, owing to the management's peculiar faculty for sub-dividing Mechanics Hall into infinitesimal sections and then allotting various little parcels to the exhibitors in more or less erratic fashion. Continued adherence to the make and break system of ignition, and the peculiar and characteristic formation of the paired cylinder castings are among the features which are retained.

Steam cars, long held in greatest veneration in and around the "Hub," receive their greatest local support from the Stanley Motor Carriage Co. In principle, the Stanley steamers are not materially altered since last shown, but retain in wire-wound tubular boiler, two-cylinder double acting enclosed engine, and in the regulating devices, much of the same material as has been used before. Carriage work changes, however, chiefly have made possible the introduction

of a new 10 horsepower model in runabout form, and a 20 horsepower touring car. In both types, the cylinder dimensions have been increased, and in the smaller, the running gear has been strengthened and the wheel base increased. One important detail in engine construction which has been added to all models, is a diaphragm which divides the engine casing into two parts. This is a cast aluminum plate which extends across the casing between the cylinders and cross heads and strengthens the housing, besides separating it into two compartments, the one in which are the active parts, being flooded with oil.

The only other representative of the steam field is the White, which is exhibited in its customary position on the main floor. The rapid increase of interest in the new gasoline car, which is being shown for the first time in Boston, however, has cut down the available space to such an extent that only two of the remarkably successful steam cars are in evidence.

Only one exponent of the solid tire in connection with the light pleasure vehicle is to be seen, which has not exhibited previously this year in the East. This is the Anderson, which is shown in the form of an open tray democrat wagon, which may be equipped with either one or two seats, but as shown, has but one, and therefore is suited directly for the uses of the small tradesman or farmer. The power plant is of the air-cooled, opposed type, with planetary change gear, and side chain drive. The Schacht, Hart-Kraft and Martin, are cars upon which the solid tire equipment is installed. But as they are intended mainly or wholly for commercial service, at least in the forms exhibited, it is thus plain that the true high-wheeled buggy, which in former years was generously represented at the show, has been supplanted by the true automobile, of which the solid tire equipment is a feature principally intended to assist in the necessary economies of commercial work.

Of the cars which have appeared at former Boston shows, but which are being exhibited this year in the guise of new and improved models, one of the most pleasing from the standpoint of neat and compact design is the Herreshoff. Although now being built in exactly the same outward form as when introduced to the Boston show public last year, sundry minor improvements have been worked into its structure, so that it is called a much better product than it was at that time. In the line of improvement the valve actuating mechanism has been redesigned, and a new cam follower introduced, which silences the tappet action most effectually, it is said, and also assists in the production of power to some slight degree.

A modern form of selective gearset has replaced the progressive form of change gear which first was used, and in one or two

other minor respects, conditions have been made more favorable to smooth and effective working. One noteworthy point in this connection is that the capacity of the water circulating system has been increased about 100 per cent. As this is of the thermosiphon variety, the point is an essential one. The body lines, "set-up," mechanism of control, save for the change gear lever, and equipment, combine to render the vehicle as "cobby" in appearance as it has been from the start.

#### STRIKING COMMERCIAL DISPLAY.

Perhaps never before in the annals of show history has the commercial vehicle element been staged to better advantage than at the present function at Boston. Besides, it is the largest collection of such products which ever has been shown in this country, so far as is known. The total number of commercial vehicles and chassis displayed is 62, whereas the commercial vehicle section of the Chicago show of 1907, the largest previous exhibit of its kind, mustered but 57 vehicles for the corresponding total. Last year, there were 40 commercial vehicles at the Boston show, including complete vehicles and chassis.

It is not in this respect, however, that the display assumes its chief value. Evidences that the builders who are devoting large shares of their attention to the commercial car problem, are beginning to work to definite and successful purpose are not lacking. Perhaps the most noteworthy and significant fact about the display is that a large proportion of the vehicles shown bear the names and business cards of their present owners, thereby giving a distinctly practical turn to the exhibits and giving the visitor an impression of activity in the market and really practical utility in the product. This impression is strengthened in the case of the huge exhibit of the Rapid cars, where nearly every one of the dozen vehicles shown, in addition to its own label or sign, bears a placard or two affording the information that a stated number of cars of corresponding type are now in use within striking distance of Boston. The names and addresses of the owners being given in every case, the effect is rendered particularly striking.

Technically speaking, progress in grappling with the difficulties of heavy vehicle transportation is evidenced in such massive trucks as the Studebaker, General and Couple-Gear electrics, and the White, Alco, Sampson and Morgan gasoline machines. The last named, indeed, being almost too large for its space, affords its maker ample "office" space in the wide expanse of its own body, whereon the desk, chairs, water cooler and other paraphernalia of the usual booth, are comfortably arranged. In each of the half-dozen machines enumerated, the huge bulk of the various parts, while lending a sort of spectacular interest from the standpoint of the layman, is by no means as significant as the fact that close design, inter-



changeability of parts and ready demountability of complete units has been worked out in a way which never has been deemed necessary in pleasure car practice. It is in the latter, quite as much as the former direction that evidences of mechanical progress may be taken as indicating that the commercial car is fast coming into its own.

News interest, of course, centers about such of the commercial cars as are absolutely new, from the viewpoint of the show goer. One of the most significant and pleasing members of this group is the White commercial vehicle, which is shown in both 1½ and 3 ton capacities. Both types are equipped with the self-same compact little block type motor which is used in the new White gasoline car, and which is of 22.5 rated horsepower. The apparent discrepan-

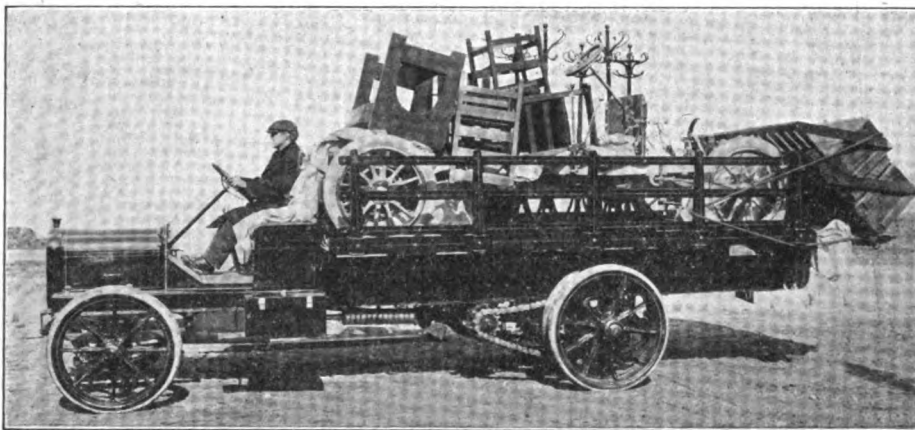
the case of the Morgan product, the significant phrase "master unit system" has been introduced. The five "master units" involved in the machine are the engine, transmission, countershaft, chassis and springs, and the group composed of the axles and wheels—which, of course, is called a unit only by courtesy. Particular attention has been paid to securing the ready demountability of and accessibility to these elements, which, so far as possible, have been preserved as independent elements.

The motor, which is of original design and especially constructed to withstand the stresses of slow running and heavy duty, is of the four-cylinder vertical order, water cooled and of inverted valve construction, with removable cylinder heads. The cylinder dimensions are 5 by 5 inches, and the

means of a single speed lever which is used to shift the discs, which vehicle movement is regulated by a couple of pedals, one for forward and the other for reverse movement. The engine is a standard four-cylinder vertical product rated at 40 horsepower, and is mounted in front in the conventional way.

Special provision for interchangeability and accessibility of the mechanism is provided in the attachment of the body and cab, either of which may be removed by loosening four bolts.

Just two points in favor of the friction transmission for utility service are worth mentioning in this connection: The overstraining of the transmission parts, driving gear, and the stalling of the motor, such as might arise with geared mechanism from sudden throwing on of excessive loads, is forestalled with the arrangement in question by the slipping of the drive; and the renewal of the friction material, which arises at infrequent intervals, may be done at a cost of \$10 each time—which is far less than the cost of new gears, such as would be required in case the pinions of a standard transmission were stripped as a result of abuse.



WHITE TRUCK CARRING SHOW FURNITURE TO MECHANICS BUILDING

cy which exists in the use of the same engine for such widely varying loads is readily explained by the differences in gearing employed. Whereas the lighter commercial vehicle, when equipped with pneumatic tires, is capable of speeds up to 25 miles an hour under full load, the 3-ton machine is only arranged to run up to 10 or 12 miles an hour under load. The longer "leverage" of the lower gear, naturally gives the engine its required advantage in the second instance.

Both trucks are built along the most approved commercial vehicle lines, with bodies supported on the chassis by means of cross ties. The smaller vehicle is equipped with a shaft drive, full floating axle, and twin pneumatic rear tires as stock equipment. Both types employ single tires in front. The 1½ ton car is sprung on semi-elliptical members, both front and rear; but the heavy truck is carried by a massive and most effective looking three-quarter platform arrangement in the rear.

Enormous strength is revealed in the construction of the Morgan truck, which is one of the several commercial vehicles exhibited for the first time. Furthermore, the machine furnishes a good example of the way in which the elements of the commercial vehicle may be divided for the purpose of facilitating the work of maintenance. In

rated output is 40 horsepower. The standard wheelbase is 120 inches; the wheels are 36 inches in diameter, and they are shod with 6-inch single solid tires in front and 4-inch twin solids in the rear. Three sets of brakes are employed—namely, two of the internal expanding order, which are mounted on the driving wheels, and one on the transmission.

The change gear is of the planetary order, unique in that its connection with the transverse countershaft is made by means of a leather diaphragm coupling, which allows for ample flexure in the alignment of parts, and at the same time is easy and cheap to replace. The countershaft is provided with a simple form of differential lock, which is coming to be considered an essential for heavy vehicle work.

Ample arguments in favor of the disc form of transmission change speed gear are advanced by the makers of the new Garford truck, which, although demonstrated in New York City during the recent shows, has not been seen inside any of the big shows up to this time. Its most striking feature is the adaptation of the four-disc friction drive to heavy vehicle work, which is done by means of the usual pinion reversing device and short chain on one side. Speed control in both directions is maintained by

Although not exhibited in the Eastern shows this year, the Couple-Gear electric commercial vehicle is a product which is pretty generally and favorably known. Its novelty in comparison with other exhibits in the commercial department of the show arises at once from its being the only product on view to employ the four-wheel drive principle and because its mechanical details are extraordinary in the annals of the commercial vehicle. Those who are familiar with its construction long have ceased to be skeptical of the advantages of the plan of making each wheel an independent driving unit, containing its own motor, while the unique way in which the motors are enclosed and mounted in the steel disc wheels and in which the power transmission is secured by means of pinions on the armature shafts which mesh with large bevel gears on the inner peripheries of the wheels is one which has proved most satisfactory in practice.

As the machine on view is jacked off the floor, the driving and steering movements are subject to sufficient demonstration for all practical purposes, while in addition the action of the motors is revealed by a single motor wheel, which is separately mounted for that special purpose. The only other moving commercial exhibit, it may be mentioned, is that of the General Vehicle Co.'s big truck chassis, which, also being electrically driven, may be operated without let or hindrance from the insurance authorities.

Previously exhibiting under its former name, the Atterbury Motor Car Co., of Buffalo, N. Y., has caused the Buffalo commercial line to come before the public. It

has not been seen in the shows this year, however, and may therefore be considered as virtually among the "previously un-seens." The two types exhibited are of the delivery order, and are distinguished by the use of only a half-width driver's seat in each case. This affords ready access to the interior of the body from the front—an ideal arrangement for delivery purposes. The machines are of two and four cylinder construction, respectively. The smaller of the two is of 16 horsepower, has an opposed, two-cylinder engine with  $4\frac{1}{2}$  by 4 inch cylinder dimensions, planetary change gear, and double chain drive. The larger machine has a quadruple, vertical motor of 20 rated horsepower, and with cylinders of  $3\frac{3}{4}$  by  $4\frac{1}{4}$  inches dimensions.

In both the planetary change gear and disc clutch are mounted in one unit with the counter shaft, and final drive is by double side chains. Both vehicles are staunchly put together, and are the lightest representatives of an expansive line of vehicles which the builders produce, the scope of the entire product covering practically all sorts of commercial machines, including heavy wagons of various patterns and sight-seeing machines.

Another line which is new to the shows this year is the Frayer-Miller, which is represented in the basement by two trucks, one sight-seeing vehicle and one chassis. Its long-familiar characteristic of forced draught air cooling is retained as a matter of course, as are practically all other fea-

tures which were in vogue last year. This line is shown in connection with the Buffalo and Randolph—an express type of vehicle which is equipped with an opposed motor, which, though exhibited in New York, is a newcomer in Boston—by D. P. Nichols Co., a Cambridge company which has built up a heavy business in commercial vehicle maintenance and body work the last two or three years.

Among other commercial exhibits should be mentioned the smaller of the two Studebaker electrics, which is a real "baker's cart"—the sort which is invariably associated in the mind of the country-bred New Englander with the use of sleigh bells in summer time. As an exemplification of the way in which the electric vehicle may be made to serve the needs of the city tradesman who requires prompt delivery for his wares, it is most apt, besides being sufficiently unusual to attract attention.

Knox construction is shown in a heavy truck and also in a fire patrol of flaring hue. A second vehicle of the same general class is the Pope-Hartford combination fire wagon, which rejoices in a conspicuous location where its unusual and striking appearance serves to good advantage. The Chase, Martin and Hart-Kraft, as well as two of the Gramm-Logan cars, fall under the classification of delivery wagons. The two remaining vehicles of the latter make are of the heavier order, and belong more nearly in the class of the Packard and Reliance big trucks. A new type of Reliance

commercial is shown for the first time, which has an opposed, 20 horsepower motor, and is of the light express order, though, unlike many machines intended for this class of service, shod with pneumatic tires. In another part of the basement a vehicle which, according to one of the attendants, is an exact duplicate of this product, is shown with a Buick sign attached to it; thus illustrating one of the benefits accruing from merger arrangements, inasmuch as both machines are General Motors products.

The Sampson and Alco trucks belong to the massive and obviously efficient order, and are perhaps the most impressive creations in the show. Both were shown in New York recently, and therefore are of interest chiefly to the local visitor insofar as mere contemplation of their outward characteristics is concerned. While both the Grabowsky and Autocar commercials were shown in New York as well, the latter is given a more extended presentation at Boston, and is shown in a good variety of types. One of these which was not shown in New York is a florist's wagon, built on a pleasure chassis, which is closed permanently in the rear and has full length doors on either side. The machine is finished in a particularly tasteful way and is perfectly accessible within, since the driver's seat is not carried out to the full width of the vehicle, but is left short enough to allow a passage from the front to the rear of the body.

## Several Striking Novelties Included in Boston's Accessory Display

Perhaps some people go to automobile shows just to see the regular cars and hear about their achievements on the race track and the highway; but if so, they are certain to catch the glint of light reflected from bright metal or hear the sputter of a fuzzy spark somewhere upstairs, and to go, as certainly as the little frightened bird walks up to the waiting serpent—straight to the abode of the accessory man. Everybody else does, and it is to be presumed that even the people who only come to see the regular cars and hear about their exploits take just one whirl through the galleries and the cavernous basement, too. For it is noteworthy that always there is "standing room only" where accessory things are being demonstrated.

Furthermore, the term accessory, during showtime, is given a sort of limber-jointed interpretation and is applied to everything that can get past the front office and settle down in a booth. Fruit, candy, cosmetics and cement building blocks are accessories, according to the Bostonese definition, and so is the Harriman engine.

But whether it be so considered, or deemed the first, seventh or fifteenth wonder of the show, the Harriman engine must be accorded a position of respectful atten-

tion, because in the first place, it is one of the few really startling inventions to be exhibited in the long run of automobile shows in Mechanics Hall which has prospered enough to come back a second time, and in the second place because it is a rotary engine which rotates under the influence of either steam or compressed and ignited gas. In other words, as a rotary steam engine, it is a very promising addition to a long line of attempts which have been made to solve an apparently simple puzzle, while, as an internal combustion motor of the rotary type, it is, so far as is known, the only one to be exhibited at a show while running under its own power.

Non-technical visitors are only mildly interested on being told that the rotary part of the engine consists merely of a shaft and an eccentric, or that the "rocking abutment" is the vital part which prevents the steam from slipping through the front hall and out the back door, so to speak; which is to say, leaking by the rotary piston and escaping by the exhaust without doing any work. It is the eccentric which wobbles excitedly around in the stationary casing, which performs the duty of a piston; and due to the effect of balance weights in the two fly wheels, its movement is uniform and

free from vibration. The steam type of engine has been improved somewhat since last year, though not radically. As for the internal combustion type, which is shown for the first time, it is admittedly only in an experimental state so far. It employs two rotors in two separate casings, one to compress the gas and the other to fire and expand it. In this way, its operation suggests that of the two-cycle reciprocating engine with external compression cylinder.

Another novel form of engine is shown in the Teel, which is of the two-cycle variety employing the differential piston construction which, by eliminating crank case compression, permits of high initial compression and so is thought to make for increased efficiency. It is shown in marine form, as a matter of fact, but its adaptation to automobile propulsion has been studied out by the builders. One other engine exhibit is that of the Lunt-Moss Co., wherein two styles of engine connected to electric generators are the means of softening the basement gloom in the immediate vicinity. The pertinence of the display is not obvious until it is learned that accumulators and battery charging outfits as well as isolated lighting plants are among the enterprises undertaken by the exhibitors.

Radical departures from precedent in spring construction by no means are unexpected, since the most familiar patterns of automobile suspension are admitted to be unsatisfactory in many respects. The appearance of the Eastman system, however, is sufficiently extraordinary to cause the visitor to pause. Its distinguishing mark is a pair of involute spring coils extending outwardly from the frame at either end of the car. The centers of the coils serve as the frame suspension points, the side members being extended longitudinally to provide anchorage for them, while the tangential outer ends of the coils are carried inwardly at an incline to the axles. In addition, dou-

abundance of such contrivances already before the public differs from any of them. The felloe band and rim are plain, save for corresponding beveled surfaces, which engage when the two are brought together and form a tight joint. Locking against creep is provided by a single key opposite the valve, which engages a depression in the felloe. The rim is secured in position by means of an expansible locking ring, the outer edge of which is provided with 12 tooth-like projections which engage with corresponding depressions formed in the band. As the teeth are shaped with wedging surfaces on two of their four sides, the expansion of the ring, which is accomplished

well as annunciators and other electrical devices. The chief pride and joy of the exhibitors, however, is the "Chantecler" dome light, which has a genuine barnyard king etched into the glass, and which is displayed in proof of Boston's close touch with current events. The Culver-Stearns electric attachments are intended for the motorist who is anxious to convert his gas and oil lamps to electric service. Included among them is a new form of headlight adapter, which takes the form of a parabolic reflector of such size that it will slip inside the ordinary searchlight, and with its tungsten bulb, clamp to the gas burner. It is claimed for this device, that while it gives more

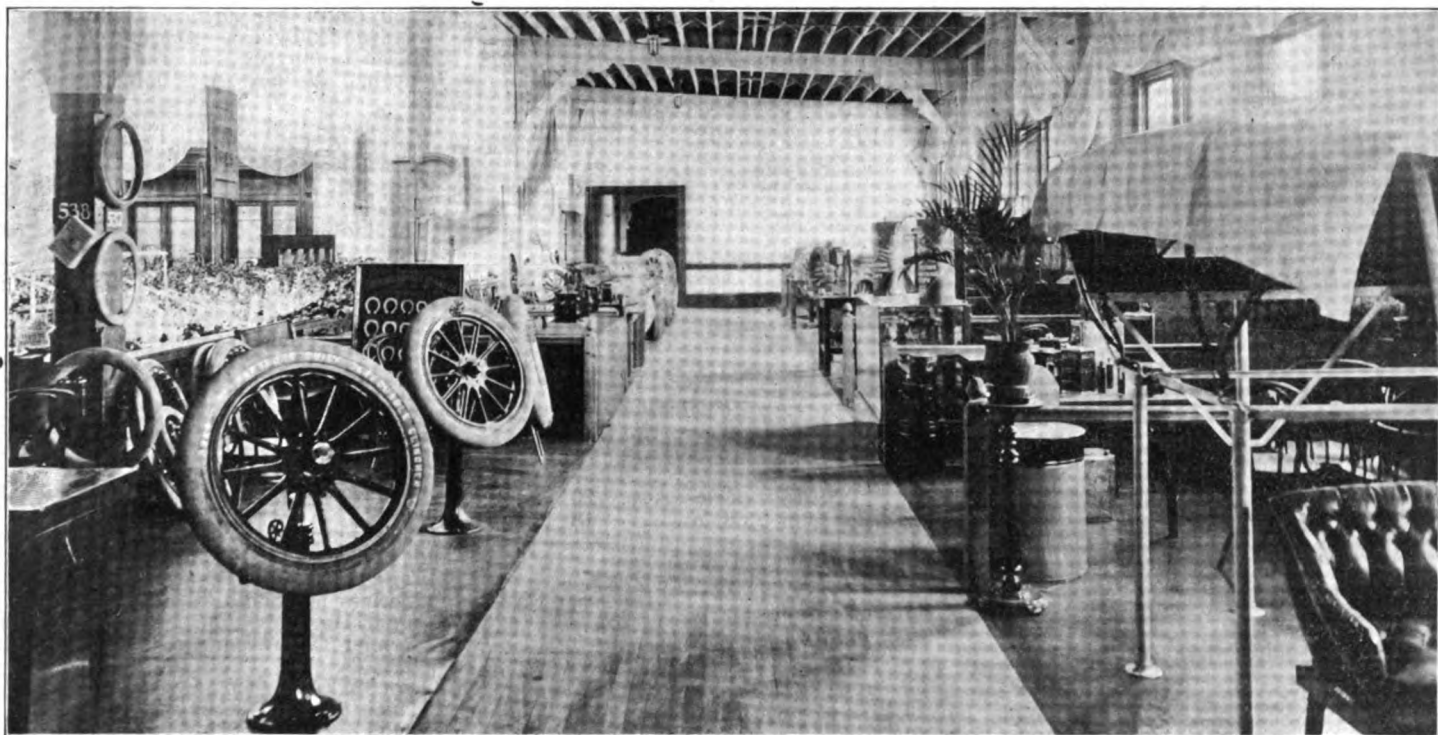


EXHIBIT OF THE UNITED MANUFACTURERS, INC., IN EXHIBITION HALL

ble radius rods, with their ends spaced apart on the axle to prevent cross weaving of the frame, are carried out to the spring anchorage, but are attached at a point several inches below the center of the involute, thus affording a differential radial movement in the linkage when the axles oscillate.

The intention of the inventor has been to retard and reduce the movement of the body, by providing widely separated supports outside the wheel base, differential movement in the linkage tending to cause the springs to deflect horizontally to some extent as well as to unwind under the effect of upward axle movement; and to provide a system which is subject to adjustment for load. The latter effect is accomplished by winding or unwinding the springs through small arcs by means of adjusting screws and a crank. The system is shown mounted on a car purely for demonstration purposes.

Along with other new things comes the Jordan demountable rim, which, despite the

by applying a wrench to the toggle motion, serves to draw the rim over into place. It is there secured by the locking of the toggle. One particular advantage of the system is that it leaves the outer face of the wheel perfectly free from any indication of the demountable feature.

Nearby, the Lyon non-skid device, which is especially constructed for commercial vehicle service, is shown. Unlike the ordinary chain type of non-skid, it is supposed not to injure the tires in any way. Four steel straps, each of which is bent in such a way as to cross the tire tread twice, are coupled together so that a certain amount of springing effect is secured in the straps themselves, thus affording a flexible grip.

Perhaps a number of the basement accessory exhibits could not be seen at all, were it not for the good offices of the inventors of a number of automobile lighting contrivances of one sort and another. Holt & Beebe, for example, display a number of electric lighting fixtures in various forms, as

light than the gas burner, it can be driven past the most vigilant policeman without his objecting to the glare, merely because it is electric instead of gas. For such as adhere to gas alone, there are several automatic lighting devices, among them, the "Flash" and the Hart.

Though they are scattered, the basement affords seclusion to quite a number of useful as well as interesting exhibits, among them being those of a number of metal and machinery houses, which are particularly instructive to the lay visitor. But the bulk of the small wares display is located above ground in the galleries surrounding the two main halls, and in the corridors on the second floor. It is there that the constant attendants at all the shows are massed; the tire people showing such well-known brands as the Hartford, Diamond, Morgan & Wright, G & J, Continental and Firestone; the United Manufacturers aggregation, in a corner by itself; the usual variety of ignition paraphernalia, including the familiar

Bosch, Eisemann, Remy and Splitdorf magnetos; Pittsfield, Heinze and Atwater-Kent coils and timers; and the ever-present warning signals, such as the Jericho, Gabriel, Klaxon and Monoplex horns.

The Reliance speedometer is a new member of a peculiarly interesting series, but is modelled along lines which already are more or less familiar. The Cleveland, another relatively new instrument, is shown for the first time in a form especially designed for commercial vehicle service. The local Standard, and Casgrain instruments, as well as the Hoffecker, Stewart and Warner, of course, are given ample demonstration.

In the way of parts and materials shown upstairs, the assortment is representative, including such wares as Whitney, Brampton and Baldwin chains, though it is by no means as large as in former years. Perhaps no display is more complete than that of the lubricant producers, which includes among others the Haveline, Harris, Monogram, Invader and Vacuum oils. But certainly no element of the accessory section is more prominent and bewildering than the array set forth by the numerous manufacturers' agents, jobbers and retailers. For example, there is W. J. Connell with Elite jacks, E. & J. lamps and W. & S. magnetos and carburetters; J. D. Coward, with "Best" traction chains and Ajax wind shields; W. S. Daniels, who handles the Kokomo ignition appliances, Globe tool and battery boxes and Kingston carburetters, and Harry Eisner & Co., who displays Fry spark plugs, and Yankee whistles and mufflers. Post & Lester show the Roy lamps, Volier horns and Luna clocks among other things; T. F. Russell & Co. have Sherwood sight-feed multiple oilers, Field radiator and boiler compound, and a variety of other wares, while the Percy Ford Co. has among other things the Kennedy carburetter, Rohrbacher pumps and Eagle whistles—the last named being a new form of exhaust signal for attachment to the muffler tail pipe, which is of the self-cleaning pattern and hence is unaffected by mud and dust.

Among other specialties not shown before this year are the Caron road director, a continuous map index; the Auto-Lock, which is intended to prevent the theft of cars; Union folding wind shields, which are equipped with a new form of folding joint construction; the Oxy-Acetylene Apparatus Co.'s autogenous welding outfits, which are intended especially for garage repair work; and the Hercules and Craig concrete garage systems, the latter of which is "portable"—at least it is so in the sense that it can be disassembled when moving day comes.

The complete list of exhibitors and their wares follows:

#### Automobiles.

American Automobile Co.—American, Detroit, Ohio and Krit.  
American-Simplex Co.—American Simplex.  
Atlas Motor Car Co.—Atlas.

Austin Automobile Co.—Austin.  
Autocar Co., The—Autocar, commercial.  
Bailey & Co., S. R.—Bailey electric.  
Berkshire Motor Car Co.—Berkshire.  
Blaney, B. F.—Johnson.  
Boston Electric Automobile Garage—Detroit electric.  
Boston Motor Co.—Kline car.  
Bowman Co., The J. W.—Stevens-Duryea and Everitt "30."  
British Napier Motors—English Napier.  
Brush Runabout Co.—Brush.

### CENSUS OF THE SHOW.

#### Pleasure Vehicles.

<b>Gasolene:</b>	
One cylinder .....	4
Two cylinder .....	5
Four cylinder .....	190
Six cylinder .....	39
<b>Total Gasolene Pleasure</b> .....	<b>238</b>
Water cooled .....	233
Air cooled .....	5
	<b>238</b>
<b>Four cycle</b> .....	<b>232</b>
<b>Two cycle</b> .....	<b>6</b>
	<b>238</b>
<b>Vertical</b> .....	<b>231</b>
<b>Horizontal</b> .....	<b>7</b>
	<b>238</b>
<b>Electric</b> .....	<b>12</b>
<b>Steam</b> .....	<b>6</b>
<b>Total Pleasure Vehicles</b> .....	<b>256</b>
Touring cars .....	142
Enclosed cars .....	39
Runabouts .....	37
Torpedo models .....	20
Roadster models .....	18
	<b>256</b>

#### Commercial Vehicles.

<b>Gasolene</b> .....	<b>55</b>
<b>Electric</b> .....	<b>7</b>
	<b>62</b>
<b>Chassis.</b>	
<b>Gasolene</b> .....	<b>41</b>
<b>Electric</b> .....	<b>1</b>
	<b>42</b>

#### Cycles.

<b>Motorcycles:</b>	
Single cylinder .....	32
Twin cylinder .....	12
Four cylinder .....	1
Tri-cars .....	2
	<b>47</b>
<b>Bicycles</b> .....	<b>2</b>
<b>Total all cycles</b> .....	<b>49</b>
<b>Total all vehicles</b> .....	<b>409</b>

Buick Motor Co.—Buick, pleasure and commercial.  
Buxton Machine Co., W. A.—Garford  
Butler Motor Car Co.—Rapid commercial.  
Castle, Inc., H. C. & C. D.—Lozier and National.  
Columbus Buggy Co.—Firestone gasolene and electric.  
Corlew-Coughlin Co.—Patterson, Velie and S. P. A.  
Curtis-Hawkins Co., The—Speedwell.  
Dike, Francis—P.S.  
Dodge Motor Vehicle Co.—Pope-Hartford and Waverley electric.  
Dunham, Geo. J. & Co.—Royal Tourist.

E-M-F, Boston Co.—E-M-F. "30" and Flanders "20."  
Easton Machine Co.—Morse.  
Eaton, Charles A.—Lambert.  
Eldridge, W. E.—Couple Gear commercial.

Faye & Co., Roy A.—Matheson.  
Fiat Automobile Co.—Fiat.  
Ford Motor Co.—Ford.  
Franklin Automobile Co.—Franklin.  
Fuller, Alvin T.—Cadillac and Packard pleasure and commercial.  
General Vehicle Co.—General electric commercial.

Gramm-Logan Motor Car Co.—Gramm-Logan commercial.  
Grout Auto Co.—Grout.  
Henderson-Lowe Co.—Hupmobile and Midland.

Henshaw, C. S.—Thomas Flyer.  
Hol-Tan Co., The—Lancia.  
Hub Auto Renting Co.—Pullman.  
Hudson-Colby Co.—Herreshoff.  
Isotta Import Co.—Isotta.  
Jacobs, Volney J.—Pierce-Racine and A-K.

Jenkins & Co., W. M.—Mitchell.  
Jeffery & Co., Thomas B.—Rambler.  
Kissel Kar Co.—Kissel.  
Linscott Motor Co.—Reo, Marion and Overland.

Locomobile Co. of America—Locomobile.  
McCue Co., The—McCue-Hartford.  
MacAlman, J. H.—Columbia gasolene and electric and Stearns.

Maguire Co., J. W.—Pierce-Arrow.  
Martin Carriage Works—Martin commercial.

Morgan Co., R. L.—Morgan commercial.  
Morse Co., Alfred Cutler—Renault.  
Neale, A. F.—Baker electric.

Nichols & Co., D. P.—Buffalo, Randolph and Frayer-Miller commercial.  
Olds-Oakland Co.—Oldsmobile and Oakland.

Park Square Auto Station—Alco pleasure and commercial and Stoddard-Dayton.

Parker & Co., F. R.—Elmore.  
Peerless Motor Car Co.—Peerless.  
Pope Mfg. Co.—Pope-Hartford fire truck.  
Premier Motor Car Co. of New England—Premier.

Proctor Supply Co., G. H.—Mora.  
Rauch & Lang Carriage Co.—R. & L. electric.

Regal Motor Co.—Regal.  
Reliance Motor Truck Co.—Reliance commercial.

Russell & Co., W. L.—Apperson.  
S. M. Supplies Co., The—Inter-State.  
Sampson Mfg. Co., Alden—Sampson commercial.

Sanders, N. S. H.—Anderson and Chase commercial.

Schacht Mfg. Co.—Schacht.  
Selden Motor Car Co.—Selden.

Simplex New England Agency—Simplex.  
Smith, Fred S.—Autocar and Mercer.  
South End Motor Car Co.—Empire, and Hart-Kraft commercial.

Standard Motor Car Co.—Standard and Patterson.

Stanley Motor Carriage Co.—Stanley steam.

Stevens-Sowers Motor Car Co.—Fuller and Jackson, and Grabowsky commercial.

Studebaker Brothers Co., of New York—Studebaker gasolene and electric commercial.

Thomas Motor Co., E. R.—Thomas.  
Tyler, F. J.—Maxwell.

Underhill Co., The—Knox pleasure and commercial.  
Welch Motor Car Co., of New England—Welch.

White Co., The—White gasolene and steam, pleasure and commercial.  
White-Ware & Co.—Corbin.



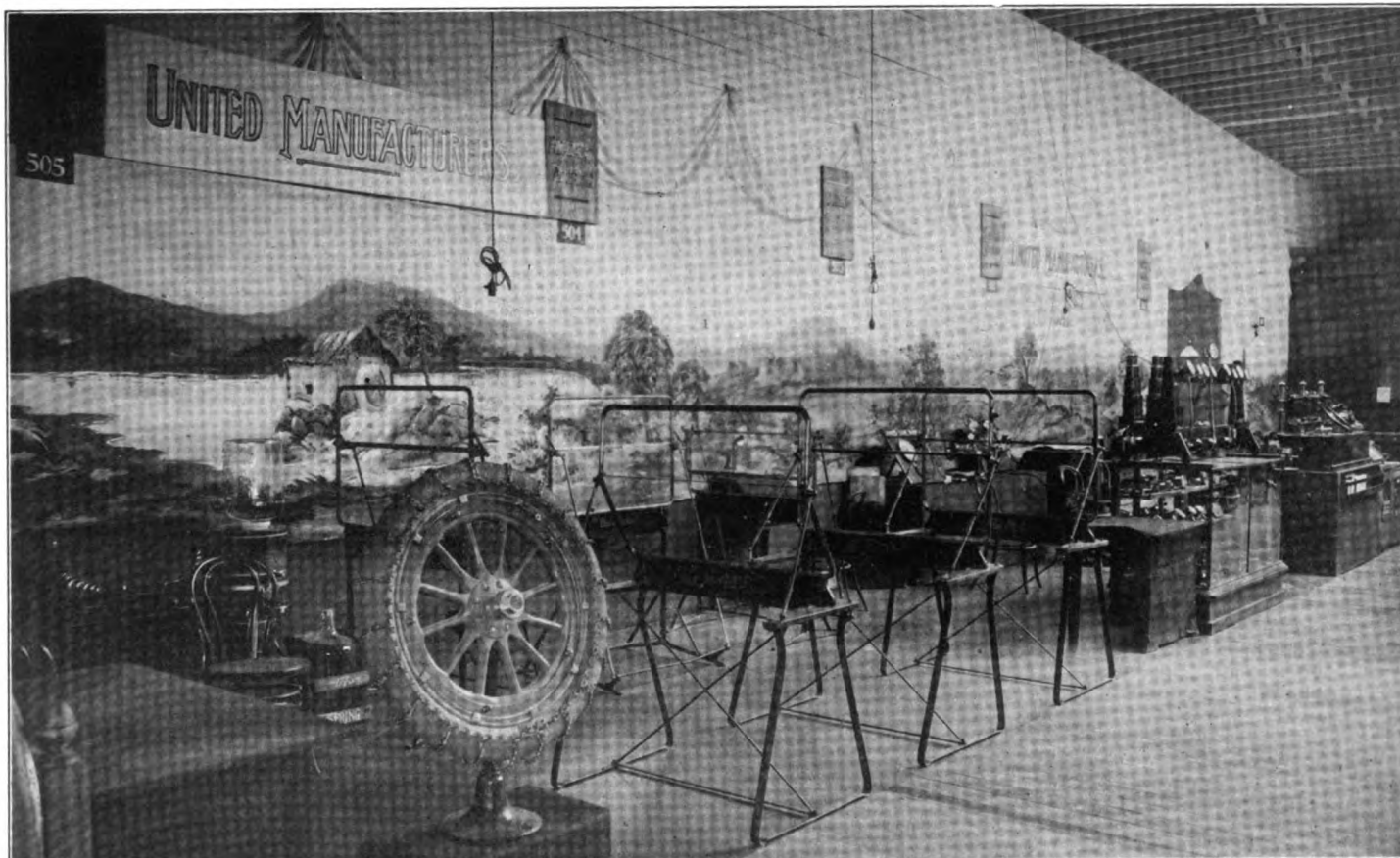
Whitten-Gilmore Co., The—Chalmers and Hudson.  
Wing, F. E.—Marmon.  
Winton Motor Carriage Co.—Winton.

#### Motorcycles.

American Motor Co.—M-M.  
Aurora Automatic Machinery Co.—Thor.  
Consolidated Mfg. Co.—Yale.  
Crouch Motor Co.—Crouch.  
Emblem Mfg. Co.—Emblem.  
Excelsior Supply Co.—Excelsior.  
Hendee Mfg. Co.—Indian.  
Miami Cycle & Mfg. Co.—Miami and Race cycle bicycles.

Baldwin Chain & Mfg. Co.—Baldwin chains and recoil checks.  
Baldwin Mfg. Co.—Rotary map index.  
Batavia Rubber Co.—Batavia tires.  
Bi-Motor Equipment Co.—Accessories.  
Borne Scrymser Co.—Lubricants.  
Bosch Magneto Co.—Bosch magnetos.  
Boston Auto Gauge Co.—Triumph gasoline gauges.  
Boston Tire & Rubber Co.—Pneumatic and solid tires.  
Bowser & Co., S. F.—Gasoline and oil storage systems.  
Boyd, F. Shirley—Supplementary spiral springs.

Consolidated Rubber Tire Co.—Tires.  
Connecticut Telephone & Electric Co.—Connecticut coils and timers.  
Corlew-Coughlan Co.—Siro carburettors.  
Couch & Seeley Co.—Casgrain speed indicators.  
Coward, John D.—Ajax wind shields and Best traction chains.  
Craig Co., The David—Portable concrete garages.  
Cramp & Sons Ship & Engine Building Co., Wm.—Bronze castings and components.  
Crane Co., L. M.—Lubricants.  
Culver-Stearns Mfg. Co.—Lamp lighting attachments.



GLIMPSES OF THE ACCESSORY DISPLAY IN THE GALLERY OF EXHIBITION HALL

Merkel-Light Motor Co.—Merkel and Light.  
Pierce Cycle Co., The—Pierce.  
Reading Standard Co.—R-S.  
Reliance Motorcycle Co.—Reliance.

#### Accessories.

Aetna Life Insurance Co.—Insurance.  
Adams & Co., J. Q.—Books.  
Ajax-Grieb Rubber Co.—Ajax tires.  
Ajax Trunk and Sample Case Co.—Leather trunks and tire cases.  
American Ever Ready Co.—Ever-ready batteries, lamps and tire specialties.  
American Storage Battery Co.—Accumulators.  
Atlas Rubber Co.—Non-puncturable inner tubes.  
Atwater-Kent Mfg. Works—Timers and electric horns.  
Auburn Auto Pump Co.—Automatic tire inflating pumps.  
Austin & Doten—Shelby steel tubing.  
Auto Improvement Co.—Accessories and specialties.  
Auto Supplies Co.—Holyoke tire protector.  
Baker, Roy C.—Vacuum cleaners.

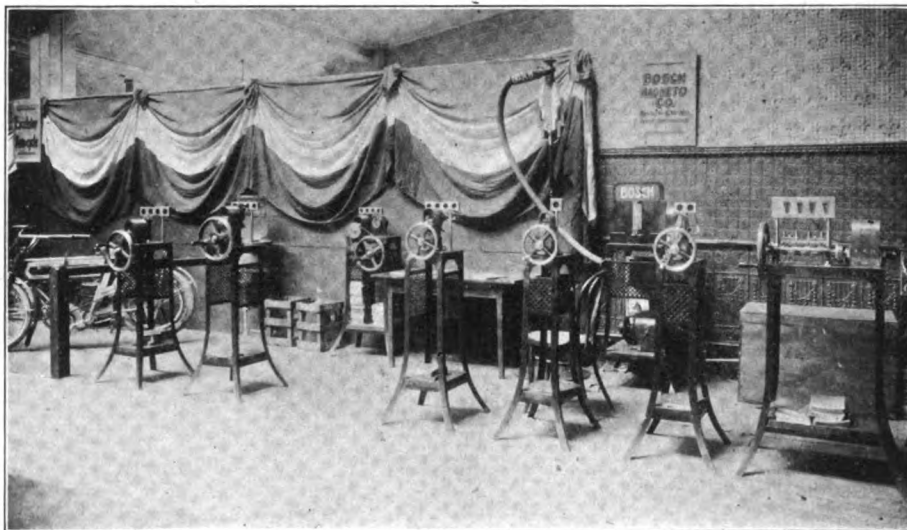
Brunner Mfg. Co.—Air compressors.  
Burn Boston Battery Co.—Sealed liquid batteries.  
Burroughs Remountable Rim Co.—Burroughs Remountable rims.  
Butts & Ordway—Tire vulcanizers.  
Chandler & Farquhar Co.—Machine tools and machinists supplies.  
Chase & Co., L. C.—Top and cover materials.  
Clayton Air Compressor Works—Clayton non-blowout tire valves.  
Cleveland Speed Indicator Co.—Speed indicators.  
Coes Wrench Co.—Coes wrenches.  
Coates Clipper Mfg. Co.—Flexible shafting.  
Colton Combination Tool Co.—Combination utensils.  
Columbia Lubricant Co., of New Jersey—Monogram oils.  
Columbia Tire & Top Co.—Tops, tire cases and covers.  
Connell, W. J.—E. & J. lamps, Elite jacks, and W. & S. magnetos and carburettors.  
Continental Caoutchouc Co.—Continental tires.  
Connecticut Oil Co.—Lubricants.

Daniels, W. S.—Kokomo ignition appliances, Globe tool and battery boxes and Kingston carburettors.  
Diamond Rubber Co., The—Diamond tires.  
Dixon Crucible Co., Joseph—Graphite lubricants.  
Dorian Remountable Rim Co.—Dorian remountable rims.  
Dover Stamping Mfg. Co.—Drip pans, funnels and measures.  
Duren & Kendall—Vacuum cleaners.  
Eagle Oil & Supply Co.—Lubricants.  
Eastman, W. E.—Compensating spring suspension.  
Eco Mfg. Co.—Acetylene generators and autogenous welding appliances.  
Eisner & Co., Harry—Fry spark plugs, Yankee whistles and mufflers.  
Electric Storage Battery Co.—Accumulators and lighting systems.  
Empire Tire Co.—Empire tires.  
Federal Rubber Co.—Tires.  
Fiat Repair Co.—Coventry chains and aluminum solder.  
Firestone Tire & Rubber Co.—Firestone tires.  
Fisk Rubber Co., The—Fisk tires.

Flentje, Ernst—Shock preventers.  
 Forbes, W. J.—K. W. Magneto.  
 Ford Co., Percy—Specialties.  
 Fox Metallic Tire Belt Co.—Non-skid chains.  
 G & J Tire Co.—G & J tires.  
 Gabriel Horn Mfg. Co.—Gabriel exhaust horns and Foster shock absorbers.  
 Gasoline Motor Efficiency Co.—Carburettor attachment.  
 Gilbert Mfg. Co.—Tire jackets, lamp jackets and rubber cloth specialties.  
 Goodrich Co., The B. F.—Goodrich tires.  
 Goodyear Tire & Rubber Co.—Goodyear tires.  
 Gray & Davis—Lamps.  
 H. I. K. Co.—Oil storage systems.  
 Harriman Engine Co.—Rotary steam and gas motors.  
 Harris Oil Co., A. W.—Lubricants.  
 Hart & Fuller—Gas lamp igniters.  
 Hartford Rubber Works Co.—Hartford tires.  
 Hartford Suspension Co.—Truffault-Hartford shock absorbers.  
 Harvey Co., Arthur C.—Metals.  
 Havoline Oil Co.—Lubricants.  
 Heinze Electric Co.—Ignition specialties.  
 Heriz & Co.—Magnetic ignition devices.  
 Hillman Auto Supply Co.—Brass and plated specialties.  
 Hilton Mfg. Co.—Safety crank.  
 Hoeffcker Co., The—Hoeffcker speed indicators.  
 Holt & Beebe—Electric lamps.  
 Hopewell Bros.—Tire casings.  
 Howard Demountable Rim Co.—Howard Demountable rims.  
 Hydraulic Oil Storage Co.—Gasolene storage systems.  
 Ideal Wind Shield Co.—Wind shields.  
 Iyer Johnson Sporting Goods Co.—Accessories.  
 Jones Speedometer Co.—Jones speedometers, taximeters and live maps.  
 Jordan, R. W.—Jordan demountable rim, K & T clocks and Remy magnetos.  
 Kellom & Co., C. F.—Lubricants.  
 Kemble, A. M.—Recometer.  
 Kempshall Tire Co.—Kempshall tires.  
 Kennedy Carburettor Co.—Kennedy carburetters.  
 Keystone Lubricants Co.—Lubricants.  
 Kilgore Mfg. Co.—Shock absorbers.  
 Knapp-Greenwood Co.—Shock absorbers and spark plugs.  
 Lavelette & Co.—Eisemann magnetos.  
 Leather Tire Goods Co.—Woodworth detachable tire treads.  
 Leland & Co., W. H.—Worcester spark coils and grinders.  
 Lovell-McConnell Mfg. Co.—Klaxon horns.  
 Lunt-Moss Co.—Stationary engines, accumulators and lighting systems.  
 Lyon Non-Skid Co.—Non-skid device.  
 Marburg, Theo. H.—Mea magneto.  
 Mezgar, Inc., C. A.—Soot-Proof spark plugs and automatic wind shields.  
 Michelin Tire Co.—Michelin tires.  
 Miller, Chas. E.—Brampton chains, accessories and supplies.  
 Moore-Smith Co.—Fur garments.  
 Morgan & Wright—M. & W. tires.  
 Motor Specialties Co.—Flash auto lighter.  
 Murray Co., P. A.—Tops.  
 Mutty Co., L. J.—Top and cover materials.  
 National Temperature Regulator Co.—Thermostatic furnace control.  
 New England Sales Co.—Phelps Trouble Finder.  
 New York & New Jersey Lubricant Co.—Non-fluid oils.  
 National Carbon Co.—Dry batteries.  
 Nightingale Whistle Co.—Exhaust whistles.

Noonan Tool & Machine Co.—Special tools and utensils.  
 Oakley Steel Foundry—Steel castings.  
 Panhard Oil—Lubricants.  
 Pantasote Co., The—Top and upholstery materials.  
 Parker Motor Co.—Parker motors and McCue axles.  
 Parker, G. L.—Player pianos.  
 Pennsylvania Rubber Co. of New York—Pennsylvania tires.  
 Perfection Wrench Co.—Wrenches.  
 Pittsburg Auto Equipment Co.—Union wind shields.  
 Pittsfield Spark Coil Co.—Ignition specialties.  
 Polson, W. F.—Wind shields.  
 Post & Lester Co.—Supplies.  
 Randall Faichney Co., The—Jericho exhaust horns, B-Line grease guns and Bing spark plugs.

Swinehart Tire & Rubber Co.—Swinehart tires.  
 Teel Mfg. Co.—Valveless motors.  
 U. S. Light & Heating Co.—National storage batteries.  
 Underhay Oil Co.—Lubricants.  
 Vacuum Oil Co.—Lubricants.  
 Valentine & Co.—Varnishes.  
 Veeder Mfg. Co.—Odometers and tachometers.  
 Victor Auto Supply Co.—Wind shields.  
 Victor Metals Co.—Motors.  
 Voorhees Rubber Co.—Tire repair outfits.  
 Ward & Sons, E. T.—Metals.  
 Warner Gear Co.—Gears and parts.  
 Warner Instrument Co.—Auto-Meters.  
 Weed Chain Tire Grip Co.—Weed chain tire grips.  
 Westinghouse Electric & Mfg. Co.—Electric vehicle charging outfits.



THE EXHIBIT OF BOSCH MAGNETOS

R. I. V. Bearings—Anti-friction bearings.  
 Ravello Chemical Co.—Beauty paste.  
 Reliance Speedometer Co.—Speed indicators.  
 Remy Electric Co.—Magnetos.  
 Republic Rubber Co.—Republic tires.  
 Robinson & Son Co., W. C.—Lubricants.  
 Russell & Co., T. W.—Accessories.  
 Rutherford Rubber Co.—Sterling tires.  
 Sage Trunk Co.—Trunks and suit cases.  
 Salmon & Co., John A.—Monograms.  
 Sawyer Oil Co., Howard B.—Lubricants.  
 Sectional Rubber Tire Co.—Sectional solid tires.  
 Seamless Rubber Co.—Bragg stitched tires.  
 Shawmut Tire Co.—Tires.  
 Sheldon Axle Co.—Axles.  
 Simmons, Hatch & Whitton Co.—Robes and gauntlets.  
 Sireno Co.—Sireno horns.  
 Smith Co., Wm. J.—Tools.  
 Spaulding Mfg. Co.—Lawn swings.  
 Splittorf, C. F.—Ignition appliances.  
 Stackpole Battery Co.—Dry batteries.  
 Standard Thermometer Co.—Standard speedometer.  
 Standard Tire & Rubber Co.—Federal tires.  
 Standard Welding Co.—Parts.  
 Star Auto Locks—Security devices.  
 Stein Double Cushion Tire Co.—Tires.  
 Sterling Hardware Co.—Potato mashers.  
 Stromberg Motor Devices Co.—Stromberg carburetters.  
 Suburban Concrete Block Co.—Garage material.

White & Bagley Co.—Lubricants.  
 Whitney Mfg. Co.—Whitney chains and keying systems.  
 Whittaker Chain Tread Co.—Non-skid appliances.  
 Wilkinson & Co., A. J.—Machinery and tools.  
 Y. M. C. A. Auto School—Demonstrating exhibit.

#### Boston Overflow Show a Sickly Venture.

Attempts to secure a sizeable aggregation as nucleus for an overflow show—so-called by the promoter, have not resulted altogether successfully for the project, which is making use of the discarded Museum of Fine Arts building in Boston this week. About a dozen exhibitors straggled in during the day Saturday, and up to noon of Monday, but for the most part, the band plays to empty echos in the lofty halls of the building. The cars represented by exhibits within and by large signs which are blazoned shamelessly on the outer walls of what once was considered Boston's most artistic structure, include the Lexington, Hupmobile, Whiting "20," Rainier and Parry pleasure cars, and the Manhattan trucks. Second-hand cars also are exhibited by one concern, while one special form of tire, a local make of speedometer, a dealer in lubricants and another in accessories close the list.

**CLEVELAND'S SECOND THIS YEAR**

**Central Armory Again Filled with Cars, at Automobile Club's Show—A Big List of Exhibitors.**

Following close on the heels of the dealers' annual exhibition, the eighth annual automobile show of the Cleveland Automobile Club, opened in Central Armory on the 5th inst., with the largest number of exhibitors ever enlisted for an affair of the sort in the Ohio city. Mayor Baehr pressed the button that set the thousands of lights aglow and officially ushered in the function which will run throughout the week. By dint of skillful planning Manager George Collister, who has had charge of all of the previous shows given by the club, found room for some 70 exhibitors of whom 40 stage cars, and the remainder display motorcycles and accessories.

Over 160 cars of 70 different brands are on the floor. There are a few firms who secured space in both shows, among them being the F. B. Stearns Co., the White Co., Studebaker Auto Co., and Applebaum Bros. While in previous years the main floor has been large enough to accommodate all cars, this year it was necessary to make requisition on part of the balcony for car exhibits, six firms being located in the elevated section.

Pure white setting transformed the armory into a scene which rivaled all previous decorative schemes. With the exception of the green burlap floor the color scheme was white throughout. Concealing the roof are 5,000 yards of duck, while triple that amount of bunting lines the walls and staircases. The railing of the balcony, which is one of the decorative features, is covered with plaster of paris staff work, bearing at intervals lion heads and automobile shields. Scattered around the main floor are a number of massive Corinthian columns, from which are strung streamers of electric lights. In the center of the hall, mounted on a pedestal and standing out resplendent in a flood of light, is an automobile girl, the emblem of the show. Suspended from the rafters are three immense clusters of lights representing automobile wheels, and sunbursts are placed at either end of the balcony, in addition to that on Collister's genial physiognomy.

Following are the exhibitors and their products:

Gasolene cars: Rambler Automobile Co., Rambler; Weddell House Garage, Inter-State and Holsman; Studebaker Auto Co., Studebaker; Brandt Motor Car Co., Kisselkar; Olds-Oakland Co., Oldsmobile and Oakland; Maxwell-Briscoe-Cleveland Co., Maxwell, Columbia and Grabowsky trucks; Charles B. Shanks Co., Chalmers and Hudson; Cook Motor Sales Co., Premier and Reo; Garford Motor Truck Co., Garford

trucks; Sebring Motor Car Co., Sebring; Crest Motor Car Co., Paige-Detroit, Abbott-Detroit and Warren-Detroit; Western Reserve Motor Car Co., Pierce-Arrow, Apperson, Everitt and Hewitt trucks; Auto Sales Co., Velie and Hupmobile; Euclid Auto Co., Firestone-Columbus, Atlas and Frayer-Miller trucks; Crawford Motor Co., Stearns, Jackson, Fuller and Rider-Lewis; Buick Motor Co., Buick, Welch-Pontiac and Welch-Detroit; Park Motor Car Co., Speedwell; H. S. White & Co., Pierce-Racine; Overland Motor Car Co., Overland and Marion; Regal Motor Sales Co., Regal; Barger Automobile Co., Cadillac; White Co., White; Mitchell Bros. Co., Ohio; Elmore Motor Car Co., Elmore; J. H. Greenwald, Marmon and Moon; Wentworth Motor Car Co., Mora; V. R. Hall Auto Co., Cartecar and Plymouth trucks; Lucas & Christenson, Mitchell; Pullman Motor Car Co., Pullman; Forest City Motor Car Co., Jewel; Gabriel Carriage & Wagon Co., Gabriel, Krit and International delivery wagons; Haynes Auto Agency, Haynes; Black & Co., Black-Crow; The Auto Shop Co., Thomas.

Steam cars: White Co., White.

Electric vehicles: Babcock Electric Garage & Sales Co., Babcock; Studebaker Auto Co., Studebaker; Bros Carriage & Wagon Co., Broc; Western Reserve Motor Car Co., Woods; Euclid Auto Co., Columbus; Applebaum Bros., Detroit.

Motorcycles: Akron Auto Supply Co., New Era; Lister Bicycle Co., Racycle, Harley-Davidson and Yale; Casino Cycle & Supply Co., Thor and Excelsior; L. J. Mueller, Indian, Merkel and Light; V. R. Hall Auto Co., M. M.; Jepson Bros., Curtiss and Marvel; Collister & Sayle, R. S.

Accessories: Hammer & Hull, Falls Rubber Co., Horsey Mfg. Co., Perfection Spring Co., Cleveland Chain & Mfg. Co., Miller Rubber Co., J. E. Streater, The Carburetter Co., Philpot Rubber Co., M. & M. Co., F. C. Pinyoun & Son, Wright Wrench Mfg. Co., Charles E. Miller, K. & W. Mfg. Co., Lakewood Chemical Co., B. & B. Mfg. Co., Pennsylvania Rubber & Supply Co., Stein Double Cushion Tire Co., Atlantic Refining Co., Starr Rubber Co., National Motor Supply Co., H. W. Johns-Manville Co., Collister & Sayle, Vesta Battery & Light Co., Booth Demountable Rim Co., Cleveland Y. M. C. A.

**Sebring Plays a Big Speed Limit.**

Arrests for speeding are likely to be far better in at least one town in this country, namely Sebring, Ohio. The law makers of that burg have passed an ordinance making it unlawful to pass through the town at a greater speed than 50 miles an hour. It is said they did not desire to see ordinances broken so frequently, as that would reflect upon the reverence in which the authority of the town council was held, and they therefore decided on the 50 miles limit, which most automobilists will find somewhat difficult to break.

**SMALLER CITIES HOLDING SHOWS**

**Albany, Dayton and Sioux City Give Their Maiden Efforts—Hornell in the Two-Year-Old Class.**

Since the close of the big national automobile shows in New York and Chicago the show circuit has been confined practically to the large cities throughout the country, which have vied with each other in the size and elegance of their annual exhibitions. Now that the major circuit has had its run, the minor cities are having their innings. Several of them are holding their maiden automobile shows this week.

Inaugurated on Tuesday, 1st inst., the first show ever held at Dayton, O., attracted a large list of exhibitors, over 50 makes of car in 105 different types being displayed in the Memorial building, where the show was held. Both floors of the large auditorium were filled with cars, motorcycles and accessories, which attracted large crowds on each of the five days of the exhibition. The stage at the further end of the hall also was given over to the display of cars, a flight of stairs leading from the main floor to the elevated platform.

That the setting of the cars on exhibition might be in keeping with the environment in which they are used, the outdoor plan of decorative embellishment was selected. Bay trees and evergreens were scattered around the hall, while white columns of staff were entwined with greenery. Topping the columns were clusters of shrubbery and streamers of evergreen were strung between the posts. Strings of electric lights were also trailed across the hall above the exhibits, forming a maze of illumination.

Among the cars on exhibition were the following:

Gasolene cars: Stoddard-Dayton, Courier, Lexington, Rapid, Buick, Peerless, Franklin, Reliance, Chalmers, Hudson, Cadillac, Pierce-Arrow, Thomas, Locomobile, Overland, Ford, Springfield, Reo, Hupmobile, Warren-Detroit, Elmore, Pilot, Metz, Regal, Mitchell, Frayer-Miller, E-M-F., Flanders, Garford, Brush, Maxwell, Jackson, White, Inter-State, Oakland, Empire, Apperson, Herreshoff.

Electric vehicles: Detroit, Babcock, Baker, Columbus, Rauch & Lang.

Motorcycles: Racycle, Thor, Harley-Davidson, Merkel, Indian, New Era, Greyhound, Yale and Excelsior.

To the thriving Sioux City (Ia.) Automobile Club belongs the honor of promoting the first automobile show ever held in the Gumbo State, which was staged in the Auditorium, from the 1st to the 5th inst., inclusive, with 60 exhibitors showing 35 leading American cars and a large complement of accessories. It represented the culmination of four years of effort on the part

of the club to promote a show, and the recent exhibition largely was due to the hearty co-operation of the local dealers. All available space was taken and several of the unlucky applicants held private shows in their salesrooms.

Before deciding on a decorative scheme the committee visited the Chicago show, and then determined on an outdoor setting. A scenic artist was commissioned to arrange the decorations, and the result of his efforts transformed the large hall into a brilliant assemblage of scenic effects depicting outdoor life. Around the walls were hung canvas painted to represent Nature in springtime, and above all stretched a field of blue, emblematic of the heavens. Bunting and fleur-de-lis were used in profusion to clothe the balconies, while the effect was heightened by rows of big red roses hung from strings of green foliage. For lighting over 1,000 electric lamps were employed, and potted plants and flowers scattered among the booths added to the beauty of the scene.

Gasolene cars: Inter-State Auto & Supply Co., Reo; Wyckoff-Cord Auto Co., Cadillac and Stevens-Duryea; Hanson & Tyler Automobile Co., Overland; Dealy Bros., Jackson; William Warnock Co., Ford and Rambler; Adams & McClusky Auto Co., Cartercar and Lambert; International Harvester Co., International; H. A. Wetmore, Chalmers and Hudson; Pioneer Motor Car Co., Studebaker, E-M-F., Flanders, Apperson and Mitchell; Sachse-Bunn Co., Firestone-Columbus; Pendleton Auto & Machine Co., Hupmobile and Inter-State; Bennett Auto Supply Co., Buick, Knox, White and Velie.

Electric vehicles: Sachse-Bunn Co., Columbus.

Motorcycles: J. H. Hamilton, Thor and Racyle.

Situated at the gateway to one of the most picturesque and beautiful touring regions in the East, it seems strange that Albany, N. Y., the capital of the Empire State, and on a main touring route, never has had an automobile show until this year. That smaller and less prominent cities in the vicinity no longer will be able to pride themselves on being more progressive than the capital city in the matter of automobile show promotion is due to the patriotic and civic pride manifested by the Tenth Regiment of Albany, which has come to the rescue and promoted the first automobile show the city has had, and which is being held in the armory this week.

Co-operating with the military men are the local dealers and the Albany Automobile Club, and the auspicious opening on Monday evening, 7th inst., augurs well for the success of the initial exhibition. Not only is every local member of the trade represented, but exhibitors also are recruited from Troy, Schenectady and nearby towns. All told there are over 50 exhibitors, who stage

over 250 different cars, of some 53 different brands.

In keeping with the patriotic sentiments of the show sponsors, the national colors predominate in the decorations. From every girder in the big drill shed large American flags hang; the walls are draped in similar dress, intermingling with white and yellow, the automobile club colors. Several wagon loads of potted plants, ferns, trees and shrubbery lend an outdoor effect, while thousands of electric lamps stud the ceiling and walls and are scattered among the booths. Through the center of the hall is placed a fence of flags and flowers dividing the room into two sections, while aisles flanked on either side by potted plants extend around the hall near the side walls, the exhibits in the center of the floor being placed back to back. Following are the exhibitors:

Gasolene cars: Albany Garage Co., Peerless, Simplex, Studebaker, Palmer-Singer, Apperson, E-M-F. and Flanders; Albany Motor Car Co., Cadillac and Thomas; Albany Rubber Tire Co., Selden; Buick Motor Co., Buick, Welch-Pontiac and Welch-Detroit; Central Automobile Co., Knox; Thomas L. Davis & Co., Jenkins; William Daye, Matheson; Eureka Motor Car Co., Cutting; Franklin Auto Co., Franklin; James Goold Co., Marmon; J. A. P. Ketchum, Packard; Maxwell-Briscoe Co., Columbia and Maxwell; Mohawk Valley Auto Co., Oldsmobile and Oakland; Park Garage Co., Mitchell, Speedwell, Chadwick and Frayer-Miller; Patten & Almy, Cameron; C. S. Ransom, Lozier, Stevens-Duryea and Mercer; Roy M. Robinson, Reo and Rainier; William L. Schupp & Sons, Marion, Overland and Rapid trucks; Snyder Auto Bazaar, Velie and Stearns; Troy & Albany Auto Exchange, Pierce-Arrow, Chalmers and Hudson; Troy Auto Improvement Co., Hupmobile and Koehler; Taylor Automobile Co., Locomobile; George W. Wait, Elmore; C. F. Weeber Mfg. Works, Ford and Haynes; J. B. Wilbur, Croxton-Keeton and Regal; Wright-Rye Motor Co., White, Jackson, Rambler and Atlas; B. A. Burtiss, American; Lansing & Morrison, Gramm-Logan trucks; Peter Murray, Inter-State.

Motorcycles: G. A. Feltman, Emblem and R. S.

Accessories: Albany Hardware & Iron Co., B. A. Burtiss, Cox Brass Mfg. Co., John Kingsbury, Steefel Bros., Walter Chain Mat Co., James Goold Co.

Overshadowing in importance all other local amusement functions which were unfortunate enough to conflict with it during its reign, the second annual automobile show of the Hornell (N. Y.) Automobile Club was held in Seneca Rink, on the 2nd and 4th inclusive, and proved the most successful ever held in that section. Numbered among the exhibitors were dealers from Buffalo and other nearby points, over 40 cars being on exhibition, as well as a wide assortment of accessories, the building

being taxed to capacity. One of the features of the exhibition was a Curtiss aeroplane, which divided attention with the inventor himself. Red, white and blue bunting constituted the decorations, while the ceiling was studded with hundreds of electric lamps. The proceeds of the show will be devoted to road improvement and sign-board erection in the vicinity of the club.

#### Philadelphia Readjusts Liability Rates.

At a meeting of the Philadelphia local committee on automobile liability insurance, held in that city last week, the rates for the automobile liability hazard were fully discussed and it was decided to readjust them upon the following basis:

Policy limits, \$5,000 death or accident one person; \$10,000 any one accident.  
Motor bicycles designed to carry but one person, and electric vehicles of any horsepower ..... \$25.00  
Gasolene or steam pleasure vehicles—  
Not over 16 h.p. .... 30.00  
17 to 37 h.p., additional ..... 2.00  
38 h.p. and upward, additional ..... 1.00

These rates are effective as to new business and renewals beginning on March 1st. The collision rates and property damage liability rates remain as originally adopted.

#### Utility Car for Suez Canal Use.

Combining a fire engine, sprinkler, and power pump, several new automobiles built by the Lorraine-Dietrich company of France for the Suez Canal company, represent an achievement of which the French company can be proud. The cars are of 25-40 horsepower, furnished with a pumping apparatus capable of drawing 60 cubic feet of water from a well 20 feet deep, in three minutes. Supplied with water pipes and hose lines, they can throw a stream of water 40 feet high, or to a distance of 70 feet. They are to be chiefly used to sprinkle the sandy and dusty streets of Port Said and Suez, as well as along the route of the canal, their equipment as fire engines and power pumps being intended for emergency use only.

#### London Leads the European Cities.

London has almost but not quite twice as many motor propelled vehicles as Berlin, Paris and Vienna combined. The numbers registered in these four cities are as follows:

London—Private cars, 23,560; public motor vehicles, 4,790.

Paris—Private cars, 7,124; public, 3,600.

Berlin—Private cars, 2,800; public, 136.

Vienna—Private cars, 2,100; public, 142.

#### Diplomats Must Buy Tags, Too.

Ambassadors and other members of the diplomatic staffs of foreign nations at the capital are exempt from taxation on real or personal property, but according to the ruling made recently by the commissioners of the District of Columbia they must pay \$2 for an identification tag for their automobiles. They still remain exempt from speed regulations, however.



## TWO NOVEL AUTOMOBILE SLEIGHS

**They Make Their Appearance at a Special Meet for Such Vehicles—One a Converted Touring Car.**

Motor sleighs have been proposed and talked about far in excess of their actual production, but with a view to gathering as large a group as possible at one time the Touring Club of France not long ago

ance, as revealed in the picture. A 10 horsepower Anzani motor constituted the power equipment, and to avoid the use of anything but sliding contact with the road surface the aerial propeller was employed. A foot actuated brake, to dig into the road in case of emergency, may be seen underneath the center of the body. The whole outfit weighed only 440 pounds, but it was only under favorable conditions that it could attain a satisfactory rate of travel.

In this connection it will be remembered



HILGERT MOTOR SLEIGH, WITH ARIEL PROPELLER

held a motor sleigh race meet at Gerardmer, in the Vosges, France, where vehicles of this class were entered in competition and were given the opportunity of demonstrating what they could do. At least two novel methods of propulsion were disclosed by the meet, one of them employing aerial drive and the other an ingenious form of tractor wheel.

Taking a regular touring car, M. J. de la Basse substituted runners for the four wheels, as shown in the accompanying illustration, and mounted a helically grooved drum between the forward and back sets. This drum, driven from the jackshaft by means of chains, served as the tractor, and the pressure of its contact with the road surface was made adjustable. The roller could even be raised entirely out of contact when desired, as for coasting. So readily could the changes be made which would convert the vehicle from a wheeled vehicle to a sleigh that M. Basse drove it from Paris to Annecy by road and then used it as a sleigh around the Annecy district before proceeding to Gerardmer. The 20 horsepower motor equipment was found ample for driving it over the snow at good speed, no changes being necessary in the engine mechanism or the steering gear. Unfortunately the machine suffered a bad collision with a horsedrawn sleigh shortly before the time for the races, and it was damaged to an extent that made it unfit for competition.

More highly specialized in its type, the light fan-driven production of M. Hilgert attracted no little attention by reason of its odd construction and peculiar appear-

ance, as revealed in the picture. A 10 horsepower Anzani motor constituted the power equipment, and to avoid the use of anything but sliding contact with the road surface the aerial propeller was employed. A foot actuated brake, to dig into the road in case of emergency, may be seen underneath the center of the body. The whole outfit weighed only 440 pounds, but it was only under favorable conditions that it could attain a satisfactory rate of travel.

In this connection it will be remembered



BASSE TOURING CAR TRANSFORMED INTO A SLEIGH

and reasonably level snow-covered roads the sleighs have done fairly well, though their adaptability to Arctic travel with its ice hummocks is as yet somewhat problematical.

### Motor Cars Aid French Cookery.

French soldiers have made a new discovery. They found that the hot water in the radiators of motor cars is just the thing in which to boil eggs.

## WINTER TEST FOR ARMY TRUCKS

**German Military Authorities Try Motor Vehicles in Harl Mountain Snow—Non-Skid and Snow Plow Experiment**

To further prove their value for military purposes, the army motor trucks, passenger automobiles and motorcycles attached to the garrison of Schoeneberg-Berlin, Germany, recently were subjected to a rigorous mid-winter test through the Harz mountains, the demonstration lasting four days.

The roads were covered with snow averaging two feet in depth; tree trunks were lying criss-cross everywhere and the cars had to climb over them; yet all the motor cars finished the hard test in good condition, while the motor bicycles were ordered back after the first 15 miles had been covered. The little machines were not quite capable of coping with the snow drifts and deep mud of the forest paths, and had to withdraw in favor of the small class of automobiles.

The test was arranged by the army department in order to decide once for all, whether or not the motorcycle was capable of beating the small motor car in reconnaissance service on bad roads, and the result was the sweeping victory of the motor car.

Four makes of motor trucks took part: Duerkopp, Nacke, N. A. G., and Dixi; the

latter was compelled to pull, in addition to its regular trailer, an electric repair wagon. Two powerful passenger cars, a Benz limousine, and Adler landaulet, accompanied this division of the "train."

The second division was made up of the "light cavalry" and consisted of ten small motor cars, the Adler, Benz, Dixi, Gaggenau, Hansa, Lloyd, Nacke, Oryx, Opel and Podelus, and six motorcycles furnished by the "Schnellfahrer" union of Germany.

On the first day, February 8th, heavy fog greatly hindered the work, while late in the afternoon of this day a snowfall, accompanied by strong wind, set in, making conditions about as hard as it would be possible to imagine them. The steep grade toward Auerhahn was surmounted by all the cars, but the motorcycles kept floundering around in the deep snow until it became clear to everyone that such a trip was not suited for them, and they were ordered home. Some humorously inclined youngsters who had gotten wind of the proposed trip, during the early morning of that first day built a ten-foot snow wall clear across the road at one of the most dangerous turns, and it took the combined efforts of the 54 soldiers in the "caravan" to remove the obstacle. The Dixi car at about the same time, found the snow very soft and nice to settle down in, and disappeared to a depth of three feet. It took one of the powerful passenger cars and four of the smaller ones to pull the doubly loaded Dixi out of the hole. At the top of the hill the snow was found to be fresh and soft, and permitted a test of a new plow invented by an army officer and adapted to automobile traction. The plow was affixed to the N. A. G. car, but somehow or other it did not work satisfactorily, as the snow on the down-grade was packed hard and resisted all the efforts of the plow. Where loose snow only barred progress, the plow proved very effective, and other tests are soon to be arranged with a view of proving exactly what it can do. Reaching Zellerfeld, quarters were obtained for the soldiers, while the cars were left on the street. This proved injudicious, for during the heavy snowfall and frost of the night the wheels froze fast to the ground and it took hard work to pry them loose.

The next morning, one of the trucks, the Duerkopp, was sent up a long hill with an incline of 1:6, carrying a load of 4,000 kilograms (8,800 pounds), and succeeded with the help of the sand boxes in reaching the top without assistance from any of the cars. The whole caravan then proceeded to Harzburg.

On the third day the ten small automobiles made a fast trip of 80 kilometers, through the worst snow drifts and over ice-covered roads which no horse-drawn vehicles could have passed, reaching their goal without mishaps of any kind.

On the last day an attempt was made to climb the Brocken, the highest point of the Harz mountains, but a short distance from the summit a high snowdrift, nearly 50 feet thick and 10 feet high, barred further progress.

During this hard trip it was found that the best results against skidding were obtained by fitting the rear wheels with short cross chains fastened to hooks between the spokes, while the front wheels gave the best service when the cross chains were fastened diagonally. After the official part of the journey was accomplished an attempt was

made by the driver of the Buessing truck to conquer the hill, which previously had been surmounted by the Duerkopp car. He loaded the truck with 4,000 kilograms, attached the trailer, loaded with 2,000 kilograms, and drove the entire length of the hill without even using the sand boxes.

The official report made to the War Department regarding these trials says that not only did the trucks fulfill all requirements, but that they far exceeded them, and recommended an increase in the appropriation for the purchase of more automobile trucks for army service.

#### Corset Cup Replaces Whiskey Trophy.

Racing for a corset cup this year is to take the place of the competitions on the



Florida beach which in the past have been run for the Dewar whiskey trophy. The speed carnival of the Florida East Coast Automobile Association, which will be held March 22 to 25, on the Daytona beach, will introduce the initial race for a new prize, known as the W. B. Five Thousand Dollar Trophy, and which must be won twice in succession for permanent possession. It is offered in the 300 miles free-for-all, and is presented by the W. B. Corset Co., of New York City. As disclosed in the accompanying illustration, it is a Greek urn, surmounted by Victory with a laurel wreath. It is made of solid silver and stands nearly five feet in height, and is claimed to represent a value of \$5,000.

#### Big "Down East" Tour in Prospect.

Owners of E-M-F. cars residing in New York City and vicinity will have no occasion to pore over maps and road books in an effort to lay out a vacation tour for the coming summer, for George C. John, the metropolitan agent, is planning a monster outing through New England, which will

include the White Mountains and the Rangeley Lake region in Maine, and which will be open to owners of E-M-F. cars exclusively. It is probable that the tour will not be confined to New York City owners, but that New England, Pennsylvania and New Jersey E-M-F. enthusiasts also will be invited to participate. According to present plans, the tour probably will last a fortnight, a week being spent in the lake and mountain districts, respectively. An elaborate program of entertainment will be provided each day, and tourists who wish to make side trips will not be confined to a strict observance of the program that will be arranged.

#### De Palma and Oldfield Matched at Last.

After much backing and filling and "publicity stunts" on the part of the rival firms involved, the long standing controversy between Ralph De Palma and Barney Oldfield as to whether the former's monster Fiat or the big Benz with which Oldfield has been barnstorming in the South is the faster, bids fair to be settled on Tuesday next, 15th inst., on the beach at Daytona, Fla. The terms of the match finally have been agreed upon and both drivers and their cars now are on the ground practicing for the speed duel. There is no prize offered for the match, which was arranged to decide the superiority of the two cars and as there is no love lost between the drivers it promises to be a bitter struggle for supremacy. Both cars are rated in the neighborhood of 200 horsepower. The distances for the match, which will be run in heats, have not been decided on yet, but all will be at short distances, probably between one and ten miles.

#### Florida Joins the National Association.

With the admission to membership in the American Automobile Association last week of the Florida State Automobile Association, which comprises eight federated clubs, the total of affiliated state bodies in the national organization was raised to 34. The election also of the Savannah (Ga.) Automobile Club presages the formation soon of a state association in the Peachtree State, as the admission of the sponsors of the Grand Prize race completed the requisite number of clubs necessary to form a state body, and steps to that end already have been taken. An indication of the herculean efforts which the present administration of the A. A. A. proposes to exert to build up the organization during the coming year is apparent from the expressed aim to increase the number of state associations to 40 with a total of 40,000 members.

#### Cortland Club Chooses New Officers.

At the annual meeting of the Cortland (N. Y.) Automobile Club, officers for the coming year were elected, as follows: A. F. Stilson, president; M. A. Chase, vice-president; F. C. Parsons, secretary, and F. A. Wilkins, treasurer.

**NEBRASKANS BUILT LITTLEST CAR**

**Took Two Years to Do It, but It is Perfect in All Details—Proves that It Will Work, Too.**

While Dr. Brandow, of Pittsfield, Mass., several years ago fashioned a motor car of lilliputian proportions, and other men since have built toy cars for children's use, it is safe to say that in design and in completeness of detail there never was one that compared with the miniature E-M-F. "30" touring car made by Swanson Bros., of Stromberg, Neb., who spent two years in its construction, and which recently was shown



THE LITTLEST CAR CONTRASTED WITH A FULL GROWN ONE

in operation on Michigan avenue, Chicago. Every part of the car, including even the technical details of the engine are perfect.

C. E. Swanson, the elder brother of the firm, values the car at \$5,000, and says he is doubtful if he would sell it at that price. This marvelous little creation, weighing only 156 pounds, was designed and built exactly like the large E-M-F. touring car, which weighs 2,160 pounds. The first thing done was the designing on blue prints, then patterns for all casting work were made and sent to Lincoln, Neb., where the castings were made.

The first part finished was the engine. This was a long and tedious job on account of its being so tiny. The cylinders, pistons and piston rings are ground to a perfectly smooth surface, and are very closely fitted. The crank shaft is turned out from a solid bar of steel. Water jackets are made from brass tubings, with a brass disc pressed into one end, forming the head, the jackets are fitted over the cylinders, and the valve cases are screwed into the cylinder heads, pressing the jackets down against the cylinder castings and making all joints water

tight. The differential gear is of the spur gear type, and the gears are made from brass pinion wire, as are also the gears in the transmission. The lamps are made from sheet brass, a form for which had to be made to spin the brass, in fact throughout the whole work a lot of special tools had to be made.

The detailed specifications of the little car which is shown by the accompanying illustration, are most interesting, viz.: Motor, four cylinders, cast separate,  $1\frac{1}{2}$  inch bore by  $1\frac{1}{2}$  inch stroke. Power, about  $\frac{1}{2}$  horsepower. Cooling, water, thermo-syphon. Ignition, current supplied by batteries, single unit, non-vibrating coil, high tension distributor. Lubrication, splash system. Carburetter, float feed type. Clutch, cone,

metal to metal. Transmission, sliding gear, progressive type, two speeds, forward and reverse. Drive, direct shaft drive in housing to bevel gear on rear axle, one universal joint. Axles, live rear axle running on anti-friction bearings, front axle tubular. Brakes, direct on wheels. Internal expanding metal rings. Steering gear, worm and gear type. Frame, angle steel. Wheels, wood artillery type. Wheel base, 44 inches. Tread, 24 inches. Tires, 15 by  $1\frac{1}{2}$  inches. Springs, semi-elliptic, front, rear full elliptic. Control, spark and throttle levers on steering wheel; clutch operated by a foot pedal; brake operated by a foot pedal; speed changed by hand lever. Finish of body, pure white with blue striping. Weight, 156 pounds. Value, \$5,000.

Motorists of Williamson, N. Y., have formed an automobile club, with the following officers: Richard M. Cheetham, president; Dr. E. H. Lapp, vice-president; Frank S. Wilder, treasurer; K. M. Davies, Wellington B. Freer and Ray W. Teats, governors. The organization starts with 28 names on the roll.

**AMATEUR TEAM CONTEST IN SIGHT**

**Crescent Athletic Club Issues Challenge and Pardington Provides a Trophy—Sport of Right Sort.**

The Crescent Athletic Club, of Brooklyn, N. Y., one of the most prominent and influential organizations in that city, which numbers among its members many enthusiastic motorists, has organized an automobile committee consisting of the following members: H. C. Martin, chairman; A. R. Pardington, George E. Brower, Foster Crompton and W. T. Wintringham. The committee's "sporting blood" being thus aroused, the club has challenged the Long Island Automobile Club of Brooklyn, to a team reliability contest to occur on Long Island in the spring. It will be an amateur contest of the right sort.

To lend interest to the affair A. R. Pardington, who is a member of both clubs, as also are several of his associates on the committee, has offered a challenge trophy for the contest. Mr. Pardington is well known in motoring circles, particularly as chairman of two Vanderbilt Cup race committees and manager of the Long Island Motor Parkway. The contest the details of which will be arranged later, will be held under A. A. A. contest rules and provides for teams not to exceed 12 members each. Cars are to be driven by members only, chauffeurs being barred.

**Foreign Courtesies for Chicago Clubmen**

Negotiations between the Chicago Automobile Club and various foreign clubs in reference to an exchange of courtesies between them, have just been brought to a satisfactory conclusion. Henceforth traveling members of the Chicago Automobile Club will have all the courtesies of the Royal Auto Club of Great Britain, the Automobile Club of France, and the Automobile Club of America. Chicago membership cards will open the doors of any one of the three club houses of the organizations mentioned, and numerous privileges enjoyed by members of these clubs will henceforth be at the service of motorists belonging to the Chicago club.

**Rex at Head of Norristown Club.**

Officers for the ensuing year were elected by the Norristown (Pa.) Automobile Club last week, as follows: John H. Rex, president; E. C. Meier, vice-president; William B. Hart, secretary; E. C. Wentz, treasurer; directors, E. C. Wentz, Robert A. Jackson, Harry C. Carney and George M. Black. A resolution was passed creating a class of associate membership, to which will be eligible members in good standing in other similar organizations which extend reciprocal privileges to members of the local club.

## THE MAIL BAG

### Duryea Takes Issue with Prof. Sharp.

Editor of the Motor World:

The action of the "spinning" wheel mentioned by Mr. Sharp on page 569 of the Motor World neglects to take into consideration the action of the balance gear with which most automobiles are provided.

Most everyone has noticed that if one wheel is free to spin and the other held, the one will go at double speed and the other stand still. This action begins as soon as a wheel bounces clear off the ground. The entire acceleration of the engine goes into one wheel. The vehicle simply coasts and the wheel still on the ground loses speed slightly under this coasting action. This means that the tire of the spinning wheel has much greater certainty of damage after one wheel is off the ground than if both are off.

Large wheels do much to overcome the bouncing, for the wheel rolls over the obstacle rather than against it.

But the best and most effective remedy is to do away with the balance gear. This device is so well known and in such universal use that many think an automobile cannot be successful without it. It has for years seemed to be one thing that had reached a final form. But the increased use of friction drives with provision for driving each wheel separately has opened a new way. The roller drive used by me on my Buggyauts for the last two or three years is a sort of friction drive and has been provided with a device for releasing the rollers on the inner wheel during a turn. At all other times each wheel is driven independently of the other. If one bounces into the air, the other propels the vehicle and prevents acceleration of the other wheel. It therefore comes down with proper speed and takes up the propulsion where it left it, with no damage to the tire and no slipping. The times when both wheels are off the ground together are few in comparison with the times when one or the other is in the air.

I have been surprised at the difference noticeable when driving a Buggyaut over a cobble street as compared with a rig having smaller wheels and a balance gear. The rig with the usual balance gear seemed to slow up as though the brakes had been applied to it.

CHARLES E. DURYEA,  
Reading, Pa.

[In Mr. Sharp's discussion of the problems involved in motor vehicle suspension systems, which was published in the issue of February 24th ult., attention was centered on the rate of movement toward and away from the ground when the wheel of a moving vehicle encounters an obstacle. As the object was to secure an illustration of

the conditions existing in the suspension under such circumstances, no attempt was made to trace out the mechanical effects resulting in the driving mechanism. The above criticism is especially pertinent because, as is intimated, the status of the differential driving mechanism long has been considered as settled, whereas it is one of many compromises about the car which occasional discussion may tend to improve.]

### Bretz Defends Ball Bearing Principle.

Editor of the Motor World:

In your issue of last week, we noticed a brief resume of a lecture on automobile bearings, delivered by Mr. W. L. Batt, for the New York School of Automobile Engineering; but we take decided exceptions to that part of Mr. Batt's talk, in which he says:

"The number of balls that can be gotten into these grooves is limited to about half of the total circumference, unless it is decided to cut the so-called filling slot, as is sometimes done. In such a case, the continuity of the running surface for the balls is broken, and the advantage of more balls is more than lost by the weakened race construction."

Now, let us see how true this statement of Mr. Batt's is. In this country, over fifty well-known makes of cars use the F. & S. annular ball bearings with this side filling slot, and in Europe, nearly one hundred of the great foreign makers have for years used this type exclusively. In construction, the F. & S. ball bearings are made with diagonal side entering slots, slightly smaller than the sizes of the balls themselves. The balls are, therefore, sprung in under greater pressure than they ever receive in service, the races yielding sufficiently to let them enter. Once in, the balls never again touch the side slots, which thus virtually no longer exist; thus disproving Mr. Batt's statement.

In the latest type of F. & S. bearing, with the frictionless metal split ring separator, the entire race is filled with balls, less only one ball for the aggregate thickness of the separator walls. This admits of a far greater number of balls, and balls of a bigger diameter. The bearings with the divided hole ring separator, withstand, therefore, a higher radial load, and in consequence also a higher thrust load; and where other makes of bearings have proved inadequate to the service imposed, notably in crankshaft construction, F. & S. bearings have frequently been substituted with satisfactory results; because they differ from all others in having a higher load carrying capacity, and greater endurance, due to the larger number of balls contained in a bearing, yet the construction is such that the destructive wear on the balls in the "full type" bearing is eliminated. The balls traveling on a continuous unbroken path, and for this reason, for equal loads, F. & S. annular ball bearings are the most durable in the world, and for equal size, F. & S. annular ball

bearings have the greatest load capacity.

Now, as to practical results. The Stearns is a noted hill-climber. The Lozier has made a number of twenty-four hour track records, and won the cup in its class, in the One-Gallon Efficiency Test last spring, due, as its makers well say, to its ball bearing efficiency.

The Benz racing cars, the holders of all the world's racing records, are fitted with F. & S. ball bearings, and the Napier, the great English car, made the wonderful twenty-four hour record, in the hands of S. F. Edge, on the Brooklands track, also using F. & S. bearings; and in the struggle for possession of the Atlanta trophy last fall, at Atlanta, won by the Rainier car, Louis Disbrow driving, the Rainier car fitted with F. & S. ball bearings was the only car that finished the race, and, as a matter of fact, was the only car that did not have to stop during the race on account of mechanical trouble, and in this race the Rainier car averaged over 70 miles an hour.

We might go on and mention innumerable other records, but these are the best known ones, and we think we have produced enough evidence to show that Mr. Batt is mistaken when he says that "The advantage of using more balls through a filling slot is lost by the weakened race construction," and which we are glad to say is only a bugaboo that exists in Mr. Batt's mind, possibly because he is engaged in selling another ball bearing, which does not use this good method of the F. & S.

As a matter of fact, like all other makers of guaranteed ball bearings, we receive from time to time some few of them for repair or replacement, caused by various uses, but never because of "weakened race construction," the design of the F. & S. annular ball bearing being such that in its construction enough metal, and of the right kind, is used, so that the ball race is really the strongest part of the whole bearing, supported as it is against strains by the housing and the shaft on which it revolves, or vice versa.

Other makes of ball bearings, however, evidently appreciate the F. & S. side filling slot system, by their imitations of it, and which imitations and infringements we are busy looking after in the United States and European courts, because they infringe on our fundamental patents.

Very truly yours,

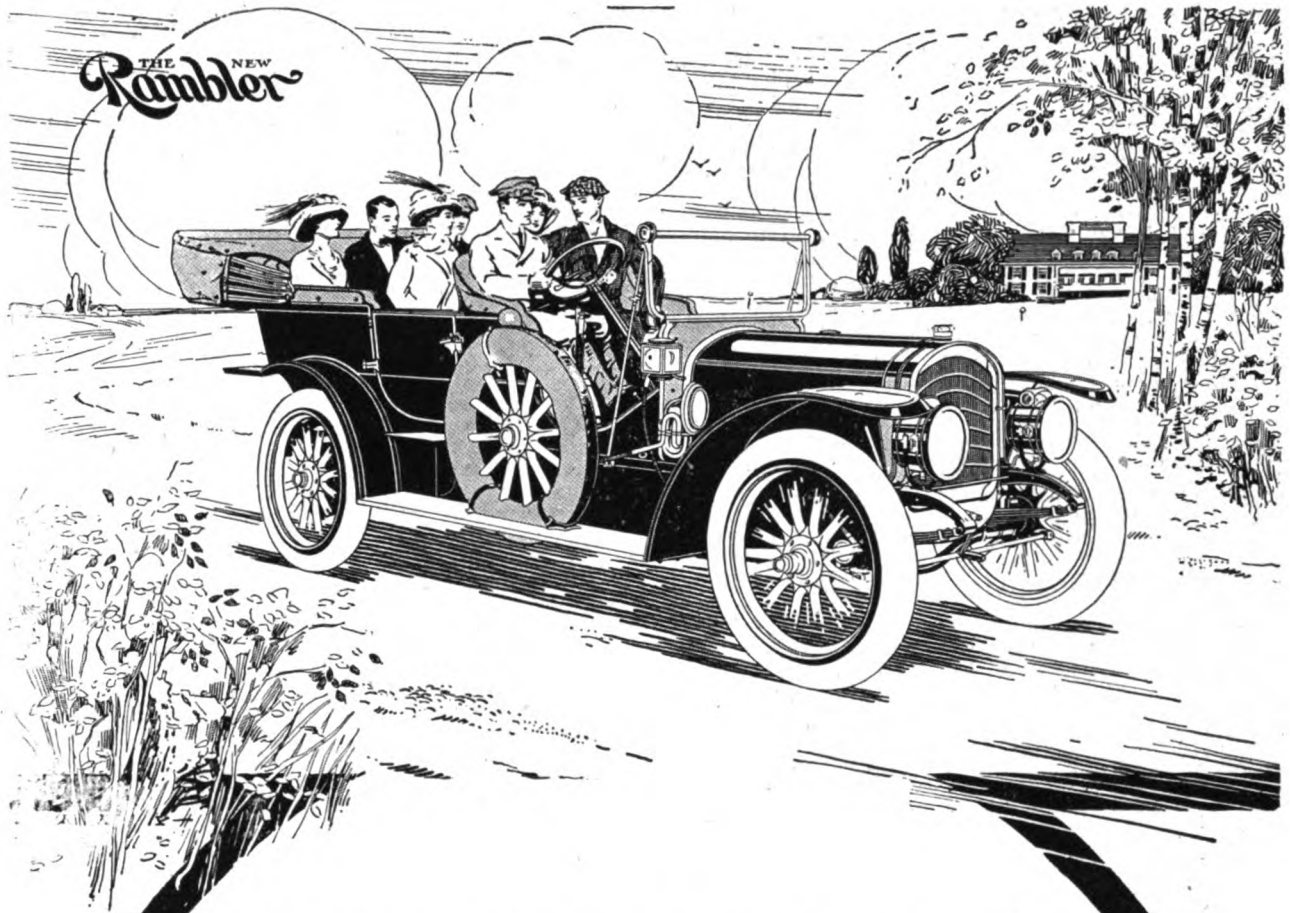
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### Rich Prize for the Hardest Hitter.

For many years past it has been the custom in nearly all the baseball leagues to give articles of merchandise to members of the home teams making home runs at their own fields, but now there is a really valuable prize to be given to the best batsman in the two major leagues. The Chalmers Motor Co., of Detroit, Mich., this year will present one of its high priced cars to the baseball player making the greatest percentage of hits, as shown by the official batting record.





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## RECENT PATENTS.

943,227. Automatic Safety Device. Otto Karcher, Canton, Ohio. Filed May 25, 1909. Serial No. 498,350.

1. An automatic safety device comprising rear wheels provided with brakes, driving means for said rear wheels, means for discontinuing the operation of said driving means, adjustable front wheels, means for controlling the adjustment of said front wheels, a safety clutch provided with operative connections with said brakes and with said means for discontinuing the operation of said driving means, said safety clutch being adapted to be operated by said front wheels when said wheels are not controlled by said controlling means.

943,240. Automobile Gear. Henry P. Dodge and Cassius M. Foster, Toledo, O. Filed March 29, 1909. Serial No. 486,366.

1. An automobile gear comprising a motor, a rear axle, driving connections intermediate said motor and axle, casings for said motor, axle and connections, said several casings being rigidly connected as a unitary structure, side-bars, a downwardly bent cross bar bridged between the side-bars, and an universal joint which supports the forward end of said connected casings upon the cross bar.

943,242. Carburetter. David Fergusson and Charles L. Sheppy, Buffalo, N. Y., assignors to The George N. Pierce Company, Buffalo, N. Y. Filed June 7, 1907. Serial No. 377,769.

1. In a carburetter, the combination of a casing having a wall of circular cross section forming a throttle valve chamber, said wall having in one side a hole for the passage of the explosive mixture, an air supply passage opposite to the hole in said valve chamber wall, and a mixing chamber having a portion which is located between said circular wall and said air supply passage and is relatively narrow in the direction of the length of the air supply passage whereby one end of the air supply passage is located close to said circular wall, a spray nozzle extending into said air passage and having a discharge orifice opposite and adjacent to said hole, an auxiliary air supply valve for admitting air to said mixing chamber, and a throttle valve in said valve chamber having a hole adapted to be moved into and out of register with the hole in said cylindrical wall by turning said valve, substantially as set forth.

943,505. Automobile tire. Charles E. W. Woodward, Chicopee Falls, Mass., assignor to Fisk Rubber Company, Chicopee Falls, Mass., a Corporation. Filed Oct. 24, 1906. Serial No. 340,300.

1. In a securing means for inflation valves for the inner tubes of tires of automobiles, an inelastic ring secured to the same adjacent the valve opening therein and having an internal diameter greater than that of said opening, means on the valve-stem for retaining the tube and said ring in place, whereby the opening in the tube is prevented from assuming a shape other than circular when the valve-stem is in place, and whereby the inelastic ring is permitted to assume a form other than circular when the valve-stem is removed from the tire, as described.

944,278. Apparatus for Filling Rubber Tires with Viscous Liquids. Albert D. Ray, Cleveland, Ohio, assignor of one-half to C. J. Callahan and one-half to Theodore

Chester, Sunbury, Pa. Filed July 30, 1909. Serial No. 510,355.

1. In an apparatus for filling rubber tires, the combination with a charging vessel provided with an agitator and an air inlet pipe and a charge outlet pipe; of an auxiliary charging vessel adapted to be brought into communication with said air inlet pipe and provided with a valved discharge duct intersecting said charge outlet pipe and terminating in the median portion thereof.

944,293. Control for Driving Mechanisms. Charles B. Stebbins, Three Rivers, Mich., assignor to Sheffield Car Company, Three Rivers, Mich. Filed Nov. 13, 1908. Serial No. 462,442.

1. The combination with a hollow control post standard, of a pair of transmission clutch control posts; a pair of master clutch control posts; a throttle control post; a commutator control post, said several control posts being arranged one within another and within said standard; collars on said posts having bearing portions whereby said posts are revolvably supported; actuating levers mounted upon said clutch control posts; a pivoted shifting lever; jaws on said actuating levers adapted to be engaged by said shifting lever, the jaws of said transmission post levers being faced oppositely and the jaws of said master clutch levers being adapted to be engaged from above and below; a head having guide ways therein for said shifting lever and stops for said transmission and master clutch levers and said shifting lever arranged so that said master clutch levers are adapted, when in their initial positions, to be engaged by said shifting lever after the transmission clutch levers have been shifted thereby to their actuating position; and springs carried by said transmission control post levers for retaining them in their inoperative position, said springs being adapted to be disengaged by said shifting lever.

944,315. Gas Engine Starter. George Buress, Indianapolis, Ind., assignor of one-half to Robert W. Long, Indianapolis, Ind. Filed March 25, 1909. Serial No. 485,581.

1. In combinations with the shaft of an explosive engine, of a gear secured thereon, oscillatory means pivoted away from the gear and its axis, a curved bar pivoted at one end to said oscillatory means and extending beside said gear, and an adjustable pawl on the other end of said bar for engaging the teeth at one side of the gear during the movement of said bar, whereby said gear will be actuated to start the engine.

944,351. Vehicle Wheel Rim. John M. Alderfer, Sharon Center, Ohio. Filed Nov. 7, 1908. Serial No. 461,567.

1. The combination in a vehicle wheel, of a rim provided with a seat for a tire and a tire-retaining means along one side edge thereof, said rim provided with a depending or inwardly extending flange along its opposite side edge having a notch formed therein, an annular removable tire retaining means co-operating with the tire retaining means on said rim provided with an inwardly extending flange having a notch therein adapted to register with the notch in the depending flange of said rim, said removable tire retaining means adapted to be positioned with the depending flange thereof in abutting relation with the face of the depending flange of said rim and a locking element comprising a split, resilient ring having a circumferentially arranged interrupted recess in the outer face thereof adapted to

be sprung over and receive the abutting inwardly depending flanges of said rim and removable tire retaining means with the interrupted portion thereof positioned in the registering notches of said flanges, whereby said removable tire retaining means is locked against circumferential movement.

944,446. Shock Absorber for Vehicles. Frank G. Koehler, St. Louis, Mo. Filed May 7, 1908. Serial No. 431,344.

1. In a shock absorber for vehicles, a pair of pivotally mounted bearers provided with arms, a spring element interposed between said arms, a take-up spring within said spring element, and means having connection with said arms controlled by said take-up spring, substantially as set forth.

944,514. Rim for Motor Car Wheels. Don C. Smith and William F. Gorton, Muncie, Ind. Filed Dec. 20, 1907. Serial No. 407,387.

1. In a wheel, the combination of the felly rim having its face beveled transversely, one of the edges of said beveled face being inclined upwardly and the other downwardly, a tire retaining rim composed of a pair of oppositely disposed rings their inner sides being transversely grooved to receive bolts for securing the sections together their vertical facing edges being provided with a rabbet joint having the ledge its internal face being so formed as to register with the beveled face and its edge inclined or beveled to register with the inclined edge of the felly rim, the said ledge being provided with radially disposed slots at proper intervals opening into semi-circular recesses provided correspondingly in the face of each of said sections; the inner surface of the said tire rim being so formed as to register with and to stand slightly apart from the beveled face, and to reside in contact with the upwardly and downwardly inclined edges of the felly rim, transverse grooves at suitable intervals to register with the corresponding grooves in the felly rim for the reception of means for securing the tire rim to the wheel, substantially as described.

944,538. Speedometer. James H. Bullard, Springfield, Mass., assignor to Bullard Specialty Co., Springfield, Mass., a Corporation of Massachusetts. Filed March 3, 1906. Serial No. 304,137.

1. An instrument of the class described comprising a support for a record dial rotatable at minute hand speed, an hour dial, and a suitable clock movement to actuate the dials, the latter being readable together to indicate the time, means to mark the record dial to indicate successive occurrences, an odometer in proximity to said instrument, and a common actuating mechanism for the odometer and the record dial marking means.

944,576. Cushion Wheel. Henri Oudinot and Charles Putois, Coudray Montceaux, France. Filed Dec. 22, 1908. Serial No. 468,878.

A cushion wheel comprising in combination with the hollow hub having a hollow extension communication with the main part of the hub, vertical flanges of said hub, an inner crown between said flanges having an opening through which the hollow extension communicates with the hollow main part, an outer crown between said lateral flanges having threaded openings, one for each spoke, a flange at the upper end of each of said openings, a nut screwed into said opening having a central boring, an india rubber bag being fixed with a flanged edge of its open end between said nut and

said flange so that its top part projects into the hollow hub, a piston guided in said nut, a stepped head of said piston penetrating into the correspondingly shaped top part of the india rubber bag, metal rings inserted in the inner surface of said bag, each embracing one of the steps of the piston head, means for preventing a lateral deviation of the india rubber bag, a shoe forming the outer end of the spoke, an upwardly directed flange at each of the long sides of said shoe and a downwardly directed flange having an internal groove at each of the long sides at each side of the spokes upon said shoes so as to form a flexible felly, means for securing said rings upon the shoes, a nut for each spoke to press said rings strongly upon its shoe, india rubber sheaths fixed to the lower end of the hollow guide nut of the piston and to the upper end of said pressure nuts forming a lubricating chamber for each piston, the lubricant mainly consisting of castor oil filling said lubricating chamber and the hollow hub and its hollow extension, an air chamber in said hollow extension and a regulating piston in said extension for regulating the pressure in the hub, substantially as described and for the purpose set forth.

944,577. Hydropneumatic Spring. Henri

Oudinot and Charles Putois, Coudray Montceaux, France. Filed Dec. 22, 1908. Serial No. 468,879.

1. A hydropneumatic spring comprising in combination a cylinder filled with suitable liquid, an air chamber filled with air under pressure inclosed in said cylinder, suitable means for guiding said piston in the bottom of the cylinder, an india rubber bag co-operating with the head part of said piston, means for guiding said india rubber bag upon said piston, and means for obtaining a perfect joint between the india rubber bag, the piston and the cylinder, substantially as described and for the purpose set forth.

944,597. Planetary Transmission Mechanism. Alanson P. Brush, Detroit, Mich. Filed April 10, 1908. Serial No. 426,236.

1. In planetary gearing, the combination of a driving shaft, a concentric driven member, and intermediate mechanism including a rotatable transmission member which becomes effective only when its rotation is prevented, a fixed casing in which said mechanism is inclosed, and a multiple disc clutch for frictionally connecting said transmission member to the casing.

944,674. Shock Absorber for Vehicles.

Frank G. Koehler, St. Louis, Mo. Filed July 18, 1907. Serial No. 384,384.

1. The combination with a vehicle frame and an axle, of a shock absorber comprising a pair of bell crank levers, each having an inner arm pivotally connected to and depending from said axle and an arm extending laterally from the lower end of the inner arm and pivotally connected to said vehicle frame, and a compression spring located between said inner arms.

944,675. Shock Absorber for Vehicles. Frank G. Koehler, St. Louis, Mo. Filed Jan. 15, 1908. Serial No. 410,909.

1. In a shock absorbing device for vehicles, the combination with a vehicle body frame and axle, of a pair of bearers having pivotal connection with said body frame at their outer ends, pivoted to said axle at their inner ends and having spring seats, a cushion spring held to the spring seat of one of said bearers, and a take up spring interposed between the spring seats of said pair of bearers, substantially as set forth.

944,676. Shock Absorber for Vehicles. Frank G. Koehler, St. Louis, Mo. Filed May 7, 1908. Serial No. 431,345.

1. In a shock absorbing device, the com-

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bination with a vehicle body and axle, of a hanger carried by said body, bell crank levers pivotally connected to said hanger, a support carried by said axle, links pivotally connected to said support and to which links one arm of each of the bell crank levers is pivotally connected, and resilient means interposed between the other arms of said bell crank levers, substantially as set forth.

944,677. Shock Absorber for Vehicles. Frank G. Koehler, St. Louis Mo. Filed May 13, 1909. Serial No. 495,757.

1. The combination in a shock absorbing device, of a pair of laminated main springs, one of the laminations of each main spring being bent at an angle to the body of the spring to provide a spring arm, and a cushioning spring interposed between the springs arms.

944,772. Anti-Skid Attachment for Vehicle Wheels. Thomas T. Chaloner, New York, N. Y. Filed March 31, 1909. Serial No. 486,866.

An anti-skidding attachment, comprising a body portion, straps integral with said body portion extending from opposite sides thereof, studs for said body portion, means for securing said studs to said body portion, one of said straps being adapted to be threaded through the other of said straps, and means for securing said straps together.

944,783. Vehicle Bearing. Henry Hess, Philadelphia, Pa. Filed Feb. 28, 1906. Serial No. 461,652.

1. A vehicle shield comprising two sections, the lower section having a frame comprising tubular stiles in which the stiles of the upper section are slidably mounted, the stiles of the lower section being slotted to accommodate the upper section; and means for closing the slots.

944,863. Ball Bearing. Henry Hess, Philadelphia, Pa. Filed Feb. 28, 1906. Serial No. 303,389.

1. In a self-contained bearing, the combination of a bearing ring having a race, another bearing ring composed of two parts and having a race, the intersection of the parts of said ring being to one side of the ball contact line, and a retaining ring permanently securing the parts of the two-part ring together, the adjacent faces of the retaining ring and the two-part ring having complementary gripping surfaces.

944,906. Detachable Rim for Pneumatic Tires. Pietro Petracchi, Varese, Italy. Filed Oct. 18, 1906. Serial No. 339,424.

1. A detachable rim for pneumatic tires, divided in its medial portion along a plane perpendicular to its axis, each part provided

with means to hold the outer tire tube, the inner face of the two-part rim being beveled at an inclination to the axis, an annular wedge member arranged to fit between the beveled interior face of the rim and the cylindrical outer face of the felly, and means bearing from opposite directions against the thicker edge of the rim and the wedge member to lock the same together and to the felly.

944,975. Heating of Compressed Air for Use in Motors. William H. Sodeau, Newcastle-upon-Tyne, England, assignor to W. G. Armstrong Whitworth & Company, Limited, Newcastle-upon-Tyne, England. Filed March 25, 1907. Serial No. 364,519.

1. A device for heating compressed air by burning in it a fuel, comprising in combination, a combustion chamber, inlet means for air into said combustion chamber, a deflector situated over the air inlet means and interrupted between the fuel inlet means whereby the main volume of the incoming air is deflected away from the fuel inlet means, said deflector having openings of small area whereby a relatively small quantity of air is passed to support combustion of the fuel issuing from the fuel inlet means.



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**"MERE IMPROVERS, NOT PIONEERS"**

Court so Describes Mabley and Franquist  
Who Challenged Stevens-Duryea Clutch  
—Their Suit is Dismissed.

Manufacturers and designers of cars having a clutch mechanism which is removable without taking out the crankshaft of the engine or the transmission shaft back of the clutch, or without disturbing them, may breathe easier as the result of a decision, on the 12th inst., by Judge Ray, in the United States Circuit Court for the Southern District of New York, involving the patent situation regarding such construction.

The complainant in the case is the Continental Automobile Co., of New York, patentee, as assignee of Mabley and Franquist, alleged inventors of improvements in clutch mechanism and who were at one time identified with the now deceased Smith & Mabley interests in the Simplex car. A. G. Spalding & Bros., the New York dealers, appear as defendants, but inasmuch as the suit relates to the Stevens-Duryea car which they handle, the defense was borne by the Stevens-Duryea Co., of Chicopee Falls, Mass. Judge Ray's finding is for the defendants, and his opinion contains a most exhaustive review of the prior art concerning clutch mechanisms, where easy replacement or removal of clutch parts was sought.

Suit in equity was brought by the complainant to restraint alleged infringement of patent No. 883,552, issued March 31, 1908, to the Continental company, the attorneys in the case being Edwards, Sager and Wooster, with Clifton V. Edwards and Julian S. Wooster of counsel for complainant, and Redding, Greeley and Austin, with William A. Redding and Albert M. Austin of counsel for defendants. The patent concerns "a clutch mechanism, removable as a whole with all of its wearing parts without disassembling, from between the engine and transmission shafts, and without disturbing either of these shafts."

Although the patent describes a construction having a reverse cone clutch, while the Stevens-Duryea car has a multiple disc clutch, there exists a common facility in the case, with which the clutch mechanism as a unit may be taken out with no serious disturbance of the shafts forward or back of it. In his opinion, however, Judge Ray declares that "giving the claims of the patent the broadest construction to which they are entitled the defendant company does not infringe."

"If the function of the mechanism of the patent in suit," says the court at another point in the decision, "is to provide a removable clutch mechanism carried by an intermediate driven shaft, the prior art shows several constructions performing that function and having such intermediate shaft. Mabley and Franquist were not pioneers; they were mere improvers."

**Four More Get Selden Licenses.**

Seventy-three American makers and three importers, who all together represent 79 makes of cars, are now included in the list of licenses under the Selden patent, as the result of several additions made during the past week by the Association of Licensed Automobile Manufacturers. Among the new names are the Courier Car Co., of Dayton, O., making the Courier Car; the Smith Automobile Co., Topeka, Kan., making the Great Smith; the Ohio Motor Car Co., Carthage, O., producing the Ohio; and the Speedwell Motor Car Co., of Dayton, O., manufacturing the Speedwell.

**Stepney Interests Under New Name.**

The Spare Motor Wheel of America, Ltd., St. Anne, Ill., which in addition to introducing the Stepney spare wheel in the United States, also has taken up the manufacture of standard clincher and demountable rims on a large scale, has been reorganized and its capital greatly increased. It will be known in the future as the United States Wheel and Rim Co., Ltd., and plans are made for an expansion which will double the present capacity of 1,000 rims per day.

**[MOVE MADE IN THE SELDEN SUIT**

Ford Called on to Show Cause why Columbia Should not Replace Electric Vehicle  
—Decree will Follow.

The actual entering of the decree in the Selden patent case against Ford and against Panhard & Levassor, which was decided by Judge Hough in the United States Circuit Court for the Southern District of New York last fall, has been advanced toward consummation by the obtaining of an order from the court calling on the defendants to show cause why the name of the Columbia Motor Car Co. should not be substituted as party complainants with George B. Selden in place of that of the Electric Vehicle Co., of which the Columbia company is a reorganization.

The order is returnable April 1 and the defendants must serve complainants' counsel with answering papers on or before March 28. It is also provided that they must show cause why their time for pleading should not be limited to April 11th, and why the time for taking testimony should not be limited and the scope of the testimony limited to the matter of transfer of interest from the Electric Vehicle Co. to the Columbia company.

Whatever postponement or extensions may be granted beyond the dates mentioned are discretionary with the Court, with consideration for cogent reasons and it would not appear that the machinery which has been set in motion should suffer any serious delay in grinding out the decree. With actual entering of the decree a new impulse in the litigation may be expected, since Ford has declared his intention of taking an appeal. The Selden interests will be placed in a position to "foreclose" in those cases where an appeal is not taken, and much more "action" in the litigation generally is promised. In the appealed cases the Court will have discretionary powers as to the amount of bond to be filed.

## U. S. MOTOR TAKES UP ITS TASKS

**Buys Tichenor-Grand Building for Headquarters—Directors Announced—Purchasing Departments Combined.**

The United States Motor Co., having effected its official organization and taken over the general sales management of the products of its constituent companies, which include the Maxwell-Briscoe Co., the Brush Runabout Co., and the Columbia Motor Car Co., has established itself in temporary headquarters at 505 Fifth avenue, occupying the entire ninth floor until the big Tichenor-Grand sales stables and riding academy building, which has been bought for the purpose, can be remodeled to serve as the general offices. The latter building is seven stories high and runs from Sixty-first to Sixty-second street, incidentally overlooking Broadway and Columbus Circle. The value of the property, the purchase of which was consummated this week, is estimated as exceeding \$600,000.

Announcement of the names of those composing the board of directors of the merger was made on Tuesday of this week, the list including Benjamin Briscoe, J. D. Maxwell, Richard Irvin, W. H. Crosby, Henry M. Tobey, J. C. Brady, Herbert Lloyd, Carl Tucker and Kenneth B. Schley. Briscoe and Maxwell are the company's president and first vice-president, respectively, while Irvin, who is the head of Richard Irvin & Co., bankers at 25 Broad street, is chairman of the finance committee. Crosby is assistant secretary of the United States Motor and the Maxwell-Briscoe Motor Co., and Tobey is of the law firm of Ward, Hayden & Satterlee, which is supposed to represent Morgan interests to some degree, as Satterlee is a son-in-law of J. Pierpont Morgan. J. C. Brady is a son of Anthony N. Brady, who is prominent in traction interests and is associated in the Electric Storage Battery Co., of which Lloyd is president in addition to heading the Columbia Motor Car Co. The treasurer of the United States Motor Co., Carl Tucker, who also appears on the board, is Anthony Brady's son-in-law, while Kenneth B. Schley serves as the necessary resident New Jersey director.

In accordance with intention announced by President Briscoe, the purchasing departments of the constituent companies have been consolidated and have been placed under the general supervision of A. R. Gormully, who for the past four years has been the purchasing agent for the Maxwell-Briscoe company.

Henry W. Nuckols, who has been vice-president and general manager of the Columbia Motor Car Co., is slated for the presidency of that company, to succeed Herbert Lloyd, while C. W. Kelsey, who was recently transferred from his position as

sales manager of the Maxwell-Briscoe Co. to a similar position at the Columbia plant in Hartford, will succeed Nuckols as vice-president in addition to handling sales matters.

### Abandons Over-alls for Automobiles.

The Carhartt family, well known in Detroit, Mich., as wealthy manufacturers of "over-alls," is to embark in the manufacture of motor cars. The Carhartt Co. has been organized for the purpose, with a capital of \$500,000, of which \$300,000 is common and the remainder preferred stock. The senior Carhartt is to be president and Hamilton Carhartt, Jr., will be made vice-president and will retire as general manager of the Carhartt over-all factories in Detroit and Toronto. The mechanical department will be in charge of Ralph C. Lewis, who will be secretary also of the company. A factory at 1524 Jefferson avenue is to be ready by April 1 for the production of a car to sell at \$2,500; meanwhile temporary offices have been taken at room 902 Ford building.

### Firestone Capital to be Four Millions.

The Firestone Tire & Rubber Co., of Akron, O., has voted to raise its capitalization from \$50,000 to \$4,000,000, and to offer \$500,000 of the new preferred shares for sale. The company was incorporated in 1900 under West Virginia laws with \$50,000 capital, but at a recent stockholders' meeting a plan was approved by which it will be incorporated under Ohio laws, with \$3,000,000 in common stock and \$1,000,000 in preferred. A new factory is to be built, requiring an outlay of almost \$1,000,000, and the increased capitalization is incident to the program of expansion.

### Electric Vehicle Receivers Discharged.

Final discharge of the receivers of the Electric Vehicle Co., of Hartford, Conn., the bankruptcy of which was followed by its reorganization as the Columbia Motor Car Co., was granted in Superior Court, at Hartford, on the 4th inst. Judge Ralph Wheeler approved the action of the receivers, H. W. Nuckols and H. M. Barrett, in their disposal of the assets and discharged them from further duty as receivers in accordance with their petition.

### General Motors Moves Two Properties.

The Randolph Motor Car Co., of Chicago, Ill., and the MacClean Wheel Co., of Cleveland, O., both of which recently were acquired by the General Motors Co., are to be moved to Flint, Mich. The MacClean company builds a spring wheel of a type used on commercial vehicles.

### Bosch Locates a Branch in Detroit.

The Bosch Magneto Co., of New York, has established a branch in Detroit, Mich., at 870 Woodward avenue; it, of course, carries a complete stock of Bosch magnetos and the parts thereof.

## FRANCE SELLS TO THE FOREIGNERS

**Its Increasing Exportation of Cars Keeps Its Makers Busy—Importations Also Reveal an Expansion.**

Despite the fact that the sale of motor cars in France is almost at a standstill, so far as the Frenchmen themselves are concerned, the export trade has served to keep the native industry at the top of the heap, the exports during the year 1909 showing a substantial increase. While during the year 1908 automobiles valued at 127,299,000 francs (\$25,459,800) were sent from France to foreign countries, this amount increased during the year 1909 to 146,615,000 francs (\$29,323,000), a gain of nearly four million dollars. France shipped more than six times as many motor cars as either England or Germany, while the United States exported less than \$8,000,000 worth in 1909. The principal markets of the French cars were the following:

	1909. Francs.	1908. Francs.
Russia .....	4,409,000	3,327,000
United Kingdom ...	62,844,000	61,056,000
Germany .....	9,902,000	10,456,000
Belgium .....	21,844,000	11,547,000
Switzerland .....	2,937,000	1,930,000
Italy .....	2,885,000	2,180,000
Spain .....	3,336,000	2,843,000
Austria-Hungary ...	807,000	336,000
Turkey .....	597,000	652,000
United States .....	8,053,000	11,003,000
Brazil .....	1,894,000	2,137,000
Argentina .....	6,128,000	4,338,000
Algeria .....	8,851,000	5,403,000

On the other hand, during last year France's importation of motor cars increased over 1908, though falling short of the 1907 figures by over 1,200,000 francs. Imports during 1909 were distributed thus:

	1909. Francs.	1908. Francs.
United Kingdom ....	1,279,000	588,000
Germany .....	2,151,000	2,644,000
Belgium .....	1,209,000	1,007,000
Switzerland .....	756,000	376,000
Italy .....	1,444,000	1,411,000
United States .....	441,000	133,000

### Move to Centralize Whiting Production.

The Flint Wagon Works, which makes the Whiting car, has arranged to centralize its manufacturing operations by moving its engine factory to Flint, Mich., from Detroit, where for the past 18 months the Whiting motors and transmission gears have been made. The machinery from the Detroit plant will be installed in a building adjacent to the home factory in Flint.

### Hopeful Outlook for Petrel Creditors.

The schedule of liabilities of the Petrel Motor Car Co., of Milwaukee, Wis., which recently went into bankruptcy after a brief career in the manufacture of automobiles, indicates that the concern will come close to paying its creditors in full. The liabilities are \$62,458.51 and the assets are placed at \$62,434.67.

**STILL "HAWKING" LINDSAY PATENT**

**Latest Effort to Sell It Revives Reports of an Independent Association—The Patent and Its Status.**

Despite the discouragements they have encountered during the last year or so, the promoters who have been seeking to organize an automobile manufacturers' association around a "basic" rear axle patent, to resist and rival the Association of Licensed Automobile Manufacturers and its Selden patent, continue to attempt the enlisting of "unlicensed" car makers in their project. Their solemn activities, surrounded by a proper air of important mystery, at last have succeeded in breaking into print, with the representation that the movement may assume the dignity of succeeding the defunct American Motor Car Manufacturers' Association, in bringing together the makers who are outside the Selden camp.

To strip away much of the "mystery" and "speculation" surrounding the movement, the patent on which it largely hinges is known as the Lindsay patent, relating to live axle construction and alleged to be basic as applied to full floating axle construction. This patent, No. 748,760, was issued January 5, 1903, to Thomas J. Lindsay, by direct and mesne assignments to himself and Willard Harmon, Indianapolis, Ind., and has been hawked about among the so-called "independent" makers by the promoters for a considerable period. While the American Motor Car Manufacturers' Association still was flourishing, the patent was suggested to that body as a means of combating the aggression of the Selden camp, but after a careful consideration of its merits and possibilities it was let alone.

Various individual makers then in the "independent" or "unlicensed" ranks gave it examination, but failed to see in it the potency ascribed to it by those having it in control, the latter including an attorney in Newcastle, Ind., and E. R. Russell, who still is seeking to make it the nucleus for an organization of "unlicensed" makers. There is also another Lindsay axle patent relating to a peculiar method of framing and of driving by means of gear reduction within the rear wheels, but according to expert opinion it appears to relate principally to electric vehicles.

In the first and chief patent there are nine claims, as granted after the claims had been rejected and amended or altered five different times. Numerous interferences were declared in the Patent Office, and considerable restriction and amendment was necessary before the claims were acceptable. Their general character is indicated by the first, which is as follows:

1. In a motor driven vehicle, the hollow

axle structure adapted to support the vehicle body, said hollow axle structure having an enlarged portion consisting in part of a transversely movable cap, a compensating gear mounted in said enlarged portion, a pair of shaft sections rotatably mounted within the hollow structure, an axial separable driving connection between each shaft section and the compensating gear, and independent means for normally retaining each shaft section against axial displacement, within this structure, said means being movable to permit the outward withdrawal of the shaft sections from the structure.

For a time one of the big axle making companies had a license arrangement under the patent, but later modified its construction and ceased to pay tribute. Investigation by the attorneys of those to whom the patent subsequently was submitted developed an imposing list of other axle patents of similar character.

**Standardized Rims up Once More.**

Owing to the illness of Hugh Chalmers and the delayed attendance of other members, the executive committee of the Association of Licensed Automobile Manufacturers did not hold the meeting which was scheduled for yesterday (Wednesday). Among other matters which the committee was to consider was an appeal from the United Rim Co. for a further consideration by the Association of the proposition for two standard forms of quick detachable rim espoused by the tire makers, who are willing to compromise their patent interests through the rim company in order that standardized types might be manufactured. The tire committee of the Association recently rejected the Rim company's idea, and if the A. L. A. M. executive committee does not see fit to rescue it the standard rim project probably will be abandoned.

**More Trucks Coming from Detroit.**

The Cass Motor Truck Co., organized with a capitalization of \$300,000, has been added to Detroit's roster of makers and intending makers. The company proposes to make a four cylinder, chain drive truck, of one ton capacity, which is to sell for \$1,800. It was designed by Adelbert Banta. The organizers of the concern include John I. Turnbull, George C. Epstean and F. W. Ferguson, real estate men, and Alex. M. Spater, of Spater Bros., wholesale woodenware. Spater is to be secretary and treasurer.

**Bretz Goes for European Visit.**

J. S. Bretz, of the J. S. Bretz Co., New York City, has sailed for a three weeks European trip, in the course of which he will visit the several manufacturers whose products the Bretz company handles in the United States, including U. & H. magnetos, F. & S. bearings and Bowden wire mechanism. His first stop will be in London, after which he will go to Paris, Berlin and Schweinfurt.

**MAYO MAY EXERCISE HIS OPTION**

**Knox's President Likely to Obtain Entire Control of Company—Plans for Reorganization Already Formulated.**

Reorganization plans for the Knox Automobile Co., of Springfield, Mass., are under consideration whereby A. N. Mayo, president of the company, will buy out the interests of the other large holders of the common stock and will retire the preferred stock, following which a new issue may be made, greatly increasing the capitalization. The capital stock at present consists of \$363,000 of common stock and \$494,700 of 8 per cent. cumulative preferred, which latter was issued about two years ago and accepted by creditors in lieu of cash. The company has enjoyed considerable prosperity during the past year, having made a net profit estimated as something over \$160,000, and the preferred shares have risen in value until they now are quoted at about 85. It is retireable at par on call, and President Mayo also is understood to have an option on the common stock held by E. H. Cutler and his brother, and by other large holders, including Peter Murray, Albert E. Smith, treasurer of the company, and W. E. Wright, general manager. The option is in effect to January 1, 1911, and calls for the delivery of the common stock at 80. The full exercise of this option on the common stock and the retirement of the preferred shares would place the control of the Knox company entirely in Mayo's hands. He is at present in Florida and will return in April.

**"Fever" Spreads to Health Resort.**

Having caught the fever from Detroit, which is not far distant, Mt. Clemens, Mich., famous as a health resort, is to have an automobile manufacturing plant. The Mt. Clemens Motor Car Mfg. Co. has filed articles of association, with \$200,000 capital, of which \$75,000 is represented as having been paid in. The incorporators include Robert Klagge, Fred Breitmeyer and Charles Lonsby, of Mt. Clemens, and H. H. Thorpe, of Detroit. Ten acres of land have been acquired for a factory site, between Floral avenue and the Grand Trunk Railway, near Church street, and a building 300x60 feet will be commenced at once. A motor delivery wagon will be the concern's initial product.

**Tuttle to Establish Engine Plant.**

The Tuttle Motor Co. which is to be a reorganization of the D. M. Tuttle Co., is to establish a plant in Canastota, N. Y., for the manufacture of automobile motors. The enterprise is to be capitalized at \$150,000 and the site of the old Patten & Stafford factory has been selected for manufacturing operations.

**THE WEEK'S INCORPORATIONS.**

Dayton, O.—Miami Auto Co., under Ohio laws, with \$10,000 capital.

Chicago, Ill.—Halladay Motor Co., under Illinois laws, with \$5,000 capital.

Cleveland, O.—Van Sciever Auto Co., under Ohio laws, with \$10,000 capital.

Flint, Mich.—Flint Auto Top Co., under Michigan laws, with \$10,000 capital.

Osage, Iowa.—Osage Auto & Supply Co., under Iowa laws, with \$5,000 capital.

Connersville, Ind.—Indiana Lamp Co., under Indiana laws, with \$10,000 capital.

Blackfoot, Idaho.—Idaho Motor Car Co., under Idaho laws, with \$10,000 capital.

Cleveland, O.—Broc Electric Vehicle Co., under Ohio laws, with \$250,000 capital.

Ann Arbor, Mich.—Hartman Garage Co., under Michigan laws, with \$7,000 capital.

Auburn, Ind.—Double Fabric Tire Co., under Indiana laws, with \$10,000 capital.

Denver, Colo.—E. R. Holmes Motor Co., under Colorado laws, with \$50,000 capital.

Cleveland, O.—Schoelkopf Auto Radiator Co., under Ohio laws, with \$25,000 capital.

Bay City, Mich.—Wolverine Auto Co., under Michigan laws, with \$7,500 capital.

Cleveland, O.—Cleveland Auto Trading Co., under Ohio laws, with \$5,000 capital.

Lebanon, O.—Lebanon Auto & Storage Co., under Ohio laws, with \$25,000 capital.

Louisville, Ky.—Banks Motor Car Co., under Kentucky laws, with \$25,000 capital.

Oklahoma City, Okla.—Columbia Taxicab Co., under Oklahoma laws, with \$30,000 capital.

Port Huron, Mich.—Huron Auto Body Co., under Michigan laws, with \$25,000 capital.

Alexandria, S. D.—Alexandria Auto Co., under South Dakota laws, with \$25,000 capital.

Aberdeen, S. D.—Hub City Auto Co., under South Dakota laws, with \$25,000 capital.

North Yakima, Wash.—Western Auto Co., under Washington laws, with \$10,000 capital.

Elkins Park, Pa.—Harvey Automobile Co., under Pennsylvania laws, with \$5,000 capital.

Minneapolis, Minn.—Tri-State Automobile Co., under Minnesota laws, with \$50,000 capital.

Kansas City, Mo.—Motor & Machine Supply Co., under Missouri laws, with \$50,000 capital.

Allenton, Wis.—Washington County Auto Co., under Wisconsin laws, with \$10,000 capital.

Cleveland, O.—Independent Taxicab & Auto Service Co., under Ohio laws, with \$50,000 capital.

Cleveland, O.—Leese-Neville Co., under

Ohio laws, with \$10,000 capital; to manufacture auto parts.

Oklahoma City, Okla.—Severin-Lumbard Tire & Rubber Co., under Oklahoma laws, with \$12,000 capital.

Philadelphia, Pa.—Ideal Auto Tire Co., under Delaware laws, with \$125,000 capital; to manufacture tires.

Philadelphia, Pa.—Ideal Auto Tire Co., under Delaware laws, with \$125,000 capital; to manufacture tires.

Indianapolis, Ind.—McFarland Six Sales Co., under Indiana laws, with \$10,000 capital; general automobile business.

Philadelphia, Pa.—Ideal Auto Tire Co., under Nebraska laws. Corporators—William N. Horn, H. L. and George E. Pritchett.

Madison, Wis.—Harloff-Pence Co., under Wisconsin laws, with \$25,000 capital; to manufacture automobiles and other vehicles.

Janesville, Wis.—Willard Harlow Mfg. Co., under Wisconsin laws, with \$25,000 capital; to manufacture spark plugs and specialties.

Memphis, Tenn.—Jerome P. Parker Co., under Tennessee laws, with \$100,000 capital; to deal in automobiles, carriages and bicycles.

Omaha, Neb.—Western Automobile Supply Co., reorganized under Nebraska laws. Corporators—William N. Horn, H. L. and George E. Pritchett.

Canastota, N. Y.—Tuttle Motor Co., under New York laws, with \$150,000 capital; to manufacture motors. Corporators—D. M. Tuttle and others.

Minneapolis, Minn.—Goosman - Johnson Co., under Minnesota laws, with \$50,000 capital; general automobile business. Corporators—G. W., H. G. Goosman and Louis Johnson.

Washington, D. C.—Lincoln & Ballard, under District of Columbia laws, with \$4,000 capital; general automobile business. Corporators—Fred S. Lincoln, Walter M. Ballard and others.

Philadelphia, Pa.—Hess-Bright Co., under New Jersey laws, with \$5,000 capital; to deal in automobiles and supplies. Corporators—F. R. Hansell, John A. MacPeak and W. T. Eidell.

Chicago, Ill.—Hallway Motor Co., under Illinois laws, with \$5,000 capital; automobiles and other articles of merchandise. Corporators—P. R. Chubbuck, J. C. Barlow and Thomas Ferguson.

Cleveland, O.—The Ignition Co., under Ohio laws, with \$100,000 capital; to manufacture electrical apparatus. Corporators—G. O. Welch, James Bachman, J. Foster, Jr., R. Inglis and R. J. Buckley.

Buffalo, N. Y.—Niagara Gasoline Motor Co., under New York laws, with \$50,000 capital; to manufacture motors, engines, supplies, etc. Corporators—C. Jempson, M. M. Hedden and D. M. Billington.

Ridgewood, N. J.—Baldwin & Covert, under New Jersey laws, with \$50,000 capital; to operate garages, etc. Corporators—M. D. Baldwin, Ridgewood; O. S. Baldwin, Brooklyn, N. Y.; L. Covert, New York City.

Buffalo, N. Y.—Federal Motor Co., under New York laws, with \$10,000 capital; to manufacture motors and motor cars. Corporators—Henry A. Dann, Troilus C. Koons, Ernest C. Anderson and Clyde R. Sikes.

Mt. Clemens, Mich.—Mt. Clemens Motor Car Mfg. Co., under Michigan laws, with \$200,000 capital; to manufacture motor cars. Corporators—Robert Klagge, Fred Breitmeyer, Charles Lonsby, Mt. Clemens; H. H. Thorpe, Detroit.

Detroit, Mich.—Cass Motor Truck Co., under Michigan laws, with \$300,000 capital; to manufacture commercial vehicles. Corporators—John I. Turnbull, George G. Epstein, F. W. Ferguson and Alexander M. Spater.

Chicago, Ill.—Aero & Auto Tavern Co., under Illinois laws, with \$25,000 capital; restaurant, hotel, automobile and merchandise business. Corporators—William L. Carlin, Herbert C. Hall and Frederick McH. Kitching.

Watertown, N. Y.—Gould Automobile Co., under New York laws, with \$500 capital; to manufacture automobiles and accessories, etc. Corporators—A. W. and W. L. Gould, Watertown; W. S. Rice, Adams, Jefferson County, N. Y.

New York, N. Y.—Orson Automobile Co., under New York laws, with \$10,000 capital; to manufacture motor cars. Corporators—Percy A. Rockefeller, H. O. Havemeyer, Frank A. Vanderlip, Horace M. Kilborn and Charles G. Gates.

Syracuse, N. Y.—Globe Malleable Iron & Steel Co., under New York laws, with \$300,000 capital; foundry and machine shop; to manufacture malleable iron castings. Corporators—A. T. Brown, W. C. Lipe, Syracuse; F. H. Gates, Chittenango, N. Y.

New York, N. Y.—Studebaker Vehicle Co., under New York laws, with \$8,600,000 capital; to manufacture and deal in engines, motors, etc.; also automobiles, motorcycles, boats, wagons and other vehicles. Corporators—F. P. Delafield, New York City; Clement Studebaker, Jr., Frederick S. Fish, South Bend, Ind.

**Increases in Capitalization.**

Chicago, Ill.—Automobile Maintenance & Mfg. Co., from \$30,000 to \$100,000.

Detroit, Mich.—Lozier Motor Co., of Michigan, from \$10,000 to \$2,000,000.

Jackson, Mich.—Frost Gear & Machine Co., manufacturers of auto parts, from \$60,000 to \$100,000.

Detroit, Mich.—Gies-Hoyt Mfg. Co., manufacturers transmission gears, from \$10,000 to \$50,000; Eby Motor Parts Co., from \$5,000 to \$15,000.



## IN THE RETAIL WORLD.

Lake City, Fla., is to have a new garage; C. E. Windhovel and J. A. Briere are building it.

John C. Bowman and others, of Lebanon, Pa., are making ready to erect a garage in Cumberland street.

Joseph Williamson, Jerseyville, Ill., has rented the Bowman building on East Pearl street and will open a garage. Renting also will be featured.

The Bluffton Auto and Electric Co. has opened a new garage on West Market street, Montpelier, Ind. The building is of brick and cost \$2,750.

A. J. Schnell is building a new brick garage 40x75 feet, to cost \$2,000, at 119 Jefferson avenue, Scranton, Pa. He will handle Pullman automobiles.

Thé McIntyre Automobile Co., Omaha, Neb., now is established in its new garage at 2203 Farnam street. It handles the Welch, Oakland, Staver and Gleason cars.

A. G. Spalding & Bros., Philadelphia branch, which long has handled Stevens-Duryea gas cars, has "gone into" electrics also; the Babcock is the line selected.

Louisville, Ky., has a new automobile firm in Fulton, Conway & Co., which has established itself at 819-821 West Main street. It will handle the E-M-F. and Flanders cars.

Beaver & Barber, Lincoln, Ill., have "opened up" in that place in a new brick and concrete garage 45x90 on Logan street. They will represent the Chalmers, Hudson and Haynes.

Mernitz Bros., Freeport, Ill., have purchased the garage of Fred Jastram. The latter will enter the manufacturing field, confining himself to the production of gasoline engines.

D. A. Myers, Wichita, Kan., has felt the call of the trade and embarked in business for himself. He has taken on the Elmore line and will have show rooms at 156 North Emporia avenue.

W. H. St. John, Oshkosh, Wis., has acquired the interest of J. C. Zimmerman in the Green Bay Motor Car Co., of the latter city. The new partner will remove to the scene of his latest venture.

After being out of commission during the winter months, the Goshen Auto Tire Repair Co., Goshen, Ind., has taken down its shutters and is again open for business. R. C. Jones will continue as manager.

Pretentious new quarters are being provided for the Hughes Auto Co., of Hastings, Neb., adjoining the Lepin Hotel. The new building is 45x125 feet, of pressed brick and steel girders, with plate glass front.

J. J. Meyer, Orange, N. J., who operated a garage on Cone street, has acquired the White Automobile Co., 494 Main street, East Orange, to which location he has removed. He will continue to handle Auburn cars.

The Lord Motor Car Co., Los Angeles, Cal., will open a branch garage and sales-

room in Pasadena during the current month. The building, which will be one of the best appointed motor car establishments in Southern California, will be two stories, 56x258, and will have complete machine-shop facilities.

The Standard Motor Car Co., Nashville, Tenn., is the corporate title of a new concern which has been organized by F. O. Draughon to do a general repair and livery business. It is located at Seventh avenue and Broadway.

The Russell Motor Car Co., New Orleans, La., which recently took possession of new quarters at 2120-2130 Canal street, is building an addition which will be used as a machine shop. It handles the Glide, Regal and Ford lines.

Work soon will be begun on a large addition for the O. G. Roberts Automobile Co., Columbus, O., which will double their floor space. Their establishment is located on East Gay street and is the home of the Stearns, Overland and Marion cars.

Frank P. Fox, a well known motorist of Vincennes and Terre Haute, Ind., is preparing to enter the trade in Indianapolis. He has secured the state agency for the Pope-Hartford and will open salesrooms on North Capitol avenue next month.

The Reimers Motorcar Co., of Louisville, Ky., has taken possession of a new garage and repair shop, of concrete and brick, 52x125 feet. Offices and salesrooms are located on the second floor, and room for eighty cars is provided for in the garage itself.

R. B. Daggett & Co., San Francisco, Cal., who are located at 1630 Van Ness avenue, have undertaken the exploitation of Baker electrics for that territory. They also have established a chain of charging stations at Oakland, San Jose, Mayfield and Berkeley to better care for their patrons.

The H. W. Meier Automobile Co., Long Grove, Ia., will move to Davenport, that state having taken a three years' lease of the old power house building on Brady street. The structure will be completely remodeled for the new occupants, who will market the Reo and Jackson cars.

Oliver B. Brown, formerly of Jackson, Miss., has secured the Stevens-Duryea agency for New Orleans, and will remodel the building at 605-607 Baronne street, in the latter city, into a handsome show room and garage. He will take possession as soon as the alterations are completed.

The Reliance Truck & Garage Co., Columbus, O., is the title of a new firm which has been launched in the Buckeye capital to handle Reliance trucks. Theodore Leonard, Andrew Timberman and George C. Bohn are the leading spirits in the enterprise, which is located at Third and Lynn streets.

Lincoln & Ballard, Inc., Washington, D. C., is the style of a new firm just formed in the capital to take over the business of Fred S. Lincoln, which includes the Spoerer agency. Pending the acquirement of com-

modious quarters on Fourteenth street, the firm will be located at 612 Twelfth street, N. W.

The Johnson Auto Co., Boone, Ia., is preparing to invade the town of Nevada, that state, having closed negotiations for a building 50x100 feet located on the west side of Lynn street. When alterations now in progress are completed the establishment will be opened in charge of J. R. Davidson.

With the admission of several old employees to partnership in the firm, the Totten Auto Co., Rock Island, Ill., has been organized, with W. C. Totten, president, to take over and operate the automobile business of the latter. Elbert G. Don and Frank T. Lynch constitute the new blood in the enterprise.

The W. H. Quackenbush Co., Westfield, N. J., which handled automobiles and bicycles, has run upon financial shoals and Lloyd Thompson has been appointed receiver. The company's liabilities are \$3,700, and unless creditors will agree to a year's extension, it is probable that the assets will yield but 40 to 50 cents on the dollar.

Indianapolis, Ind., has another new automobile enterprise in the Co-Auto Motor Co., which has established itself at 23-25 Kentucky avenue. The firm is composed of several prominent local tradesmen, including John H. Lavison, H. W. Woodmansee and F. W. Weise. Among the line which will be handled are the Stearns, Jackson, Fuller and Monitor trucks.

Following the amalgamation of the Maxwell-Briscoe Motor Co. and the Columbia Motor Car Co., and the announcement that agents of the former line also would handle the Hartford product, R. D. & C. O. Britton, Hartford, Conn., who have handled the Maxwell for several years, have secured the Columbia representation for several counties in the Nutmeg State. They are located at 117-119 Allyn street.

Clinton, Iowa, has a new enterprise in the Hopkins Motor Car Co., which will open salesrooms in the Shoecraft building, First street and Fifth avenue, in a few days. It will handle the Jackson and Fuller lines. G. V. Drake and D. Vanes, two young mechanics of Jackson, Mich., have selected Coldwater as a lucrative field for a garage and repair shop which they will launch shortly. Both have had several years factory experience.

Brown, Thompson & Co., Hartford, Conn., one of the pioneer motor car firms of that city, have begun the construction of a handsome three story service building to better care for the wants of owners of Stevens-Duryea, Lozier and Cadillac cars, for which they are sales agents. The structure, which will be the largest and best appointed motor car establishment in the state, will be located on Temple street, adjoining the firm's present garage and will be 132x108 feet, and brick, concrete and steel will enter into its construction.

### The Changes in Fuller's Affairs.

Mingled wrath and surprise surged in the breast of Harry Fosdick, of the Hol-Tan Co., New York, when last week a trade paper gravely announced that he had been given the management of a branch which the Packard company was to establish in Boston. Similar feelings also afflicted Alvan T. Fuller, the Packard agent in Boston, especially when the error was compounded by a second item stating that upon giving up the Packard agency he would devote himself to the taximeter cab business. What really has happened is that Fuller, who will continue to hold the Packard agency, has relinquished the Cadillac agency, to the extent that after July 1 it will be conducted by Alfred Measure under the name of the Cadillac Automobile Co., of Boston, with headquarters at 372 Boylston street. Measure has been in charge of Fuller's service depot in Brighton. L. W. Conkling, assistant sales manager of the Packard company at Detroit, has resigned that position to become Fuller's office manager.

### Slight Increase in February Imports.

According to the report of George W. Wanamaker, appraiser of the port of New York, 68 automobiles of the total appraised value of \$134,366, were imported during February, 1910, in comparison with 60 cars valued at \$131,870 in February, 1909, and 107 cars valued at \$224,531 in February, 1908. For the first two months of the year, 1910, the figures show 142 cars, valued at \$290,288, compared with 117 cars, valued at \$270,832, and 216 cars valued at \$453,850 in the same period of 1909 and 1908, respectively.

### Four Wheel Drive Wants a Factory.

Zachow & Besserlich, of Clintonville, Wis., who have developed a four-wheel drive car, have made a proposal to Wichita, Kan., to establish a \$200,000 factory in the latter city. F. H. Dean, of Seymour, Wis., represents the company in the negotiations and is endeavoring to learn how much Wichita is willing to give toward the enterprise.

### Diamond to Build in Boston.

The Diamond Rubber Co. has completed the necessary arrangements for the erection of a new garage on Boylston street, Boston, in which its New England branch will be housed. It will be an imposing structure and a distinct addition to the automobile district of the Hub.

### Kincaid Starts His Own Company.

The Kincaid Oil Co. has been started in Providence, R. I., to supply motor car lubricants. Its moving spirit is William Kincaid who formerly was with another oil concern in Providence.

### Another Carriage Company in Line.

The Racine-Sattley Co., of Racine, Wis., a big producer in the carriage trade, is making arrangements to manufacture automo-

biles. Four and six cylinder models are planned, the motors for which are being made by the Holbrook-Armstrong Co., engine builders of Racine, whose plant adjoins the Sattley works.

### Two Efforts to Reduce Duties.

Imported security bolts or lugs for automobile tires, instead of being dutiable at 45 per cent., are entitled to duty at the rate of 1½ cents per pound under the provision in the tariff law for "bolts, whether of iron or steel," according to a decision of the Board of United States General Appraisers, sustaining a claim filed by Charles Dien against the ruling of the collector at New York City. The collector returned the articles for duty at 45 per cent. under the provision for "manufactured articles not specially provided for, composed wholly or in chief value of metal." In deciding for the importer the board finds that "the article is actually an iron or steel bolt, and there is nothing in the record to indicate that the leather and cotton material added thereto represents other than a small part of its value."

Less successful, however, was the effort of William H. Stiner & Son to secure a reduction from the 45 per cent. duty in the case of automobile parts which they imported. The appraisers could not see that the parts should be classed as "steel shapes," as contended by the importers and which would give a lower rate, and the collector was sustained in assessing the full 45 per cent.

### Newark Association Elects New Member.

At a meeting of the executive committee of the New Jersey Automobile Trade Association, held in Newark, N. J., on the 4th inst., the Weldon & Bauer Co. was elected to membership. It was decided to hold the annual meeting, election of officers and dinner on Wednesday night, March 30.

### Creditors Get 96 Cents on the Dollar.

The Chicago Vulcanizing Co., of Chicago, Ill., which some time ago was placed in the hands of a trustee in bankruptcy, with \$50,000 liabilities to 226 creditors, has paid 96 cents on the dollar. John H. Kelly, the trustee, has been discharged and the business will be continued.

### More Freight Cars for Automobiles.

Increased recognition is being given to the needs of the automobile industry by the railroads. The American Car & Foundry Co. has received an order for 2,000 new cars of special length and door width for the requirements of motor car shippers.

### Toops to Manufacture Specialties.

The Toops Auto Hood Co. has been formed in Indianapolis, Ind., with a capitalization of \$25,000, to manufacture automobile specialties. The directors are Emory D. Toops, Frank Schlusser and C. B. Clarke.

### Special Cars for Wall Street Men.

Taking a little "flyer" in automobile manufacture, about 100 men prominent in Wall street financial circles have "chipped in" enough to start an enterprise which has been incorporated with \$10,000 nominal capital and which is to be called the Orson Automobile Co. It is planned to build a 40 horsepower car for each of the stockholders at cost, after which the concern may build cars for outsiders if conditions seem favorable. Horace M. Kilborn, vice-president of the National City Bank, is credited with originating the project, and Frank A. Venderlip, Charles G. Gates, H. O. Havemeyer, Myron T. Herrick and Percy Rockefeller are among those in the group. One car already has been built and is being exhibited in a basement at 50 Wall street, and a factory at Springfield, Mass., is being considered.

### Lauth-Juergens Gets a Factory.

The Lauth-Juergens Motor Car Co., of Chicago, Ill., which has been operating in a small way, has arranged to establish a factory at Fremont, O., for the manufacture of pleasure cars and commercial vehicles. It is intended to have the factory running by the first of April.

### Lozier Selects Site in Detroit.

The Lozier Motor Co. has selected a site for its factory in Detroit, Mich. It has purchased 60 acres of land on Mark avenue, running from St. John's avenue to Conner's creek, paying a price estimated at \$72,000. The site is in St. Clair Heights, a Detroit suburb.

### Boat Makers to Build Bodies.

The Racine Boat Mfg. Co., of Grand Rapids, Mich., in addition to its boat building activities, has taken up the manufacture of automobile bodies. It will supply the requirements of the Henry Motor Car Co., of Grand Rapids.

### Sandusky Makes Schacht an Offer.

The Schacht Automobile Mfg. Co., of Cincinnati, O., is negotiating for the removal of its factory to Sandusky, O. The Sandusky Business Men's Association has made the company an offer which makes the transplantation attractive.

### Kilgore Opens New York Offices.

The Kilgore Mfg. Co., of Boston, Mass., has established headquarters in New York City. It has taken a suite of offices at 1296 Broadway, from which the sale of its shock absorbers in the metropolitan district will be handled.

### Wisconsin Reports a Sawdust Fuel.

What is claimed to be a new fuel for motor cars has been invented by two young men of Rhinelander, Wis. It is made by the action of fulminic acid on hardwood sawdust and is fed to the carburetter and engine in the usual way.

**BOSTON SHOW IS TO BE "LICENSED"**

**Hub Dealers Gather Under a Selden Standard—New York Association Placatory, but Los Angeles Defiant.**

Organization of dealers handling cars licensed under the Selden patent, having been applied to Los Angeles and to New York, has been extended to Boston, where a Massachusetts corporation has been formed which is to be known as the Boston Association of Licensed Automobile Dealers. Meanwhile the New York association is getting itself into working shape and is making its peace with the racing interests and with the New York Automobile Trade Association, which has refused to be shelved as a corpse; while the Los Angeles association, on the other hand, is defiantly maintaining its position of ruling "unlicensed" cars out of competition in which its members participate, despite the threats of the contest board of the American Automobile Association.

The officers for the Boston association have been chosen as follows: John H. MacAlman, Columbia and Stearns, president; J. S. Hathaway, White cars, vice-president; F. A. Hinchcliffe, Winton, treasurer, and Chester I. Campbell, secretary. The directors include the officers and J. W. McGuire, J. W. McGuire & Co. (Pierce); J. W. Bowman, J. W. Bowman Co. (Stevens-Duryea and Everitt); S. P. Underhill, The Underhill Co. (Knox); C. F. Whitney, Park Square Auto Station (Alco and Stoddard-Dayton); E. D. Gilmore, Whitten & Gilmore Co. (Chalmers and Hudson), and F. E. Wing, the Marmon agent. The association lists 36 of the licensed dealers, of whom there are said to be about 40 in the Hub.

It is indicated that the licensed dealers are to capture the next Boston show as their own. The fact that Campbell, who has managed the Boston shows in the past, is the secretary of the organization, serves to confirm it, and the program provides that he shall again be the manager, but this time for the association.

The New York Association, to quell the antagonism which was aroused by the proposed restrictions on its members forbidding their taking part in contests or exhibitions where unlicensed cars were permitted, has stricken the following astonishing clause from the by-laws:

"Any member who either directly or indirectly enters an exhibition or competes in a competition with an unlicensed car shall forfeit his membership."

Headquarters have been established in the Thoroughfare building at Columbus Circle, and a temporary arrangement effected by which James M. Carples is to act as general manager of the Association. At the same time the older organization, the New York Automobile Trade Association, has

elected W. M. Haradon, of the Victor Auto Storage Co., as president, to succeed General John T. Cutting, and has added three new members.

**Macauley Becomes Packard's Manager.**

S. D. Waldon having been elected vice-president of the Packard Motor Car Co., of Detroit, Mich., his duties as general manager have been assumed by Alvan Macauley, who resigned the general management of the Burroughs Adding Machine Co. to accept his new responsibilities. Macauley who started as a patent attorney in Washington, was with the National Cash Register Co., of Dayton, O., for seven years before going with the Burroughs enterprise eight years ago.

**Paddock Again Heads Jersey Showmen.**

The New Jersey Automobile Exhibition Co., an association formed originally for conducting the annual automobile show in Newark, N. J., held its yearly election on the 5th inst. George Paddock and Horace A. Bonnell were again chosen as president and secretary-treasurer, respectively, and W. H. Ellis was made vice-president to succeed Dr. James R. English, who is convalescing in California.

**Pittsfield Coil Chooses Officers.**

The Pittsfield Spark Coil Co., of Dalton, Mass., held its annual meeting of the stockholders on the 11th inst., and elected officers. Michael Casey, president, and William P. Wood, treasurer and manager, were re-elected, and William T. Peterbridge was made clerk. The board of directors chosen includes Michael Casey, William P. Wood, Thomas J. Wetzel, Zenas Crane and Charles A. Byram.

**Metzger to Build Huge Truck Plant.**

The Metzger Motor Car Co., of Detroit, Mich., is to build a large separate plant for the manufacture of Hewitt motor trucks, formerly made by the Hewitt Motor Co., which the Metzger company absorbed. According to William E. Metzger, a \$250,000 plant will be built for the purpose, on a 20 acre site which has been selected.

**Empire Invades Indianapolis.**

Another addition has been made to the long list of Empire tire branches, the latest claim to be staked being in Indianapolis. Ind., where salesrooms have been opened at 208 North Delaware street. Charles Weiland presides over the new establishment, which is the first direct factory branch in the Indiana metropolis.

**Cramp Acquires Federal Steel.**

The William Cramp & Sons Ship & Engine Building Co., of Philadelphia, Pa., which in addition to its other activities is conspicuous in the automobile parts trade, has purchased the Federal Steel Castings Co., formerly the Delaware River Steel Co. The plant employs about 500 men.

**GERMANY TOO GOOD TO AMERICANS**

**Official Friendliness in Exposition and Patent Matters Arouses Popular Disapproval—Berlin Project Postponed.**

Not only are Germans annoyed over the fact that the recent patent treaty between the United States and Germany is working more to the benefit of Americans than Germans, but opposition also has arisen to the proposed American exposition in Berlin, which necessitates that affair being postponed for a year, in order that new arrangements may be made for it. In both cases the acts of official Germany in its friendly intent toward American manufacturers have resulted in the displeasure of what may be termed popular Germany, as distinguished from the official.

American manufacturers of motor cars who expressed their intention of exhibiting in the automobile section of the American exposition at Berlin this summer are being advised that the American executive committee of the affair has decided upon a postponement until 1911, when the exhibition probably will be made German-American in character, staging products of both countries, instead of appearing as an American industrial invasion. Members of the committee will visit Berlin in the near future, to negotiate an arrangement of this kind.

The patent treaty, whereby the working of an invention in America gives it the same standing before the German patent office as though it were worked in Germany, has been denounced in the Reichstag as one-sided, inasmuch as the United States does not require its own citizens to work their patents here in order to obtain American protection.

**Adams to Make Automobile Cabs.**

Adams Bros. & Co., of Findlay, O., an established foundry concern, is to manufacture motor cabs. James T. Adams, of the company, has completed negotiations for the purchase of the machinery of an automobile plant now located in Portsmouth, O., which will be removed to Findlay, and stock parts are to be supplied from Chicago.

**Ford Buys for a Detroit Salesroom.**

The Ford Motor Co., of Detroit, Mich., has bought 117 feet frontage on Woodward avenue, at the northeast corner of its intersection with Grand boulevard. It is intimated that the site will be used for one of the largest automobile sales establishments in Detroit.

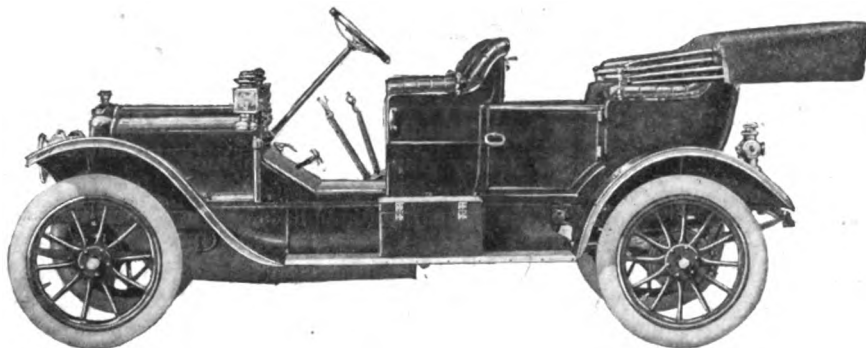
**Parry May Pull up Stakes.**

The Parry Auto Co. is restless in Indianapolis, Ind., and has permitted it to be known that it may move. Buffalo, N. Y., has been named as the probable future home of the company.

Some Features of the

# White Gasoline Car

which result in unusual  
Economy of Up-Keep



The White gasoline car is designed and built to run at a lower cost of up-keep, mile for mile, than any other car on the American market. Some of the factors which insure economy both in fuel consumption and in cost of maintenance are:

### Intake Gases Heated

By including the intake passages within the block engine casting, the intake gases are heated. As a result, every particle of gasoline is completely vaporized and each cylinder receives a uniform mixture of the proper richness, thus ensuring very low fuel consumption.

### Exhaust Gases Cooled

By water-jacketing the exhaust passages, the temperature of the exhaust gases is reduced as soon as they leave the cylinders. As a result, the pressure of these gases is greatly reduced and there is a minimum loss of power due to back pressure. This factor also results in low fuel consumption.

### Four-Speed Transmission

The direct drive is on third gear and practically all driving in town is done on this gear. For high-speed running, the fourth gear is used. There is, therefore, no racing of the engine and no undue strains upon it when the car is run at high speed. Furthermore, the engine may always be run at very close to its most economical speed.

### Valve Mechanism Enclosed

There is no chance for dirt and grit to work their way into the bearing surfaces and cause wear and faulty timing, as is the case when the valve mechanism consists of a series of external and unprotected springs, rocker-arms, push-rods, etc.

### Accessibility of Every Working Part

The cost of making an ordinary adjustment on any car is determined largely by the accessibility of the several parts. In the White, accessibility has been developed to a much greater degree than in any other car. For example, as there are no external manifolds, or no overhead valve contrivances, a valve may be removed for regrinding without removing or disturbing any other part. As another example, the magneto and water-pump are on opposite sides of the engine and are driven independently, so that either may be reached without disturbing the other.

Write for catalog of the White Steam and Gasoline cars.

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### Confidential Information that is Necessary.

The ways of high finance and the methods employed to impress the stock market frequently are past understanding. Out in Detroit someone has been supplying the newspapers with copies of the quarterly report of the Association of Licensed Automobile Manufacturers, which shows the number of cars manufactured and the amounts of royalty paid by the various licenses, the publication of which easily may be made to serve many and peculiar purposes.

It is information of the most confidential character, and heretofore has been treated as such. On its face, it shows the volume of business transacted by the several manufacturers, and the figures disclose such varying states of activity that their publication is not calculated to serve the interests of all of those concerned, whereas a showing of an apparently overpowering demand for a particular car might help further the sale of stock which the manufacturer might

have for sale and who, with an eye on the ticker tape, has had himself designated as a repository for such stock that he may the better influence the figures which appear on such tape.

The Detroit disclosure of the confidential information is accompanied by a hurrah from the chief camp of the General Motors' trust. The figures "prove," says the hurraher, the great demand for the trust's goods.

But does anyone in the camp desire to deny the report that has been current for some time, that no small part of the "demand" and the consequent shipments have represented cars routed to its branches which represent not sales to agents or to individual buyers, but merely manufactured cars, of which not a few are in storage in various parts of the country?

Confidential information on this point—especially if it appears in print—would be of real assistance to all who incline to purchase shares in any company.

### The On-Coming of Amateurism.

Although the Florida speed carnival and the opening of the Los Angeles board track are of greater and more immediate public interest, from the standpoint of automobile sport, nothing is more significant or holds more hope than the organization of the Amateur Automobile Contest Association and the team contest arranged between the Crescent Athletic Club and the Long Island Automobile Club. Each is an evidence of the on-coming of genuine amateurism—of indulgence in the sport for sport's sake, without which there will be no sport at all when the present great wave of commercialism spends itself.

If the Amateur Automobile Contest Association does not permit itself to be carried away with the idea that because its members are men of means and more or less prominence, it can defy established authority and respect only such rules and conventions as it cares to respect, it is capable of much good influence; and unless the established authority—the American Automobile Association—alters its position and respects the fundamentals of amateurism, the time may not be far removed, when it may become advisable and necessary to use the Amateur Automobile Contest Association as the foundation for a truly national amateur governing body. The present A. A. A. rule is not an amateur rule at all. It is in direct conflict with the rule that has obtained in practically all of the older and

long established sports in that it forces amateurs to compete with professionals and thereby jeopardize their standing in all other sports, and it unfairly and automatically discriminates against and professionalizes the men of one particular profession or industry.

The true sportsman does not ask odds of or run away from any man, no matter what his profession, and the act of making or selling an automobile, a tire or a spark plug or the holding stock in a company making or selling such goods does not and cannot make a man any more expert in driving an automobile than the manufacture or sale of shotguns makes a man engaged therein an expert or professional marksman. Every sportsman or alleged sportsman must be weighed on his own merits and be judged by his individual acts.

The stock brokers and others who comprise the Amateur Automobile Contest Association have need to learn this lesson. The A. A. A. already is old enough to have learned it, and if it does not heed it ultimately it may have occasion to reap a harvest of barren regrets.

### Dabbling that Courts Danger.

As is apt to be the case when any new art or process is introduced, certain unpleasant possibilities may attend the use of the autogenous welding process by careless and ignorant workmen unless extraordinary measures of precaution are taken by those who undertake the design and production of the special apparatus which is necessary. But entirely beyond their control is a certain peril which oddly may arise from the general and successful adoption of the oxygen burner under conditions which are properly safeguarded. For with the growing confidence of manufacturers and repairmen in a system which is thoroughly practical in its nature when correctly handled, there is an inevitable tendency for dabblers to experiment with home-made and more or less extemporaneous plants and under circumstances which render operation far from safe. This tendency, indeed, already has begun to manifest itself to the extreme disgust and alarm of some of the manufacturers of welding systems.

An illuminating instance in point came within the experience of one firm which specializes in welding outfits for garage use. Through a skeptical inquirer, who had been regarded in the light of a potential customer, it was learned that an acquaintance of his had had various spectacular and more or

less dangerous accidents while using the vendor's system. As the latter had been particularly watchful of all systems sent out, and had heard of no accidents of the sort described, he was especially interested to learn more of the troubles of the friend, and ultimately discovered that the difficulty had arisen as a result of using an acetylene generator of the sort designed and built exclusively for car lighting purposes in connection with compressed oxygen. A light portable generator, unprovided with flow regulator or anti-blowback safeguards, ensured ideal conditions for accident. And it developed that the friend had grown thoroughly accustomed to having his generator blown up without warning, and was equally accustomed to reassembling it and going on with his interrupted work.

Such instances are as much to be deplored as they are certain to continue for a time, until garagemen of the foolhardy sort have learned that, like nitroglycerine and other high explosives, the oxygen flame is safe to handle only under certain restricted conditions. Such conditions, are thoughtfully provided by the manufacturers of autogenous outfits, whether of the oxy-acetylene or oxy-gasolene order. Furthermore, most producers of such apparatus are watching over their customers to the extent of keeping track of their experiences, and glean all possible information in regard to the advantages and shortcomings of their own and over their customers to the extent of keeping other systems. Their activities in investigating the causes of all accidents which occur is a particularly important effort which is deserving of every encouragement.

Just so long as oxygen gas is used in connection with such impetuous compounds as acetylene, hydrogen, gasolene vapor or any of the other gases which are applicable to the high temperature combination flame or to the autogenous flame, there will be some danger to the heedless operator. It also follows that occasional mishaps arising from abuses of one sort or another, will continue to cast more or less suspicion upon the entire class of operations. But so long as those who are responsible for their development continue to protect them to the best of their ability, the public, and more particularly the trade to which their success is of vital interest, should regard with tolerance any mishaps which occur and should do their best to submit to and assist in the educational work which is necessary to the successful introduction of what must be con-

sidered one of the greatest and most useful implements which has yet been brought within the reach of the automobile manufacturer and repairman.

#### More Light to Suppress Dazzle.

From the layman's simple-minded point of view, the essence of homoeopathic doctrine is, "for a condition symptomatic of poisoning, administer more poison of a sort which ordinarily would produce like symptoms." Somewhat the same sort of logic is that which induces an overseas authority to suggest as a remedy for glaring headlights, not a reduction in the offending light, but increased illumination of immediately surrounding objects. Ridiculous as the idea appears at first thought, its basis of reason is apparent so soon as the mental optic becomes accustomed to the glare of the apparent contradiction.

Light values are measured only in a relative sense by the human eye; and mainly in terms of surrounding values; the proverbial and historic rush light is of more value in the gloom of a sub-basement than a high power Nernst lamp on a roof in broad daylight. So it is true that the painful sensation accompanying the sudden apparition of a gas headlight in the midst of a lonely road on a dark night is due in large measure to the dead black contrast of the surroundings. Hence, the proposal to diffuse a measure of side and down light effect is reasonable to the degree that besides reducing the contrast it would define the approaching vehicle to the wayfarer. Complaints against the glare of headlights in illuminated city streets, enforced by law in many instances, are proof positive that the measure would be a palliative rather than an absolute remedy, however.

The stern move which was made by Chairman Butler, of the contest board of the American Automobile Association, in promptly suppressing the heralding throughout the country of results of the unofficial Florida time trials as "records," is a most commendable one. The annals of automobile racing have been badly blotted with offensive press work of the sort and it was high time for the situation to be taken boldly in hand. With the establishment of this absolute precedent in motor racing control it is to be hoped that a final check will be placed upon the broadcast advertisement of unsupported claims for honors which are unearned and which serve only to confuse.

## COMING EVENTS

March 14-19, Fort Worth, Tex.—Fort Worth Automobile Dealers' Association's first annual show in Coliseum.

March 15-19, Syracuse, N. Y.—Syracuse Automobile Dealers Association's annual show in State Armory.

March 14-19, Cedar Rapids, Ia.—Automobile show in Auditorium.

March 17-19, Louisville, Ky.—Louisville Automobile Dealers Association's annual show in Armory.

March 19, Altadena, Cal.—Annual Pasadena-Altadena hill climb.

March 19-26, Aberdeen, S. D.—First annual automobile show.

March 20, San Francisco, Cal.—San Francisco Motor Club's hill climb on Nineteenth avenue hill.

March 21-26, Spokane, Wash.—Spokane Automobile Dealers' Association's first annual show in Princess Rink.

March 22-24, Daytona, Fla.—Florida East Coast Automobile Association's eighth annual beach speed carnival.

March 26, Atlanta, Ga.—Atlanta Journal & Fulton County Automobile Club's joint hill climb.

March 26-April 2, Montreal, Can.—Fourth National Automobile and Sportsmen's show.

March 26-April 2, Pittsburg, Pa.—Pittsburg Automobile Dealers Association's fourth annual show in Duquesne Garden.

March 28-April 2, Indianapolis, Ind.—Indianapolis Automobile Trade Association's first annual show in individual show rooms.

March 28-29, Savannah, Ga.—Savannah Automobile Club's 675 miles endurance run to Jacksonville, Fla.

April 9-16, Elmira, N. Y.—Elmira Chamber of Commerce's first annual automobile show.

April 5-6, Amarillo, Tex.—Amarillo Automobile Association's race meeting.

April 8-17, Los Angeles, Cal.—Inaugural meet on the new Los Angeles Motordrome.

April 11-18, Springfield, Mo.—Springfield Chamber of Commerce's first automobile show.

April 18-23, Bangor, Me.—Second annual automobile show in Auditorium.

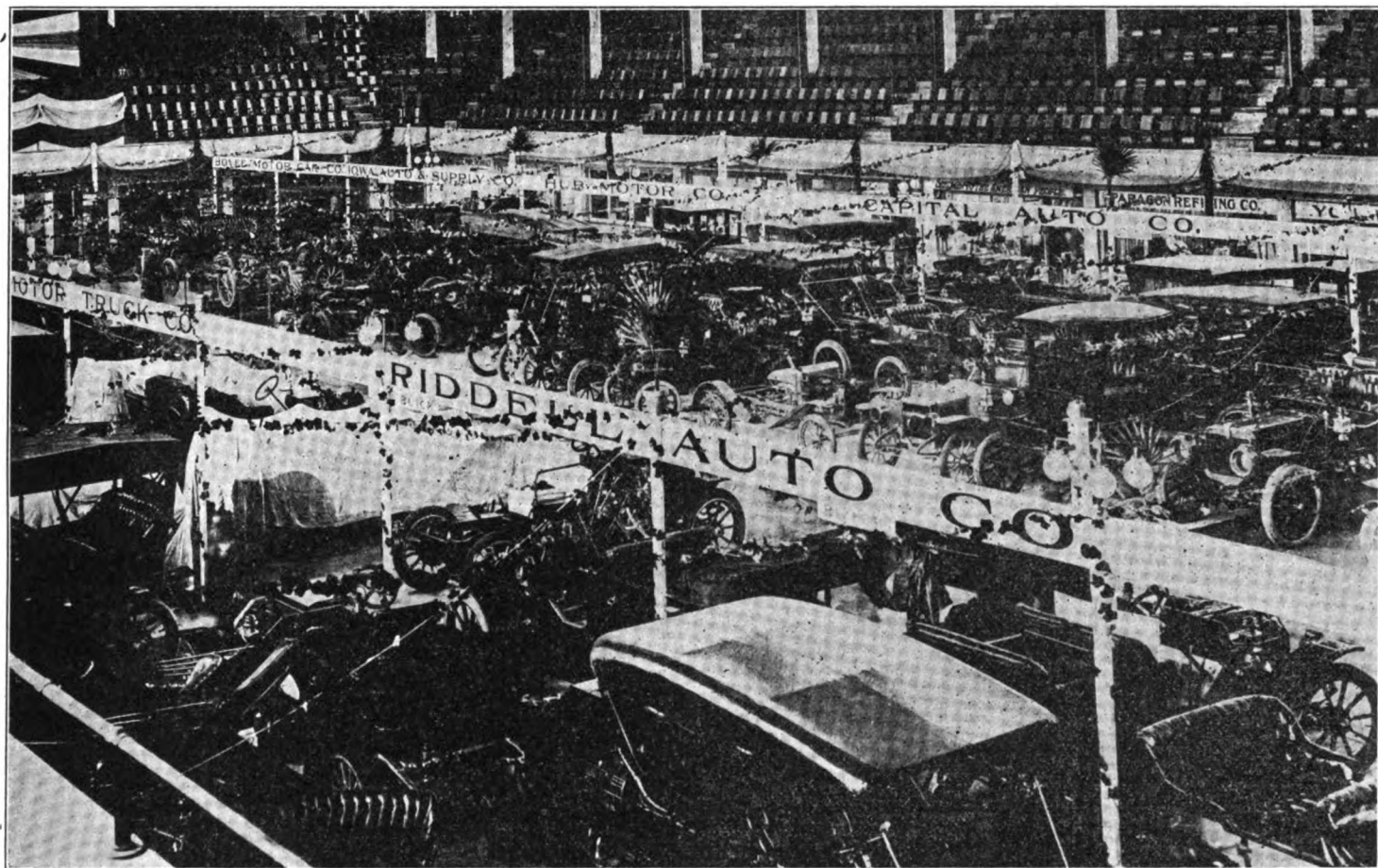
April 30-May 1, 2, Philadelphia, Pa.—Quaker City Motor Club's roadability run.

June 11, Wilkes-Barre, Pa.—Wilkes-Barre Automobile Club's annual hill climb on Giant's Despair, Wilkes-Barre Mountain.

July 2, Wildwood, N. J.—North Wildwood Automobile Club's roadability run from Philadelphia to Wildwood.

July 4, Wildwood, N. J.—North Wildwood Automobile Club's annual beach races meet on Ocean drive.

## Three More Local Shows Occupy the Stage



GENERAL VIEW OF DES MOINES SHOW IN THE COLISEUM

### Success of Des Moines Show Induced an Extra Day

Despite the surfeit of counter attractions in the form of numerous state conventions of agriculturists, good roads delegates, prohibitionists and advertising men which were held in Des Moines, Ia., last week, they did not overshadow or detract from the popularity of the first annual automobile show ever held in the capital city of the Gumbo State. The initial function was staged in the Coliseum, the city's largest building, and was sponsored by the Des Moines Automobile Dealers' Association.

Ushered in with an automobile parade which included nearly every available car in the city, the exhibition was favored with good weather throughout the week, which good fortune contributed largely to the healthy attendance. So great was the interest manifested as exemplified by the

daily increasing attendance, that the management continued the show to the end of the week—one day beyond the schedule.

It was the largest motor show ever held in the state, over 50 exhibitors taking space, and 125 cars of 32 different brands were shown. Following the dictates of fashion of the present season in the matter of decorations, the setting was of the outdoor variety. Green tracteries of ivy, sprigs of greenery and leafy bowers ran riot through the hall, while overhead floated masses of bunting in hues of white, green and yellow, the association's colors:

The exhibitors were the following:

Gasolene cars: Patton-Van Vliet Automobile Co., Abbott-Detroit, Mora, E-M-F. and Flanders; Cruzan & Co., Cartecar; Iowa Auto & Supply Co., Locomobile,

Chalmers and Hudson; Racine-Sattley Co., Firestone-Columbus; Sears Automobile Co., Reo, Mitchell, Oldsmobile and Thomas; Hub Motor Co., Kisselkar; Ideal Auto Co., Overland, Haynes and White; Means Auto Co., De Tamble and Moline; T. E. Dyson & Son, Oakland; Capital City Carriage Co., Fuller and Jackson; Riddell Automobile Co., Buick; Forest Avenue Garage and Hardware Co., Pope-Hartford and Franklin; Herring Motor Car Co., Ford; Capital Auto Co., Maxwell and Regal; Dukehart Machinery & Automobile Co., Everitt.

Electric vehicles: Iowa Auto & Supply Co., Woods; Strong Motor Car Co., Baker; Racine-Sattley Co., Columbus; Ideal Auto Co., Waverley; Capital Auto Co., Detroit; Patton-Van Vliet Co., Studebaker.

Motorcycles: F. R. Jenkins, Indian.

### Bridgeport Does Itself Proud on Short Notice

Conceived and informally discussed but little more than one short month ago at a joint meeting of the local dealers and motor-

ists, the first automobile show ever held in Bridgeport, Conn., and which may become an annual fixture, was inaugurated in the

State Armory on Tuesday, 15th, under the auspices of the Bridgeport Automobile Dealers' Association, Inc., and will continue

for the balance of the week. For the initial effort of an association scarcely a month old it is an exhibition of which its sponsors well may feel proud.

Every member of the association—and that includes every dealer of importance in the city—has taken generous space, there being 23 exhibitors, of whom 19 display cars of 37 different makes and in over 50 types. There was no difficulty in disposing of all available space among the local dealers and several out-of-town requests had to be denied.

After visiting several other shows, the committee evolved a decorative scheme which has given to the building a more brilliant and attractive garb than it has worn in a long time. White and green bunting is the predominating color and is strung about in profusion, while American flags are freely used to add to the beauty of the

scene. In the spaces the floor is covered with green cloth and for indicating the dividing lines between exhibits tape laid across the floor covering is used, instead of the usual and more conspicuous railing. Powerful lights scattered about the hall give a brilliant illumination. Of music there is a plenty, a band and orchestra alternating in the afternoon and evening. All of the booths have uniform signs bearing the name of the exhibitor and the cars shown, the letters being white on a maroon background.

The exhibitors and the cars they show are the following:

Gasolene cars: Regal agency, Regal; Peck & Lines Co., Paterson and Whiting; Franklin garage, Halladay; Auto Repair Co., Knox; Mitchell agency, Matheson and Mitchell; Fairfield Auto Co., Overland, Premier, White, Marion and Rambler; Consolidated Motor Co., Winton, National, Jack-

son and Empire; Bull's Head garage, Franklin and Crawford; Lyford Bros., Oldsmobile and Oakland; Buckley's Auto Station, E-M-F., Flanders and Corbin; Miller Motor Car Co., Maxwell and Chalmers; Aston Motor Car Co., Pary; Motor Car Co. of Connecticut, Pullman; Rantz Motor Car Co., Cadillac, Midland and Speedwell; Edwin Jennings Co., Stevens-Duryea and Haynes; Blue Ribbon garage, Packard; Pyramid Motor Co., Pope-Hartford and Buick; Liberty Cycle Co., Velie; Park City Motor Co., Peerless.

Motorcycles: Excelsior Auto Co., Excelsior Autocycle; Bridgeport Cycle Co., Indian; Liberty Cycle & Motor Co., Harley-Davidson and M.M.

The accessory exhibitors, of whom there are but three, are the Post & Lester Co., Blue Ribbon garage, and Liberty Cycle & Motor Co.

## Syracuse Show Draws Record Breaking Crowds

In accordance with the procedure followed by other cities on the show circuit, to Mayor Edward Schoeneck was accorded the honor of pressing the indispensable button which inaugurated the second annual automobile show of the Syracuse (N. Y.) Automobile Dealers Association in the state armory on Tuesday evening, 15th inst. Occupying every available inch of space on the main floor and in the basement, the thirty odd exhibitors filled the building to its capacity with their wares, and several firms were unable to secure any space to show their cars. Car exhibits, of course, are in the majority, with 21 displays, comprising 47 different makes. As Syracuse is the home of a great many gear making concerns, it is but natural that there should be a strong showing of these components in the accessory division.

Swathed in hundreds of yards of bunting, in hues of white, yellow and blue, the association's colors, the spacious hall presents a very attractive appearance. To add to the beauty of the scene streamers of green and red poppies are strung between the roof girders, while palms, ferns and potted plants are placed artistically about the hall. Il-

luminated signposts indicate the location of the various exhibits, while pedestals placed at intervals along the aisles and topped with palms, also bear the names of cars. Illumination is furnished by strings of innumerable incandescent lamps strung from the roof girders.

The main floor is given over entirely to cars which are arranged along the side walls and a double row in the center of the arena, the latter section being bordered by aisles on all four sides. In the basement are found the commercial vehicles, the entire car strength being about 75. Each night has been set aside in honor of various local civic and social bodies, when special entertainment will be given. Being situated not far from the home of Glenn Curtiss, it was an easy matter to secure an aeroplane, which is the cynosure of all eyes. Another feature which vies with the ethereal vehicle is the display of numerous trophies by the National and Maxwell representatives. From the opening night all previous attendance records were shattered, and when the show closes on Saturday night it is safe to say that the total number of visitors will far exceed that of last year.

Following are the exhibitors:

Gasolene cars: Amos-Pierce Auto Co., Lozier, Stevens-Duryea, Chalmers and Hudson; Willis Motor Car Co., Oldsmobile, Oakland and Rapid trucks; Kerr-Doane Motor Co., Velie and American Simplex; Strait & Shaw, Buick; W. King Smith Co., National, Palmer-Singer and Simplex; Syracuse Motor Car Co., Winton, Pullman and Ford; George J. Arnold Co., Thomas, Inter-State and Cartercar; Central Auto Sales Co., Regal and Selden; T. E. Fitzpatrick, Whiting; Fred A. Marshall, Hupmobile and Koehler; Maxwell-Briscoe-Syracuse Co., Maxwell and Columbia; Franklin Automobile Co., Franklin; Edwin C. Ide, Klinekar, Stoddard-Dayton and Courier; C. A. Benjamin, Inc., Packard, Haynes, Studebaker, E-M-F. and Flanders; Kane & Roach, Gaeth and Brush; Genesee Motor Car Co., Cadillac and Peerless; Christ Motor Car Co., Overland and Marion; Charles E. Wethey, Reo; Clinton Auto Co., White and Stearns; D. F. Hubbell, Marmon and Royal Tourist; Chase Motor Truck Co., Chase.

Electric vehicles: Central Auto Sales Co., Baker.

Motorcycles: Krause & Heil, R-S.

### Grand Rapids Road Race Abandoned.

Grand Rapids, Mich., will see no automobile road race this year, after all. Lack of interest on the part of members of the local club and dealers who were expected to cooperate in the promotion of the event is responsible for the abandonment of the contest. Tentative plans for the race had been outlined and a course prospected, and while there was a general indorsement of the project public support never grew to proportions where there were more than four or five of the original boosters who were willing to undertake the burden of responsibility which the affair involved. Two or three efforts to incite enthusiasm were

unsuccessful, hence the decision to let the project go by the board.

### To Preserve the Bonnet Finish.

Motorists who are particular about preserving the finish of their cars should pay particular attention to the condition of the hood and front mud guards after a run in wet weather. As the bonnet is heated to some extent, rain and mud splashes will dry quickly upon it leaving spots which are practically unremovable. If it is impracticable to wash the car as soon as it is brought in after a wet run, it is well to rub down the hood with waste, afterward drying it with a piece of chamois leather.

### Milwaukee's Wheel Tax is Killed.

Due to the vigorous opposition displayed by the Milwaukee (Wis.) Automobile Club, the ordinance introduced into the city council imposing a wheel tax on all vehicles, to raise funds for street improvement has been killed. The committee on judiciary, to which the measure was referred, recommend its indefinite postponement, and a motion was passed by the council assenting to this disposition of the matter. Thanks to their watchful and aggressive club, Milwaukee motorists have escaped for the present at least, having to pay wheel tribute as do their less fortunate brethren in Chicago and Washington.



## NEW YORK'S NEW LAW TAKES SHAPE

**Permits 30 Miles an Hour and Otherwise  
is Fairly Liberal—Non-Skid Clause  
is "Doctored."**

After much backing and filling, the much-confused legislative situation in New York at last has cleared. The several bills which had been introduced finally have been sifted and the best features of each incorporated in the measure proposed by Assemblyman Callan, of Columbia county, a hearing on which was held on Thursday last. Charles Thaddeus Terry, chairman of the A. A. A. legislative board represented the automobile interests, and ably, as usual. In a letter to the Motor World, Assemblyman Callan states that the bill probably will be further amended before final passage and intimates that the clause affecting the use of non-skidding devices will be one of those subject to amendment. The original clause, as the Motor World pointed out last week, would have legislated out of use a number of non-skid tires, but due to influence from Niagara Falls, it already has been altered, but whether the alteration serves the purpose is not wholly clear. It now reads as follows:

No person shall operate or drive a motor vehicle on any of whose wheels is a tire chain or a non-skidding contrivance or tire composed in whole or in part of metal (which are used exclusively for non-skidding purposes), except when such highways are wet or slippery or covered with ice or snow.

The words in parenthesis represent the amendment to the original clause.

For the present system of permanent registration, the law substitutes annual registration which must be renewed on the first day of August of each year. Fees are \$5 for 25 horsepower, or less; \$10 for more than 25 and less than 35 horsepower; \$15 for more than 35 and less than 45 horsepower; \$25 for more than 45 horsepower. Vehicles to be used solely within the confines of a city will pay only \$2 annually. If application for registration is filed after January 1st of the year, a reduction of one half of the fee shall be allowed. Fees will be considered in lieu of taxes, general or local, to which motor vehicles may be subject. Non-resident owners are exempted. Number plates, the color of which will be changed annually, must be displayed front and rear.

Manufacturers and dealers will pay \$15 a year for a general registration of all their cars, and one dollar additional for each registration plate affixed to such cars. Cars so marked shall not be operated for private use or for hire.

Cities and incorporated villages are permitted to make special speed regulations, provided they do not require a speed less than 15 miles per hour, but a greater speed

over a distance of one-eighth of a mile will be presumptive evidence of careless driving. Elsewhere the speed shall be "careful and prudent," but "a rate of in excess of 30 miles an hour for a distance of one-fourth of a mile shall be presumptive evidence of driving at a rate of speed which is not careful and prudent." Cities and towns must erect signs showing where their speed limits begin and end.

The chauffeurs' registration fee is fixed at \$2 annually; his application must be sworn to before a notary public or justice of the peace; he will be provided with distinctive badge to be worn openly when driving a car; loaning badge to another person, or wearing fictitious badge is punishable by fine of \$50. Unregistered chauffeurs cannot drive motor vehicles.

Using or tampering with a motor vehicle without permission of the owner is a misdemeanor, punishable by fine up to \$100, or imprisonment up to six months, or suspension of license for six months, or any two of these penalties combined.

Drivers arrested for violation of the law shall be given an immediate hearing before the nearest magistrate, justice of the peace, captain or sergeant of police; if such hearing cannot be had, a bail bond not exceeding \$100 shall be executed. If the arrest was caused by a violation of the rules relating to the driving of cars while under the influence of liquor, or running away after an accident, the bail bond shall be in an amount not exceeding \$1,000. The penalty for these offenses is one to five years imprisonment and suspension of revocation of license or registration. If the prisoner is owner of the car he may leave same as bail; if he is not the owner, but can obtain the permission of the owner to do so, he may deposit the car in lieu of a bond or cash.

Penalties for exceeding the speed limit are fixed at not more than \$100 for the first offense, a fine not exceeding \$100 or imprisonment for not exceeding thirty days, or both, for a second offense, and by a fine not exceeding \$250 and imprisonment not exceeding thirty days for a third and subsequent offense. A person violating this rule may in addition be indicted, and the Secretary of State shall upon a third conviction forthwith revoke the license of a chauffeur; no new license will be issued to such offender within six months after such conviction, in the discretion of the secretary of state. If applicant for license makes false statements he shall be fined not exceeding \$50.

All registration fees, penalties, and fines collected from automobile owners and drivers shall be used for the maintenance of public highways.

Toll rates for motor vehicles on bridges and turnpike roads shall not exceed the rate charged for vehicles drawn by two animals, excepting automobiles designed to carry but two persons, which shall pay the rate scheduled for vehicles drawn by a single animal.

## OLDFIELD'S MILE "FASTEST EVER"

**Does 27.33 Seconds in Official Trial on Florida Beach—A. A. A. Squelches His Preliminary "Press Working."**

Through the breaking of a piston in a practice trial of Ralph De Palma's 200 more or less horsepower Fiat at Daytona, Fla., on Saturday, 12th inst., the widely heralded match between De Palma and Barney Oldfield, with a Benz of similar power, scheduled for Tuesday of this week on the beach, was called off. The accident which contributed another addition to the numerous mishaps which have befallen Fiat cars on the seaside course in previous years is said to have been caused by the overheating and seizing of a piston. As there were no spare parts in the country, the car being specially built, it was impossible to effect repairs and the disabled flier was shipped back to New York. In contrast to the ill-luck which befell De Palma, Barney Oldfield and his Benz seemed to have been favored with the best of good fortune, as is illustrated by the crop of "world's records" which his resourceful manager, "Bill" Pickens, scattered broadcast in the press.

With unofficial timing Oldfield was credited with several miles under the record of 0:28½, made by Fred Marriott four years ago. When these "phony" records came to the attention of Chairman Butler, of the A. A. A. contest committee, he promptly wired the Oldfield-Pickens aggregation to desist from sending out further reports of unofficially timed trials under penalty of suspension, as they were of a misleading nature. He also revoked the sanction for official trials until the opening of the annual meet next week, but later on the representations of the officials of the Florida East Coast Automobile Association that a large crowd was on hand, he rescinded his revocation and granted permission for Oldfield to go against the straightaway marks on Wednesday (16th), under official supervision and timed by the Warner electrical apparatus.

On that day (yesterday), Oldfield traveled faster than man ever traveled before, by sending the Benz over the Official mile course in 27.33 seconds from a flying start, establishing a new straightaway world's record. It averages 131.72 miles an hour. Returning to the starting line Oldfield tried for the standing mile record of 41.23, made by Hemery, and got it. He reduced the Frenchman's figures to 40.53 seconds. With De Palma as official representative of the contest board, and a surveyor's certification of the accuracy of the distance it only remains for the contest board to accept the records to confirm their authenticity. The only other trial was made by David Bruce-Brown, the erstwhile "amateur," who "flew" the mile in 32.18 seconds.

## SHOWS THE ROAD TO EASY MONEY

Alluring Presentation of One Phase of the Automobile Business—How Naughty Husbands Help.

Although the day is almost past when it is possible to sell old second hand foreign cars to gullible purchasers at enormous figures, as the most advanced European models, and although values for both new and second hand cars of all makes have become more standard and better known, there still appear to be golden opportunities in the buying and selling of second hand cars that the ordinary man does not realize, but which are revealed in the course of a highly unusual effort on the part of an advertiser in the New York newspapers to raise capital in order that he may expand in the second hand business. His extraordinary effort, while calculated to coax money out of the pockets of many small investors, is chiefly interesting as showing how glowing a presentation of the second hand car business can be devised, especially when the "inside information" element is injected, with stories of wealthy women and their troubles with joy-riding husbands.

Under a big heading of "Automobile Opportunity," the advertiser declares in his opening, "With the entire nation car-mad, and even farmers now buying cars, a special opportunity in automobiles is not to be sneezed at." From which point he proceeds in part as follows:

"I am in a position to get information when a car is likely to or going to be sacrificed several hundred dollars below its ordinary market price.

"I know a party, who being sued for divorce, is quietly disposing of his personal holdings at very low figures. I know another, who has a second mortgage coming due that will have to be paid by selling his fine car at heavy sacrifice. I know of another car owned by a wealthy lady, whose husband has been joy riding with other women; this lady is going to sell this car quickly and quietly, if she has to accept only \$500 for her splendid car, that is worth at least \$3,000.

"What would you think of a 1907 — at \$700? I had an opportunity to buy one at \$700—could have sold it next day for \$1,500. I couldn't get the cash in time to buy it and had to let it pass. I had to let a 1909 — at \$1,200 pass the same way, for the same reason; that car would have brought \$2,500 in a few days.

"In proportion to the amount of money invested such deals are quicker and more profitable and safer than real estate or anything else I know of. Unlike real estate, a quick market is always readily found for good cars properly bought.

"If you have money available or lying idle or in savings bank, earning practically

nothing, it will certainly pay you to get in touch with me and make my acquaintance, and co-operate with me. Co-operation is the strongest force known to the business world.

"Do not hesitate to communicate with me, fearing that possibly I have tied up to and closed with some one else, for my facilities for getting hold of these good things are such that I could sometimes keep several small investors busy making big money quickly.

"I recently bought a car for \$500, and made \$700 profit on it the same day. I bought another car for \$1,250 and held it twenty days and made \$1,000 profit. I bought another for \$1,000 and sold it for \$2,000 in three days.

"To a bona fide investor, wishing to investigate these deals closely, I will show bills of sale, and he can call on both purchaser and seller for verification.

"I am figuring on a number of cars that are going to fall into my bag just as these others did, and I shall need one or two or more small investors to co-operate with me to carry the cars. If you contemplate coming in with me you had better first get acquainted. Then, investigate me and see if I am responsible and honorable. It's easy to learn if a man is square. Then when the axe is ready to drop, we shall both be ready; you with the money and I with the car.

"Within the next few days I have got to pay \$650 for a car that I shall sell for \$1,500 very quickly. I would like to have a small investor buy this car for our joint profit—he carrying it in his own name. I pay all the expenses of selling and garaging. The investor has nothing to worry about; he is in at such a low price that he could turn it into cash in half an hour any time.

"The investor can't lose any more than by buying Herald Square property at \$500 per running foot. I am no millionaire and no pauper. If I do not get \$650 in time to pay for this car or find some one to co-operate with me, I shall have to sacrifice on some other securities for cash, or let this splendid opportunity pass. The car is held by a sole executrix, who is not posted on values, and is anxious to close up all personal estate quickly and move to another city with her relatives.

"If you want to get in touch with a live 'earning capacity,' get acquainted with me. If you are too late for this deal there are others equally as good coming along—once you get a nibble of one your appetite will be ravenous for more."

### Motor Cars as Switch Engines.

Rarely is the motor car called upon to do the work of a steam railroad engine, but at some factories the automobile has been found an excellent substitute for use in shifting freight cars when the regular engines are unavailable. When this new adaptability of the motor car becomes more widely known, there is a possibility of its being taken advantage of at many plants.

## PARTS MAKERS OVERDO ACCURACY

Some Makers of Small Cars Would Prefer Less Exactitude in Size—Difficulties in the Assembling.

That the extreme accuracy with which a number of the better established parts makers turn out their products is responsible for considerable extra expense to the builders of cars who depend in large measure upon the assemblage of parts from outside sources, was the astonishing declaration of a well-known automobile engineer recently. As practically all American makers to some extent rely upon the parts specialists in completing their cars, the difficulty referred to is one which is of no little importance, although at first sight it appears to be trivial.

"While it is customary to work to very close limits in producing high priced cars, such close accuracy is not so essential in the smaller and cheaper machines," explained the engineer in question. "The point is that to narrow down the limit of accuracy—the 'tolerance,' as it is known in engineering parlance—means that with a cheap product, where rapid automatic processes are relied upon, either a considerable number of parts must be rejected or else hand fitting must be resorted to. The only alternative, and the method which is used in high priced cars, is to grind the parts to exact size; but this is an expensive step in the manufacturing process, which can be omitted in many instances where it is desired to reduce costs as far as possible.

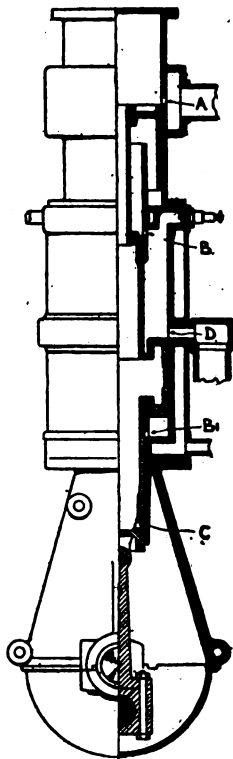
"When the parts maker turns out his bearings, his crank shafts or his gears to limits much finer than can be followed economically with the low grade product, the natural consequence is that the corresponding parts must be finished measurably below size and then enlarged by hand in the assembling process. If there were a greater amount of variation in the complementary dimensions of the stock parts, more rapid and—from the assembler's point of view, satisfactory—results might be obtained by a simple process of selection or matching up of parts.

"I do not mean to deplore the high development which the parts business has reached, by any means," he concluded. "But I do mean to say that some of the small car builders would be better satisfied if it were possible to procure equally satisfactory stock parts constructed to wider limits, or to be specific, to the same limits that we impose in carrying out our work. These are sufficiently close to guarantee the proper relation of the parts which we build ourselves, though they are not so close as those which may be required for the large machines of more expensive quality. It is all a question of 'fitting allowances' which, as every machinist knows, cannot be too close in theory, but in practice require considerable latitude."

## HERE'S THE "ONE-STROKE" ENGINE

Its Inventor so Terms It, but It's of Two-Cycle Principle—Its Design and Operation.

By dint of much mechanical ingenuity a two-cycle engine design has been evolved in England, to which, by an equally laborious stretch of the imagination the term "one-stroke" engine has been applied. As recently mentioned in these columns, the idea involved is nothing more nor less than that of combining two two-cycle engines,



VIEW OF "ONE-STROKE" ENGINE

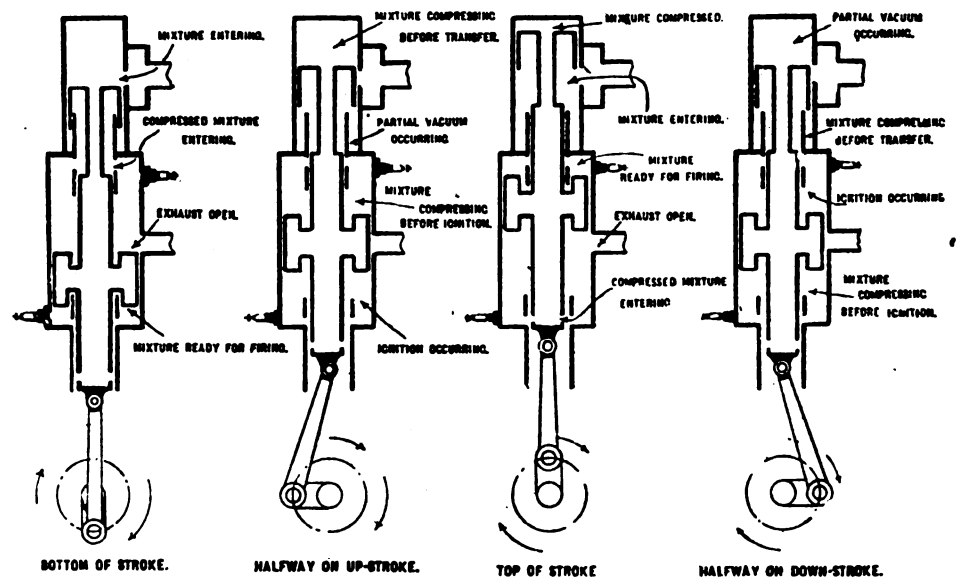
each having independent cylinder compression, instead of the more usual crank case compression, the combination being arrived at in such a way that the power producing element in the combination is double acting, while the mechanism is valveless in operation. The result is an extremely ingenious and somewhat promising motor from which, unfortunately, no actual test results as yet are available, though it is stated that the model engine already has afforded satisfactory demonstrations.

Full particulars of the engine, which now are available, reveal that it is the invention of Messrs. G. Enderby and H. Johnson, the latter being proprietor of Johnson's garage, Harrogate. The accompanying illustrations show the general construction employed, and also in a diagrammatic way depict the successive functionings of the two compression and working cylinders at intervals of 90 degrees throughout one complete cycle, which thus occupies two full strokes of the piston.

The essential elements of the mechanism are two cylinders of different diameter, superposed; the smaller one, in which compression of the charges occurs, being above the working cylinder. The pistons are formed of a length equal to the stroke minus the width of the central port in each case. Thus, in the upper cylinder, at the end of each stroke a charge of gas is inducted through the port A, into one end or the other, according to the direction of piston movement. Similarly at the end of each stroke, the row of exhaust ports D is uncovered by the lower piston, thus releasing the waste gases to the muffler. The central member, corresponding to the piston rod of the normal engine, is tubular, the upper section being enlarged at the point where it enters the compression cylinder and car-

ing piston, thus permitting the exhaust to escape coincidentally with the intake movement.

The interchange occurring at the upper end of piston travel, is hardly more complex, though considerably more circuitous. When the piston reaches the limit of its upward travel, it is evident that the incoming gas is compressed into the interior of the hollow piston rod, the cavity within that member extending clear through to its base. At the same time the ports C, which are drilled in the lower end of the piston member, register with the corresponding ports B<sub>1</sub>, which are cut in an upwardly extending sleeve formed in the main cylinder casting. Coincidentally, the lower edge of the working piston exposes the exhaust ports D in the cylinder wall, thus permit-



DIAGRAMMATIC REPRESENTATION OF "ONE-STROKE" CYCLE

rying packing rings, which thus serve the purpose usually fulfilled by a stuffing box. The lower end of the piston group is similarly equipped.

The essential idea of the invention, it will be observed, is expressed by the method by which the compressed gas is transferred from the compression to the working cylinders in order to carry out the cycle. From the lower end of the compression cylinder to the upper end of the working element, the transfer is readily accomplished by means of the port B, which is uncovered at the lower end of piston travel by the piston itself. The ports are in a sleeve which surrounds the piston at that point, and passageway for the gas is secured by reducing the piston diameter at its upper end. Obviously, whenever the piston reaches the bottom of its stroke, the compression piston has condensed the inward bound charge to the required degree in the annular space between the hollow piston rod and the sleeve which forms the cylinder closure at the upper end of the working element; the intake ports B are uncovered, permitting the gas to flow into the working cylinder; and also the exhaust ports D are uncovered by the work-

ing the waste gases to escape while the intake is occurring.

The two sets of operations thus described separately, of course, occur simultaneously in practice, so that the working of the engine is continuous and analogous to that of an ordinary two-cycle engine having two cylinders, with independent cylinder compression and working cranks set 180 degrees apart. The diagrammatic illustration of its performance is practically self-explanatory.

It should be mentioned that the construction adopted involves a considerable increase in overall height over that of the common type of standard engine. In the first engine of the sort to be constructed, the total height is something like 3 feet. The stroke is 4 inches and the diameter of the lower or working cylinder is 5 inches. As the effective area of the working cylinder is equal to the difference between the total cylinder area and the sectional area of the central piston rod, however, the net diameter is only equivalent to 4 inches. From this it will be seen that, despite the impression conveyed by the diagrams, the central member is not of relatively large diameter, but is more nearly in effect a

tubular passage, being only an inch or so in diameter. By this means, the compression at the upper and lower ends of the upper cylinder is equalized and the effective pressures on the working piston thus equated in a way which is not apparent from the two illustrations here presented.

From the method of introducing one set of charges through the piston rod and hence directly through the cylinder interior, an unusual measure of cooling efficiency is claimed, though the tendency to weaken the incoming charges to the lower end of the working cylinder as a result of imparting a considerable amount of heat to the fresh charges is not dilated upon by the inventor, nor the probable tendency to uneven firing at the two ends in consequence of the unequal pre-heating of the charges which might be supposed to result from their evidently different methods of treatment.

Despite these criticisms, however, the invention introduces considerable novelty both as a power unit and as a mechanism. Not the least important of these is the fact that the machine as above described, in number of impulses per minute is calculated to replace the standard four-cylinder motor of 4 by 4 inch cylinder dimensions, and that, despite the increased total height, the cubical space requirements of the motor are much less than those of the standard engine. Unfortunately, it is impossible to complete the comparison at this time, by giving the power output of the new unit.

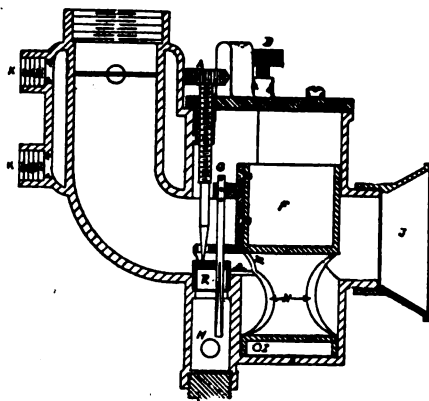
#### Society's Anti-Smokers Have an Inning.

On Friday of last week E. S. Cornell, like a dutiful jockey, again mounted Henry Clews's pet hobby, the so-called National Highway Protective Society, and rode it into the New York City Hall. The occasion was the public hearing on the pending ordinance which proposes a fine of \$10 or five days in jail, or both, on any person who permits a motor vehicle to "emit offensive quantities of smoke, gas or other disagreeable odors from the exhaust or muffler." Mr. Cornell did not do any talking, but previously he had photographs in evidence and they proved that some automobiles do smoke sometimes. An alderman, however, did lots of talking. He said the "blue haze" which he says exists in the automobile district is due to the smoke, and told how merchants had to keep their doors and windows closed to protect their goods. Some other men also spoke, and of course, two club women; for nowadays every self-respecting promoter or "accelerator of public sentiment" knows how easy it is to get club women to espouse and to spout about any old thing. One of the ladies pleaded for the passage of the ordinance for the sake of the eyes and noses of the little children. Nobody really opposed the measure; and no one asked whether, if it is passed, it will not be at variance with the state automobile law.

## DEPARTURE IN AUTOMATIC CONTROL

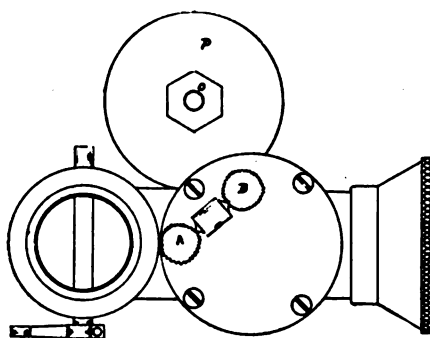
### Hoyt Employs a New Idea in Multiple Jet Carburetters—Unusual Effect Obtained in the Main Jet.

In carburetter design, it is interesting to observe the rapid growth of the multiple jet idea, if for no other reason that because it tends to keep the carburetter problem constantly in the public eye, as is bound to be the case whenever two or more different theories are exploited in the same field. A



SECTION OF HOYT CARBURETTER

recent development in this line, is the invention of F. C. Hoyt, of Jamaica Plain, Mass., who has just placed it on the market. Its special features are a low speed jet which is continuous in operation, and a main or



TOP VIEW SHOWING CONTROL

high speed jet which is thrown into action automatically in response to increased suction and which is governed synchronously with an air-controlling valve.

The general construction of the instrument is revealed by the accompanying illustrations which show both sectional side, and exterior top views. As will be seen from the sectional view, the two jets lie side by side, but differ in that while the slow speed member is of normal construction and controlled by the familiar needle valve, the main jet is in the form of a plain circular nozzle with a plunger rod fitting it closely, which is flattened on three sides. As the plunger is withdrawn from the opening it is apparent that what amounts to three sprays are discharged, the rate of flow be-

ing proportional to the movement of the plunger rod away from the closed position.

Air regulation is accomplished by means of a piston valve which is cut away at its base to permit a fixed amount of air to flow at low speeds, the rush of this small discharge over the low speed nozzle creating the necessary lifting effect to produce the small quantity of mixture necessary for idle running. Increased suction in the engine, by increasing the air pressure on the base of the air piston, naturally causes the piston to rise as the speed of the engine increases. The effect of this is to cause a greater flow to occur and incidentally, to admit a proportional quantity of additional fuel to be lifted from the main running jet. As the suction is regulated in some measure by the position of the throttle it follows that the air and gasoline control also is governed indirectly by the throttle position.

Reference to the illustration shows the construction more in detail. The low speed nozzle is shown at A; it is provided with a fine screw threaded adjustment for regulating purposes. At G is the high speed needle, which is carried by the air piston F, while the upward travel of the valve, corresponding to the high speed adjustment of the carburetter, is regulated by the screw B. The primary air inlet beneath the air piston is shown at M, the air inlet proper being at the port marked J. The main air passage is at N.

To prevent "hunting" in the regulator, an apron is constructed on the lower end of the air piston, which operates in conjunction with the so-called "vacuum port" I. The rush of air through this port, following the displacement of the piston, serves to prevent that member from fluttering and to steady the action of the carburetter. The water jacket surrounding the mixing chamber is connected up at K. The float chamber P, priming pin O, throttle lever L, and gasoline passage H, are indicated in their relative positions.

#### Automobile Theft Prevalent in New York.

Stealing automobiles seems to become almost as common as stealing bicycles. Two cases were reported to the New York City police in one day, and so far no trace of the missing cars has been found. One of the cars was a \$2,500 touring model, used for public renting purposes, and was stolen while the chauffeur was called on a fool's errand into a house on West Twenty-first street.

#### Abyssinia to Have 200 Miles Motor Line.

The German Overseas Commercial Co. has obtained a concession to establish an automobile line in Abyssinia, which will connect Addis-Abeba with Dire-Dhaua. The automobiles require only two days to accomplish this journey of almost 200 miles, which takes caravans fully six days under favorable circumstances. Two automobiles for passengers and luggage are dispatched every day.

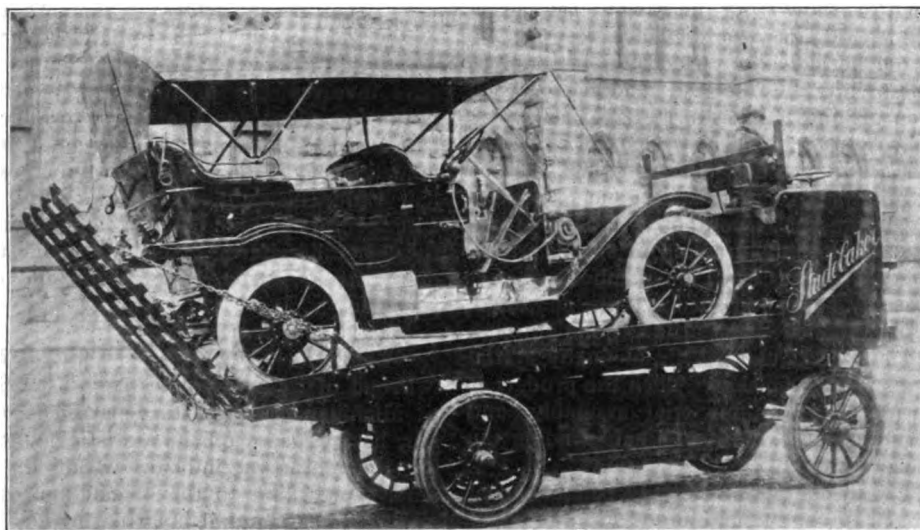


**MOTOR TRUCK CARRIES MOTOR CARS**

**Special Vehicle Helps Keep the Studebaker Products Spotless in Delivery—Its Ingenious Loading Equipment.**

Transferring automobiles from one store room to another or to a different part of the city, without splashing the car with dirt and dust by running it along the streets under its own power, or trucking it in the old way, is not so easy as it may seem. The Studebaker Automobile Co., of South Bend, Ind., has designed a special truck for this kind of work and is using it continually in transferring automobiles, carriages and

and ever increasing popularity of the motor car in even the remotest islands, a remarkable increase of the production and export of lubricating oils is shown by the reports of the Bureau of Commerce and Labor. While ten years ago, when the motor car industry was in its infancy, the total exports of lubricating oils from the United States did not exceed 60,000,000 gallons per annum, the exports from this country now amount to fully 200,000,000 gallons (1909), of which total the United Kingdom receives about one-fourth; France and Germany together take another quarter; other Europe another fourth, and the rest of the world the remaining fourth. The exact amount of lubricating oil used for automobiles outside of the United States is not known, but



STUDEBAKER TRUCK WITH UNUSUAL CONVENIENCES

wagons from the factory to the show rooms or other outside points.

The body, as shown by the accompanying illustration, is built on an incline, and at the end is a tail gate. When loading an automobile, the tail gate is lowered and an electric hoisting machine, located under the driver's seat, pulls the car aboard; the tail gate then is lifted and locked and the truck is off. When unloading, the peculiar slant of the truck allows the car to run off by gravity. The hoisting machine is equipped with a brake which automatically guides the car off gently.

This truck does away entirely with the use of skids, etc., and saves the time and labor of several men necessary under the old method. By its use it is possible to transfer large automobiles with no possibility of marring the varnish through scratching or rubbing, as is usually the case when the loading is performed by a crew of four or five workmen. An automobile can be loaded on this truck and the truck be on its way in 25 seconds, which is a great saving over the old methods.

**Motor Cars Increase Oil Exports.**

Coincident with the great rise of the automobile industry in all parts of the world,

from comparison with statistics of former years is estimated at a little over 55 per cent. of the total of 200,000,000 gallons, or about 110,000,000 gallons.

**Britons Have a Real "Motor Bank."**

While there is a "traveling bank" in New York City, its modus operandi differs considerably from that of the recently installed "motor bank" in England. The American "bank" merely acts as a collecting agent, in so far as it visits restaurant keepers, merchants, artisans, etc., who have an account with the "home" bank, and takes their deposits. The English perambulating financial institution, however, does a regular banking business all over the rural districts, stopping at crossroads, in villages, at school houses, taking deposits as low as one penny, cashing checks, drafts, and other bank paper, making cash loans on good securities, in short, doing a complete banking business in all its phases.

So far the innovation has proven a huge success, and it is intended to install a full dozen of such traveling banks in the various sections of the British Isles. Needless to say the chauffeur and manager are heavily armed in order to resist possible attempts at hold-up or robbery.

**"TRIAL ASSEMBLY'S" REVELATIONS**

**How It Discloses Defects not Only in the Car, but in the Organization of the Factory as Well.**

Because a motor car runs smoothly under the guidance of even an inexperienced driver, it does not necessarily follow that the human mechanism by which it was produced moved with corresponding precision. Indeed, many of the large and better established manufacturers, having accomplished the necessary step of establishing a trustworthy reputation, are finding it exceedingly difficult to co-ordinate their production machinery in such a way as to secure uniform and harmonious results with a minimum of political friction. It is in recognition of such a difficulty that the "trial assembly" department has been introduced by one of them as a simple way of overcoming a complex difficulty.

It is relatively a simple matter to design a single motor car component and later to conceive a simple and inexpensive process by which it can be made. But when it comes to linking up a great number of such individual processes in such a way that their products may be assembled into a single well-knit automobile not a little difficulty often is experienced. And since the greater the number of parts of a given kind required the greater the effect of any error which they may introduce, so it is upon the heavy producers that the burden of perfecting the organization machinery rests most heavily.

It was a broad step in the right direction when automobile manufacturers so far recognized the peculiar and special requirements of their business as to establish engineering departments and instal at their heads trained and competent engineers. But it also was a step fraught with some peril to the peaceful conduct of their growing organizations to the extent that it tended to create a division of authority and to foster such jealousies and bickerings as are apt to arise whenever one man is placed in a position to criticize or question the work of another.

Manufacturers and those familiar with the inner workings of the producing machine are well aware that not infrequently the engineer is placed in the difficult position of critic extraordinary to the entire production end of the enterprise, and that in consequence of his strictures, unless he be at odds with pretty nearly every one with whom his work intersects. The full significance of the condition has not become sufficiently pronounced to be apparent to all as yet, however; indeed, it was not faced directly as a "problem" until the adoption of the trial assembly plan by one far-seeing production engineer, whose name is associated directly with the output of a vast

number of cars as a result of his past and present connections. By this plan an entirely new method of co-ordinating the creative and constructive elements of manufacture is being tried out, and with results which thus far seem thoroughly to justify its existence.

To appreciate more fully the nature of the remedy, it may be necessary to dwell upon the evil which it is sought to repair. Primarily a creator, it may be considered an ideal thing to isolate the engineer from the labors incident to production in order to leave him mind-free to go on improving his old ideas and developing new ones. And this theoretical advantage might hold, were it possible to conceive of an engineering department utterly free from human weaknesses, or a production end capable of building letter perfect, according to specification. Actually, however, errors not infrequently arise somewhere between the engineer's conception of a device, the draughtsman's delineation of it, the manager's criticism and the factory's handling of it. Somewhere along the line a purchasing agent, a stockroom boy, a toolmaker, a smith or a machine hand introduces a little individuality of his own into the product, so that it reaches the assembling floor in form slightly different from the original concept. Maybe, a large number of parts ordered from an independent producer arrive and do not fit properly—difficulties of the sort are neither rare nor insignificant. Because the basic idea was his, obviously the error which has crept in thus surreptitiously also must be his, it may be considered, and sooner or later the engineer is informed that an undreamed of contingency has arisen which is plainly "up to him."

Or it may be that the little difficulty remains concealed and ultimately breeds others similar in kind. A foreman discovering that a certain line of parts do not fit according to specification, but mindful of the urgency of getting out the work and reluctant to precipitate a conference of the powers that be right in his own little wire cage, hastens to modify some corresponding piece to suit the requirements, and lets it go at that. If he dies or is removed by a Providential hand, his successor may have difficulty in filling his shoes, and sometimes it is not unbelievable that he might be reconciled to such a contingency. For the man who is anxious to increase his worth to the company to such a degree that he is willing to go to almost any length to accomplish the desired end flourishes just as successfully in an automobile factory as he does in a department store or a Congressional lobby.

So it comes about that the work of the engineer frequently undergoes changes of which he has no knowledge—changes of which there may or may not be record in the drawing room, and of which the superintendent may or may not be aware. His responsibilities thus become to a degree nominal, and his mental attitude far from a happy one, especially when his search for

the cause of some failure in the product develops the fault in a quarter over which he has no control. Not even a well-organized inspection department is able to overcome the basic difficulty entirely. Something to uphold the hands of the engineer, to check the ambition of the factory superintendent, even to counterbalance the urgings of the sales manager, who has been "stalling off" deliveries for what he thinks an interminable period, seemed necessary in order to ensure perfect harmony in the work of a number of factories all more or less related in the manufacture of a huge and varied output. Hence the establishment of the trial assembly department.

Essentially, this new department is termed by its originator a sort of settling tank into which may be drained all the complaints which overflow from the various sources of such emanations, and whence may be extracted periodically such useful material as remains after the useless vapors have been given off and temperatures have been equalized. Actually, it is just what its name implies. For instance, a new model is to be brought out. The usual tedious processes of experimental tryout on a model; preparation of designs, drawing of specifications, invention of processes for manufacture, preparation of jigs and special tools, and, finally, ordering of material, are gone through with in the regular way, and finally a trial lot of parts is finished. Then the product is considered ready for trial assembly, and everything else comes to a halt pending the crucial test.

In a special shop, sacrely isolated from all factory contamination and directly under the vigilant eye of the chief engineer, is the trial assembly room, manned by the trial assembling crew, which is a corps of expert mechanics especially trained by the "chief" and equipped with an assortment of wrenches—and little, if anything, else. Into this shop are bundled the parts for one of the new cars, and then the doors are locked. If the assembling crew is able to evolve the complete vehicle without fitting or jamming together of parts, and without resort to machine work of any sort, the vehicle is taken out on test, and if then satisfactory, the final "O. K." is given, which means that production may proceed according to drawing room specifications. If any hitch occurs, the chief is called in to go over the difficulty and suggest such changes as may be necessary. But thereafter work on that particular model cannot proceed until all drawings and specifications, even all equipment involved, have been changed to suit the requirement.

A subordinate, though hardly less important, purpose of the scheme is to make the trial assembling department a clearing house for all production troubles which may arise at any time, and also for such complaints from the field as from time to time may come in through the selling department. Hitherto it has happened not infrequently that a user's or agent's complaint about a clutch bushing, for example, may

have been turned over to the foreman of the particular shop in which that bushing was turned out; his natural course has been to suggest an immediate remedy and then, perhaps, to forget it. In other instances, complaints have been stifled by kind words which had their origin in the sales end itself—that department possibly being influenced to some extent by fear of the engineer in his self-assumed dignity. Compelling all complaining witnesses to testify before the trial assembling department, and subjecting all mechanical puzzles to inquisition in the chamber of horrors behind the trial assembling room door, it is thought, will provide speedier remedy for such evils as escape notice at the outset of production, but frequently are rectified later on at almost endless expense.

In other words, while its function nominally has to do with initial production merely, the trial assembly idea in actual purpose involves the creation of a general sanitation plant for the entire production enterprise. In familiar language, it is intended to "form a more perfect union, establish justice, insure domestic tranquility, provide for the common defense" and "promote the general welfare." And it is unquestionable that its purpose is a broad and salutary one.

#### Michigan's Production Written Large.

Proud of its automobile plants, the State of Michigan, through its department of labor, has prepared official statistics concerning the motor car industry within its borders. According to the official figures for 1909, the total capital invested in the Michigan companies was \$34,587,620; the aggregate value of the year's output of 271,440 cars was \$135,005,465, and the cost of the material used was \$75,198,480, while \$75,471 per day was paid in wages to 27,996 employees. Official cognizance was taken of 38 manufacturers, Detroit leading with 17; Pontiac, 4; Lansing, 3; Jackson, 3; Flint, 2, and Owosso, Grand Rapids, Dowagiac and Saginaw, 1 each.

The 72 superintendents received an aggregate salary of \$178,008.48, or an annual average of \$2,471.04, while the 1,419 office employees received an average daily wage of \$3.61. The average daily pay of the 591 foremen was \$4.07, while 20,572 skilled employees received an average of \$2.82 per day, and 5,404 common laborers received a daily aggregate of \$9,797.

#### Long-Leaved Pine Improves Highways.

Leaves are not generally considered to be useful road material, but in certain districts of the South, they are used with great success. There are many miles of road which would be almost impassable, were it not for the leaves of the long-leaved pine. These, which are in appearance very much like straw, are raked over the sandy roadbed once a year, usually in October, covering the deep sand and making a firm surface.

## EFFECT OF A. A. A. AMATEUR RULE

How It Will Affect the Long Island-Crescent Team Contest—Interferes Also with Chicago Event.

"That inter-club reliability contest between teams from the Crescent Athletic Club and the Long Island Automobile Club ought to prove a fine thing for amateur sport," remarked a man who has been identified with sports for a good many years. "But in view of the position of the Crescents it looks as if they'll have to hew much closer to the amateur line than heretofore has been the case in automobile contests; in other words, the two clubs will have to exercise some fine distinctions in picking their teams.

"The situation that the projected contest creates should draw attention to the remarkable amateurism that is defined by the American Automobile Association's rules. They say that a man may compete with a professional and remain an amateur, but that no man who is in any way engaged in any branch of the automobile industry will be registered as an amateur, the latter specification being a late addition to the rule. On the other hand, the Amateur Athletic Union, from which the Crescent Athletic Club draws its nourishment, says that any man who competes with a professional, even a professional automobilist, thereby forfeits his amateurism. As professionals are denied membership in the Crescent Athletic Club, it readily will be seen that if it adheres to one of its cardinal principles, extreme care will be necessary in selecting the teams for the contest.

"I assume the A. A. A. will live up to its own requirements and insist that the competitors all shall take out amateur registration cards and as no such card will be issued to any man in the trade, no man in the trade—and there are a number of such men in both clubs—can participate, or if he does so, he will professionalize both teams and the Crescents then will have to call for a number of resignations. Personally, I am curious to discover how the two clubs will handle the several points involved, for if the Amateur Athletic Union means what it has said, and if the Crescent club faithfully subscribes to the A. A. U. doctrine, it cannot afford to overlook any breach of the amateur rule and there may be need for action on the part of both, else the underpinning may be knocked from amateurism.

"That A. A. A. rule denying amateur registration to any man who makes or sells a car or a lamp bracket, is likely to affect still another inter-club contest—the one between teams from the Chicago Athletic Club and the Chicago Motor Club, which is held each year. The Motor club is a trade club, pure and simple, and as hereafter its members can obtain only professional registration

cards from the A. A. A., there is no way for them to escape being officially branded "professional," and as amateurism is the cornerstone of and a requisite to membership in the Chicago Athletic Club, no member of the latter now can compete with a member of the Chicago Motor Club without thereby becoming a professional also and thereby forfeiting his membership in the athletic club. It therefore means that the team contest must be abandoned, or if it is continued, that the latter club will lose a lot of desirable members—or else that the A. A. A. lacks the backbone to enforce its own rules.

"In whichever way one views them, those rules create a pretty kettle of fish, and the smell ought to be strong enough to convince the A. A. A. that its position is untenable."

### To Provide "Pickings" for Lawyers.

Having found the picking easy and good in Massachusetts, the Automobile Legal Association has sprouted a branch and set up an office in New York City, where it expects to do even better than in the Bay State. H. Walter Webb figures as president of the New York institution, of which F. H. Elliott, secretary of the A. A. A., is secretary. Several other A. A. A. men have loaned their names to the enterprise in the guise of an "advisory committee." The "real works," however, is W. A. Thibodeau, who is treasurer and general counsel. He came from Boston and knows "just how the thing works." The chief purpose of the association is to provide "pickings" for lawyers. Each "member" of the association pays a stated sum each year, in return for which he can call on an association attorney for help whenever he is "pinched" by an unsympathetic cop.

### Long Islanders Accept Crescents' Challenge.

At a meeting of the contest committee of the Long Island Automobile Club, of Brooklyn, N. Y., this week the challenge of the Crescent Athletic Club, of that city, for an amateur automobile team contest over Long Island roads for a trophy offered by A. R. Pardington was accepted. Representatives of the two organizations now will get together to arrange the details of the match which will give to amateur sport the stimulant it so badly needs, as well as cement closer the ties of friendship between the competing organizations.

### When an Entry Fee Must be Returned.

The suit of the American Automobile Co. against the Motor Racing Association for entry fee in the last 24 hours race at Brighton Beach has been decided in favor of the plaintiff. The litigation arose from the fact that when the race was postponed from October to November the American entry was withdrawn, and although advertised as starting it did not start in the last race. The Motor Racing Association held the entry fee and returned it only upon the decision of the court.

## NEW JERSEY REPELS "FOREIGNERS"

Votes for Continuance of "Hold-ups," but Its Air Remains Free—Trenton Club Takes "Patriotic" Action!

After passing the lower house of the New Jersey legislature, the Edge bill, which sought to give non-resident motorists the right to travel in that state without payment of a registration fee for three periods of five days in each year, was throttled in the Senate, where the lovely Mr. Frelinghuysen abides. The vote, taken on Tuesday last, was 15 to 4 against the bill.

During the last week or two, considerable opposition to the measure was manufactured, chiefly in Mercer county, where the legislature is in session, even the Mercer County Automobile Club adding its voice to the protest. Of course, no one would even dream of accusing the club of being subject to political influence, as it is well known that its members are filled with delight whenever Pennsylvania calls on them to pay \$3 or Vermont \$10 for the reciprocal privilege of using the roads of those states.

The club's resolution of protest against the Edge bill, not only opposed the proposed five days privilege, but also the existing tourists' rate, and implored the legislature to force the hated "foreigners" across the river to pay the same fees as the New Jersey men. The Mercer County men are said to be so anxious to "pay as they go" and to help keep highways in good repair that at the next meeting of the club they will pass resolutions of regret that the pending law in New York will permit them to continue to enter and use the roads of the Empire state free of charge. They much prefer to pay the maximum fees!

### "Chaufeur" is Legally Defined.

The decision of the deputy attorney general of Pennsylvania that the word "chauffeur" in the new state law meant any person driving an automobile, and which was upheld by a magistrate, has been overturned by Judge Staake. The latter has ruled that the word means "the paid operator of a motor vehicle," which long has been the common understanding. Judge Staake rendered his decision in the test case instituted by the Quaker City Motor Club in which Stanley Cooper, of Philadelphia, was arrested and fined for driving his sister's car without a chauffeur's license. He claimed he was not a chauffeur within the meaning of the law, and this contention was upheld.

### Nebraskans Form the Otoe Club.

Motorists of Nebraska City, Neb., have formed an automobile organization to be called the Otoe Motor Club, and elected the following officers: Ralph A. Duff, president; John Harkel, vice-president, and Harry Rolfe, treasurer.

**"NATIVE SON" DEFEATS "INVADERS"**

**Californian Three Times Takes the Measure of Harroun and Matson—But Harroun Evens up the Score.**

It was nip and tuck between Ray Harroun and his Marmon against Al Livingston, piloting a Corbin, for stellar honors at the opening meet of the California racing season at Ascot Park, Los Angeles, on Friday and Saturday, March 5 and 6, and when the two days' speed session was ended the native son had somewhat the best of it. Harroun and Joe Matson, the latter of whom again is wearing the Marmon colors, made their debut on the coast, and although the former captured a majority of the events, it was Livingston who bagged the headliners on the double bill.

On the opening day there were four numbers on the card, with a 25-mile event as the feature. With the high class talent that faced the gun, it was safe to predict that the going would be fast and exciting, and predictions were fulfilled, for it was one of the most exciting quarter centuries ever spun on a coast track, and Livingston was first across the line at the finish. This lowering of the colors of the Eastern cracks by a practically unknown driver, who, although having competed at previous Ascot meets, had achieved but indifferent success, surprised and delighted the natives, who made a hero of the local lad and carried him on their shoulders. Livingston also annexed the five mile handicap, while the remainder of the card—a five and a ten miles event—were taken by Harroun and his speedy Marmon, his team mate being runner-up on each occasion.

With the enthusiasm which the fine racing of the first day produced, it was to be expected that a larger crowd would register at the box office for the second instalment of the speedfest, and this was the case. The defeat of the Eastern stars on the previous day presaged revenge at the second round, but Livingston still retained that quality which largely contributed to his initial triumphs—his willingness to plunge through thick clouds of dust on the turns where his competitors slackened slightly. Only three events were put on, but what was lacking in quantity was more than made up by the quality of the offerings. With a 50-mile derby as the big plum to be picked, Livingston made the best run of his track career, lapping five of the field of six and showing the way at the finish to Harroun by a good margin. However, Harroun derived some satisfaction for his defeat by making a runaway in the five and ten miles events.

**First Day—Friday.**

On the line for the curtain raiser, a five miles open, were Harroun, Livingston, O'Donnell, in a Pennsylvania, and Ende-

cott, at the wheel of a Cole. The battle was between the first named pair, who steadily pulled away from the others, but Livingston couldn't quite overtake Harroun and the latter scored the first victory in a close finish. Endecott trailed home third. Time, 5:18½.

Again in the ten miles Harroun took the lead early and kept in the van and was leading by a good margin at the finish. Livingston again was the runnerup, and Matson scored a third in the first official tryout of his new love. The clocks registered 10:25½ for the journey.

Livingston first showed his form in the five miles handicap. He had the smallest allowance—10 seconds—but nevertheless it wasn't long before he overhauled Siebel with the Sterling, who had 35 seconds grace. Continuing his elimination process, he next went by Endecott and O'Donnell before the end of the third mile and finished far in the lead. The last named pair finished in that order. Livingston bettered Harroun's time for the five circuits, making the trip in 5:07½.

As usual, Harroun was the quickest in getting away at the send-off of the quarter century grind, which had six starters. Livingston, Matson and O'Donnell followed in that order, and the procession remained unchanged for nine miles. The cars frequently were lost in the great clouds of dust which were stirred up. Livingston showed a willingness to plunge through the clouds full tilt, whereas the others eased up a bit, and this recklessness finally brought the local boy on even terms with Harroun. They came down the stretch abreast, in the tenth mile, but Livingston uncorked a few more sparks and went to the front. He was never headed again, but continued to shave the corners close and rung in in 25:56¾. He also had to his credit the fastest mile of the day, which he turned in 1:01. Harroun and Matson checked in second and third.

**The summaries:**

Five miles open—Won by Ray Harroun, Marmon; second, Al Livingston, Corbin; third, William Endecott, Cole. Time, 5:18½.

Five miles handicap—Won by Al Livingston, Corbin (0:10); second, William Endecott, Cole (0:25); third, Morris O'Donnell, Pennsylvania (0:25). Time, 5:07½.

Ten miles open—Won by Ray Harroun, Marmon; second, Al Livingston, Corbin; third, Joseph Matson, Marmon. Time, 10:26½.

Twenty-five miles open—Won by Al Livingston, Corbin; second, Ray Harroun, Marmon; third, Joseph Matson, Marmon. Time, 25:56¾.

**Second Day—Saturday.**

Livingston's track career nearly came to a sudden and abrupt end on the second day, when a steering knuckle snapped in the ten miles race, but fortunately he managed to stop right side up and the car was not

seriously damaged. With his formidable rival eliminated, Harroun won the event hands down, and Matson crowded Endecott out of second. Time, 10:21½. The five miles for stock cars was a walkover for the Indianapolis combination, Harroun running away from the field. Livingston and O'Donnell disputed second and the former got it. The watches recorded 5:11 for the distance.

After holding up the field for several minutes while he replaced the broken knuckle, Livingston came to the line for the fifty miles flight, and the field of seven were dispatched on their half-century journey. Again displaying his superb track generalship, Harroun jumped the field and gained a substantial lead. Livingston, who was looked upon to dispute Harroun's leadership, found the pace too hot and the dust too thick, and eased up a bit, and at the ten miles post Harroun was half a mile to the good. Then the Angeleno lad took a fresh breath and buckled down to his task again, with the rest of the pack well strung out but going strong.

The fight was between the East and the West, and Livingston gained slowly but steadily and was close on his man when, in the 29th lap, Harroun pulled up with a slipping clutch and the Corbin went by like a flash. A few handfuls of sand cured the slipping temporarily, and the Hoosier went out to try and pick up Livingston, who was going great guns. It was too great a task, however, and at 40 miles the local boy led Harroun by three-quarters of a mile and had lapped the rest of the field. In the last stages Harroun made another strong bid for the lead, but it was met by an equal burst from the man in front, and Livingston crossed the line a winner by nearly a minute. Matson scored another third. The time, 50:26¾, is the best for the distance ever hung up on the coast, and is the more meritorious in that it was made by a stock car which has been campaigned in many previous meets.

**The summaries:**

Five miles, stock cars—Won by Ray Harroun, Marmon; second, Al Livingston, Corbin; third, Morris O'Donnell, Pennsylvania. Time, 5:11.

Ten miles, stock cars—Won by Ray Harroun, Marmon; second, Joseph Matson, Marmon; third, William Endecott, Cole. Time, 10:21½.

Fifty miles free-for-all—Won by Al Livingston, Corbin; second, Ray Harroun, Marmon; third, Joseph Matson, Marmon. Time, 50:26¾.

**Racing Association Leases a Club House.**

The Motor Racing Association, of New York, which has existed largely to promote 24 hours races on the Brighton Beach track, has leased the building 304 West Fifty-eighth street and will conduct it as a club house. A feature will be made of a daily luncheon which it is hoped will attract the automobile tradesmen who are so numerous in the immediate locality.



**CUNTZ UNCOVERS ANCIENT HISTORY**

**Credits Missionary in China with Original Automobile Idea, and Americans with First Inflation of Price.**

Fathers have been known to disown their offspring in many instances, but probably it will surprise most people to learn that James Watt, affectionately known as the "father of the steam engine," left a specific provision in his will forbidding the use of automobiles driven by high pressure steam engines within the confines of his estates in England. This provision seems all the more remarkable when it is known that in addition to developing the steam engine to a state of practical utility, "Daddy" Watt himself, in 1783, had taken out a patent on an automobile in which he contemplated the use of high pressure steam.

This little known item of automobile family history was disclosed by Hermann F. Cuntz, of the Association of Licensed Automobile Manufacturers, in the course of a lecture delivered last week before the Stevens Engineering Society at Stevens Institute, Hoboken, N. J. Mr. Cuntz addressed the budding engineers of Hoboken upon the broad and useful topic of the opportunities which the automobile industry offers the trained expert in engineering matters. But incidentally he found occasion to introduce a number of interesting production figures, as well as to shake down the family tree and hand around several little known bits of historical fruit.

Among them was the assertion that, despite the vaunted seniority of the European branch of the industry, its real commercial impulse was acquired as a result of American interest in its progress. As is well known, some of the early racing contests first called the attention of the world at large to automobile development in France.

"That assisted very materially in the development of the industry as to practical tests and indicating what they should make for the public," said Mr. Cuntz. "But those constructors did not make any money out of those races until some wealthy Americans happened to visit the Paris and Bordeaux races in 1895 or 1896. They felt that the car that won the race ought to belong to them, but the French driver told them he had made the car for that race and was then going to throw it away and was not going to sell it. The Americans insisted they must have it. After consulting with his associates the driver decided that, although it cost them about \$3,000 or \$4,000, or the equivalent in francs, he would not sell it. He insisted that it was not worth anything after the race. The Americans, on their part, persisted and finally bought it for 6,000 francs."

Immediately the Gallic head began to sell;

the car which finished second in the race was sold at a further advance, "and that," Mr. Cuntz avowed, "gave them the idea in France that there was real money in the building of machines. By the way, I happen to know that that little incident was a very powerful factor in developing the industry in France. It was a great surprise to them that Americans would pay that money for machines they were going to throw away, because it was giving them money to build more machines—which, of course, was good. But it sticened their idea of the value machines had for rich Americans. That was the start of high priced automobiles in France, and that is the way that Americans, as a practical business proposition, supplied the means for the development of the automobile industry in France."

All the textbooks which the chauffeurs' academies sell to their pupils at a price tell how the automobile first came to be invented. But the A. L. A. M. expert, who has made a very close study of the subject in examining into the status of the Selden patent, has a version to offer which is slightly different from those printed in most of the books.

"A Jesuit missionary, about 1645 or 1650," according to Mr. Cuntz, "was attached to the Court at Peking, China, and he built a little toy, . . . attached to this a small boiler that discharged toward the rear of the vehicle and so propelled it forward. He placed a larger wheel on the outside than on the inside, so that the automobile would go 'round in a circle to amuse the people of the Court. From that on for over 150 years all sorts of attempts have been made to develop the self-propelled vehicle. . . .

"The successful attempts made in France, which are always stated as the first attempts made, to operate self-propelled vehicles, were made by a captain of artillery, but he had the misfortune, after a grant of money had been made to him to build an automobile—in 1787 or 1788, which automobile was intended to draw cannon—to collide with a building in the streets of Paris, and they promptly arrested the automobile and stopped his allowance, and the automobile was locked up in the Museum of Arts de Mecaniques in Paris until an American resurrected it as a valuable and interesting thing to the whole engineering fraternity.

"About 1777 the Germans became rather active. One man, a captain of artillery, thought that he could use the discharge of a gun, and promptly designed a vehicle with a cannon on it at the rear, which was intended to compress a spring and that, in turn, to drive the machine. . . .

"Consider for a moment that the locomotive designs were started in about 1800 or 1804, and in one century the steam locomotive has been developed to the state that you now observe it. The automobile, however, has developed in ten years more than the locomotive has developed in a hundred

years. In 1783 James Watt took out a patent on an automobile in England. . . . Self-propelled vehicles were used from that time on until about 1830 or 1831, but with very little success.

"It is quite interesting to note that a select committee of the House of Commons in England was appointed to investigate the subject, and all the known engineers were examined regarding the practicability of traveling vehicles on roads. Here is a reprint of the report of the select committee of the House of Parliament which the American Congress ordered made. So you will see that the history of the automobile in the United States began at quite an early date. This was reprinted in 1832.

"Prior to that Oliver Evans, well known in mechanical engineering circles, or, rather, well known in engineering circles before there was a distinction between mechanical or civil or any other class of engineers, advised a combination of a steam engine and a wheeled vehicle. He went to the Legislature of Pennsylvania and endeavored to persuade them to give him the exclusive grant, in consideration of the expense he would be put to to introduce it, to construct and operate self-propelled vehicles on roads. They felt that he was a fool and that it was a 'crazy' idea and refused to give him the grant. So he went to Maryland; and Maryland has the distinction of having granted the first patent to anyone in the world for the utilization of self-propelled vehicles. . . .

"Shortly after that Evans built an automobile and called it the Amphibia. There was a propeller in the rear and two side wheels, and it could be propelled on land or in the water. He ran that down Chester street, Philadelphia, and into the Delaware River and up the Delaware River to Trenton. That was about 1786. Then a man named Reed, in Massachusetts, actually ran a steam propelled vehicle about 1805. So America stands before the world in the use of steam propelled vehicles."

**When an Automobile is Outlawed.**

Unregistered cars which are driven on the highways of Massachusetts are outlaws, and the occupants thereof who may receive injuries caused by defective highways are not entitled to recover damages according to a decision rendered by the Massachusetts Supreme Court. The decision, which was handed down in a suit for damages brought against the city of Melrose by the occupants of an unregistered car, who sustained injuries by running into an unprotected excavation in the roadway, is of general interest as defining the status of unregistered cars in the Bay State. In the lower court the plaintiff recovered verdicts in their favor, but the city took an appeal to the higher court, which reversed the ruling. The decision should prove wholesome deterrent to any irresponsible persons who may feel inclined to roam in unregistered cars within the borders of Massachusetts.

## LAMPS WITH GILDED REFLECTORS

**Their Appearance on Foreign Market  
Causes Discussion of Their Merits—  
The Claims Made for Them.**

In consequence of the introduction to the British market of a brand of automobile headlights which are equipped with gilded reflectors, some little discussion has been aroused as to the relative advantages of gold and silver surfaces for the purpose. The chief advantage originally claimed for the light beam reflected from the gold mirror is that its powers of penetration through foggy atmosphere are far superior to those of any other form of light; to these claims have now been added the no less important claim that objects seen in the light of one of the new style lamps assume more nearly their natural colors and are more readily distinguished than by the light of the more ordinary form of lamp. These claims, coupled with the promise that within a short time the lamps equipped with gold reflectors will be placed on a practically equivalent price basis with other products of corresponding size, have considerably added to the interest which the novelty of the system alone would induce.

During the long and effective series of lamp trials conducted by the Royal Automobile Club last August, it will be remembered that three lamps with gold reflectors were subjected to the standard form of trial and with results which compared favorably with those derived from other systems, though without materially distinguishing the newer devices. The "Golden-lyte" line which has since been introduced, is an outcome of the experimental systems then used. In general service the new lamps do not differ materially from other lamps. For acetylene service the simple lens mirror principle is employed, the backs of the lenses being gilded by a new and more or less secret process of precipitation analogous to the method by which ordinary mirrors are silvered.

The electric headlights employing the gold reflectors are distinguished by more novel characteristics in that the main body of the lamp is hermetically sealed and either filled with a non-oxydizing and dry gas or partially exhausted of air. To this end, the front is sealed in place, while the light bulb is enclosed in a small glass dome which is inserted from the back, through which also the lamp itself is inserted. The mirror thus is protected from oxidation.

With regard to the relative qualities of silvered and gilded reflectors, the *Automotor Journal* observes that "rays reflected from a polished gold surface are unquestionably colored, and for this reason it is only logical to suppose that they have less absolute intensity of illuminating power, as compared on a photometer, with a white light beam reflected from the same source.

"To diminish the intensity of the beam would presumably be also to diminish its efficiency from the motorist's point of view," continues this authority. "But this is exactly what the aforementioned research has shown does not take place. Experiments . . . have confirmed in a very striking manner that there are qualities in a light reflected from a gold surface that more than compensate for the loss in the intensity of their photometric value. We presume that there is an appreciable difference between the photometric intensity of the silver and the gold light, although we have not been placed in possession of any relative values, nor, curiously enough, were we able to detect any appreciable difference in the density of the shadows cast upon ordinary outdoor objects by the two lights at the same range.

"We understand, however, that the spectrum of the light reflected from the gold mirror stops short at the color green, being deficient in violet, indigo and blue light, and therefore relatively strong in the green, yellow, orange and red rays. The absence of the blue light appears to have a beneficial effect on the illuminative value of the remaining rays, at any rate, so far as they relate to the illumination—to suit the human eye—of natural objects encountered by the motorist. It would seem that the general coloring of such objects is extremely responsive to these tones, for the difference in their appearance under light reflected from a silver mirror and light reflected from a gold mirror is most marked; in some respects it may be likened to the difference that exists between the appearance of objects in the sunlight and moonlight. The intense white light of a silver beam produces, by comparison with the gold light, rather a flat effect. The gold beam is what may be described as a 'warm' light, and it seems to make objects more natural in their appearance as they loom up ahead.

"The other important aspect of this comparison is the relative dazzling effect of the two kinds of light, but on this subject it is very difficult to say much of a definite character owing to the lack of a precise definition of what the term dazzling means. If it means absolute blinding effect, due to the intensity of the reflected light striking directly upon the eyes, then both lights are certainly dazzling, although it may be said in favor of the golden beam that it is very much less unpleasantly so, just as, from the driver's standpoint, it is unquestionably superior in its powers of penetrating mist or fog. Away from the direct rays of the long-distance beam, but still in front of the lamp, there is little doubt that the majority of people would pronounce in favor of the light reflected from the gold, again on the score that it is distinctly less intense in appearance. But, as we have remarked, it is extremely difficult to say what does constitute a dazzling light.

"For our own part, and speaking mainly from our experience of night driving, we incline to the opinion that the intensity of

the light itself is less a matter of importance than the relative darkness immediately behind the lamp. If some means were found by which a reasonable amount of side and rear illumination could be thrown on the road without dazzling the driver of the car on which such illumination is provided, we believe that little cause for complaint against powerful head-lights would remain. Such a system would, we believe, break down the intensely black wall which always seems to accompany an approaching car, and makes it so difficult to either see the road or anything that may lie beyond it."

### Rigorous Provisions in New Italian Law.

The new state automobile law for Italy serves as a fair example of how the motor car is treated in continental Europe. As most of the accidents result from incapacity on the drivers' part, the Italian law requires that drivers shall thoroughly understand the construction and operation of the machine. When applying for the necessary permit he must submit to the prefect a certificate of birth, showing that he is over 21 years of age. If he has not reached his twenty-first year, but has passed his eighteenth, he must obtain the consent of the legal representative; also a penal certificate of recent date, a medical certificate of recent date with special reference to his faculties of sight and hearing, and a certificate of graduation from a drivers' school recognized by the Minister of Public Works. In case this latter certificate cannot be furnished, the applicant must pass a rigid examination before an accredited official of the Railway Inspection Bureau.

The Italian law sets up three speed limits; in the open country 25 miles an hour is allowed in daylight; 12½ miles an hour at night; 9½ miles an hour in the city limits. Lamps must be alight from dusk to dawn, and also during foggy weather. Dazzling headlights are forbidden in towns. Horns must have but one note, which must be low in pitch for motor cars and high pitched for motorcycles; exhaust cut-outs are forbidden in towns, and sirens may be used only in the open country.

### Kansas City Motorists Elect Officers.

Officers for the coming year have been elected by the Kansas City (Mo.) Automobile Club as follows: Frank P. Ewins, president; George H. Davis, first vice-president; Frank E. Lott, second vice-president; directors, A. W. Peet, W. W. Cowan, A. J. Davies, Harry T. Fowler and W. T. Whitcomb.

### New Galveston Club is Organized.

Organization of the Galveston (Tex.) Automobile Club has been perfected and the following executives elected for the coming term: J. W. Munn, president; George Sealy, vice-president; Bartlett Moore, secretary; directors, the officers, W. L. Moody, Jr., John Sealy, M. O. Kopperl and Sealy Hutchings.

### INDICATES INSIDE WORKINGS

**Ingenious Instrument Which Serves Unusual Purposes — Ancient Principle Employed in Modern Practice.**

One of the great advantages of the electric vehicle from the operating standpoint is that it furnishes ready means for ascertaining the exact output of energy at any instant of service, and without regard to extraneous circumstances. This the internal combustion engine does not permit without the introduction of apparatus of a very special character. Of the several devices of this nature which have been introduced it is safe to say none is more scientific or based upon more interesting theory than the Dynatak, made by the Electric Speedometer & Dynamometer Mfg. Co., of Washington, D. C., which has recently been exhibited in New York City, though it was not on view at either of the automobile shows.

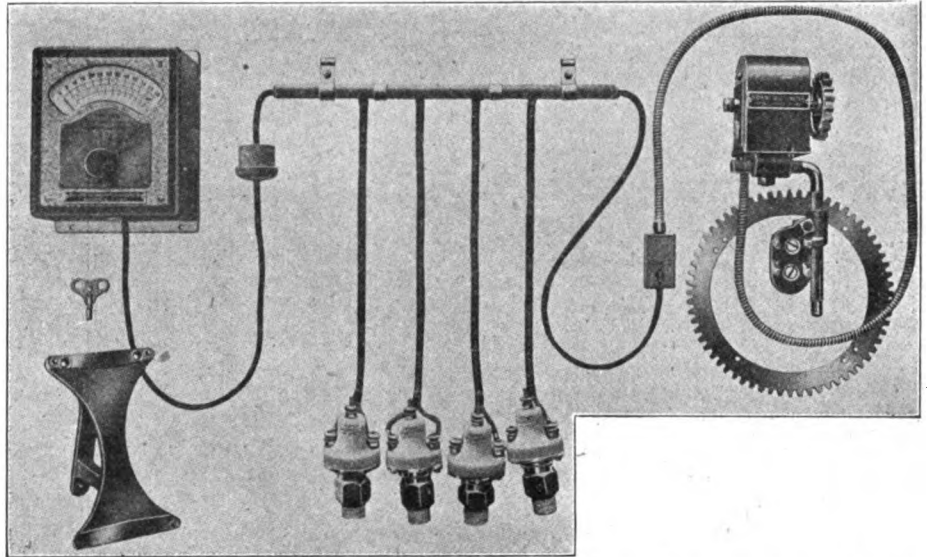
The principle of this system, which is the

the principle has been adapted to indicating the conditions which exist within the internal combustion motor when in action.

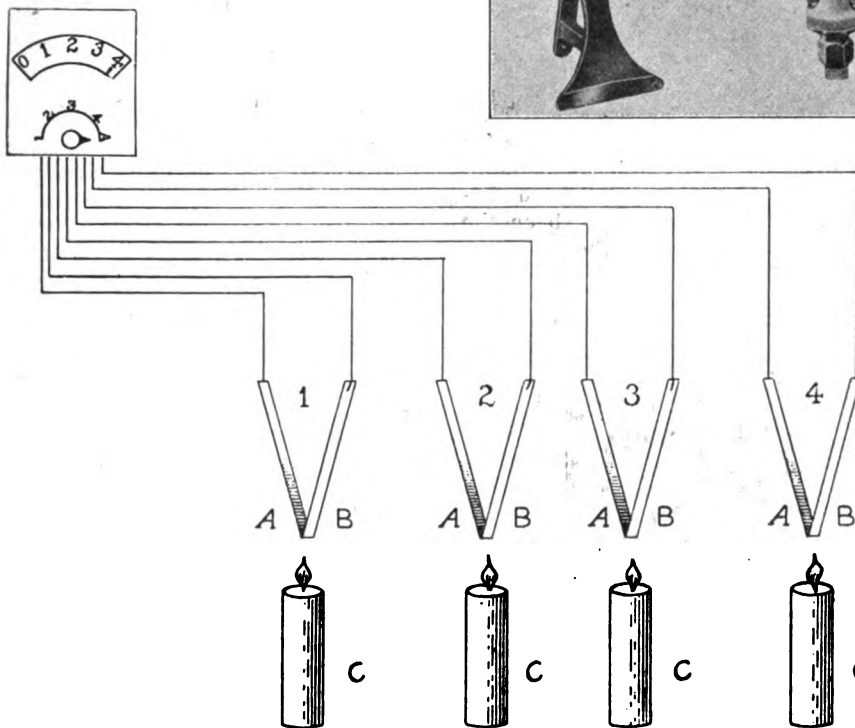
The respective thermo-electric couples are represented diagrammatically at A-B, the candle flames C playing about the junction points, while conducting wires lead to the indicator, which may be a sensitive galvanometer, but which for practical purposes takes the form of an extremely delicate ammeter. The couples 1, 2, 3, 4 are connected

to the type of engine to be indicated. As the indicators are proportional to temperatures at the junction of the respective elements in each pair, it is obvious that they furnish a direct index of thermal changes which occur within the cylinders of the engine, provided the couples are adapted to a form suitable for insertion into the cylinder of the standard form of engine.

This has been done, and the resulting construction is revealed in the two illustrations



VIEW OF COMPLETE DYNATAK OUTFIT



APPLICATION OF THERMO-PILE TO DYNATAK SYSTEM.

invention of Professor N. Monroe Hopkins, is the ancient one of the thermo-pile, which was enunciated as long ago as 1826 by Becquerel. Its only other present application of moment, however, is in the determination of extremely high temperatures by means of a certain form of pyrometer. In a word, the basis of the Dynatak system is that the heating of the dissimilar elements at the point of their juncture generates an electric current of low intensity, but proportional to the temperature. The accompanying illustration shows in a general way how

independently to the indicator in such a way that the currents generated by the respective elements may be indicated on the dial of the instrument independently by placing the small pointer in the base at either of the positions indicated by the numerals "1," "2," "3" and "4." By switching the indicator over to the position "A," as shown in the illustration, the several circuits are connected in series, and the indication shown measures the total current generated in the entire series of couples. Obviously these may be adapted in number

which show two sectional views of the combined indicating and sparking plug. This device, which is essentially the keynote of the system, has been worked out with especial care, and not without encountering serious obstacles. As the necessary thermo-electric elements in themselves would not resist the intense heat which is attained in the ordinary gas engine, provision has been made for cooling them to an equable temperature. The cooling action is accomplished by enclosing the elements in a metallic jacket which is carried up through the porcelain insulating material, of which the body of the plug is composed, and which serves to conduct away the excess heat from the points and prevent them from suffering as a result of carbonization or oxidation.

From the upper ends of the jackets terminals are led to each of the external connection points, from which wires are carried to the indicator, thus forming a complete metallic circuit for the operation of the indicating system. A third point which projects from the lower end of the porcelain is the insulated terminal conductor for the sparking element, which is of regular construction and operation in a general way, save that the connection to the outer binding post is made through the medium of a spring connector within the shell, which prevents excessive strains applied to the high tension sparking cable from breaking or straining the insulation and thus destroying the plug.

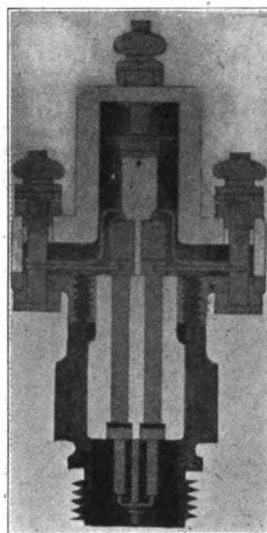
The usefulness of the commercial instrument is further augmented by the introduction of an electric speedometer and odometer device, which is driven from one of the fore wheels of the car in the usual manner. This instrument is nothing more nor less than a delicately contrived magneto-generator, designed in such a way as to reduce and standardize all losses as far as possible. An odometer mechanism is built into the upper part of the generator casing while the speed indications are read directly on the scale of the single indicating instrument. As the number of revolutions per minute of the steering wheels is proportional to the speed of the vehicle, it follows that the indications of the meter may be read either in terms of revolutions or miles per hour. As a matter of fact, either indication may be obtained merely by turning a little switch key in the base of the indicator which serves to cut in or out a small amount of resistance in the magneto-dynamo circuit.

The complete outfit as constructed for use with four-cylinder engines, as illustrated, includes in addition to the combined indicating and sparking plugs, the magneto-dynamo, the indicating instrument, and a complete set of conducting cable which is so contrived that the system may be installed without difficulty. The indicator carries a double scale, over which swings a single pointer. The controlling switch in the base enables the current from the speedometer to be directed into the windings in such a way that the position of the pointer over the upper scale will indicate either revolutions of the wheels or miles per hour, as may be required. It also may be turned in such a way as to reveal the temperature variations in either one of the cylinders, or in all of them, if the pointer be turned to the spot on its dial marked "A."

The gradations on the power scale, in the language of the inventor, are said to represent "efficiency." Actually, they do not indicate the real thermal efficiency of the motor, nor any quantity directly related to it, save as a rough proportional. The gradations are based on the theoretical maximum temperature of the engine, as determined in accordance with its bore. If the maximum heat which an engine of given dimensions is supposed to be capable of attaining really is produced in action, the indicating hand of the instrument will point to 100 on the lower scale. If the maximum temperature is 90 per cent. of the theoretical maximum, then the indication will be 90 on the scale.

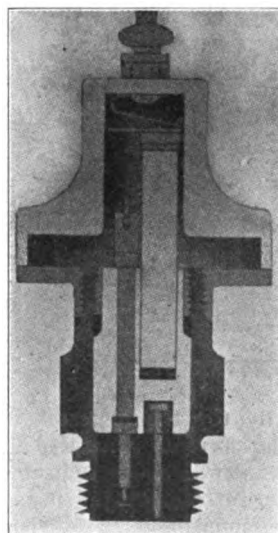
A moment's consideration will suffice to show the wide range of application of these seemingly irrelevant figures. As the response of the thermo-couples is not instantaneous, the successive fluctuations of current caused by the succeeding explosions in the different cylinders are not indicated by variations in the position of the needle. But so soon as one cylinder misses, a very slight "dip" of the needle will be apparent—

even if no more than single explosion be missed, it is claimed. Turning the controller from one cylinder notch to another then will reveal the "limping" member of the cylinder group. By a similar process, one or more cylinders in which the action is weak or irregular can be detected at once.



DYNATAK PLUG SHOWING COUPLE

Furthermore, as the indicator scale is graduated to record a maximum when the engine is at its best performance, it follows that equal readings should be obtainable for the different individual cylinders, and that a weak cylinder at once may be located simply by turning the controller knob on the indicator. But more than this, the maximum temperature is obtainable only with the correct timing of the valves, with proper compression, proper ignition conditions, and a correct mixture. Therefore, having once



SPARKING ELEMENT SHOWN IN DETAIL

standardized the indications for any engine, it is possible at once to bring it back to its maximum performance, by using the indicator as a means of checking up the results of adjustments. In all probability it is in the sense that the term "efficiency," as

applied to the scale readings, is introduced.

By the same sort of reasoning, it is possible to see that the Dynatak readings may be made to furnish a rough and ready indication of horsepower output. For once the maximum power of the engine is known, the readings of the instrument at once show temperatures, which, in turn, may be construed as proportional to the heat interchange going on within the cylinder, and so with the actual power produced. In this way it is possible to obtain a fairly close index of the relative power requirements of various grades, road surfaces, and also of different styles of body or mechanism, which it may be desirable to compare under road conditions.

#### Bay State Upholds Pictured Evidence.

In the opinion of the full bench of the Massachusetts Supreme Court a chronometer which is dependent on the simultaneous action of two photographic cameras with stop watch mechanism is a trustworthy method of timing the speed of motor cars, and by the terms of this ruling William S. Buxton will have to pay the fine imposed by the Boston police court for exceeding the speed limit of twelve miles an hour on Commonwealth avenue. In taking his case to the full bench of the Supreme Court Buxton filed an exception to the action of the Supreme Court in admitting the timing apparatus as evidence, claiming that there was nothing to show the trustworthiness of the instrument as a time recorder. However, the full bench overruled the defendant's exceptions, and said that the court did not err in admitting the chronometer as evidence, or the evidence as to its construction, or the trustworthiness of the apparatus employed to obtain it.

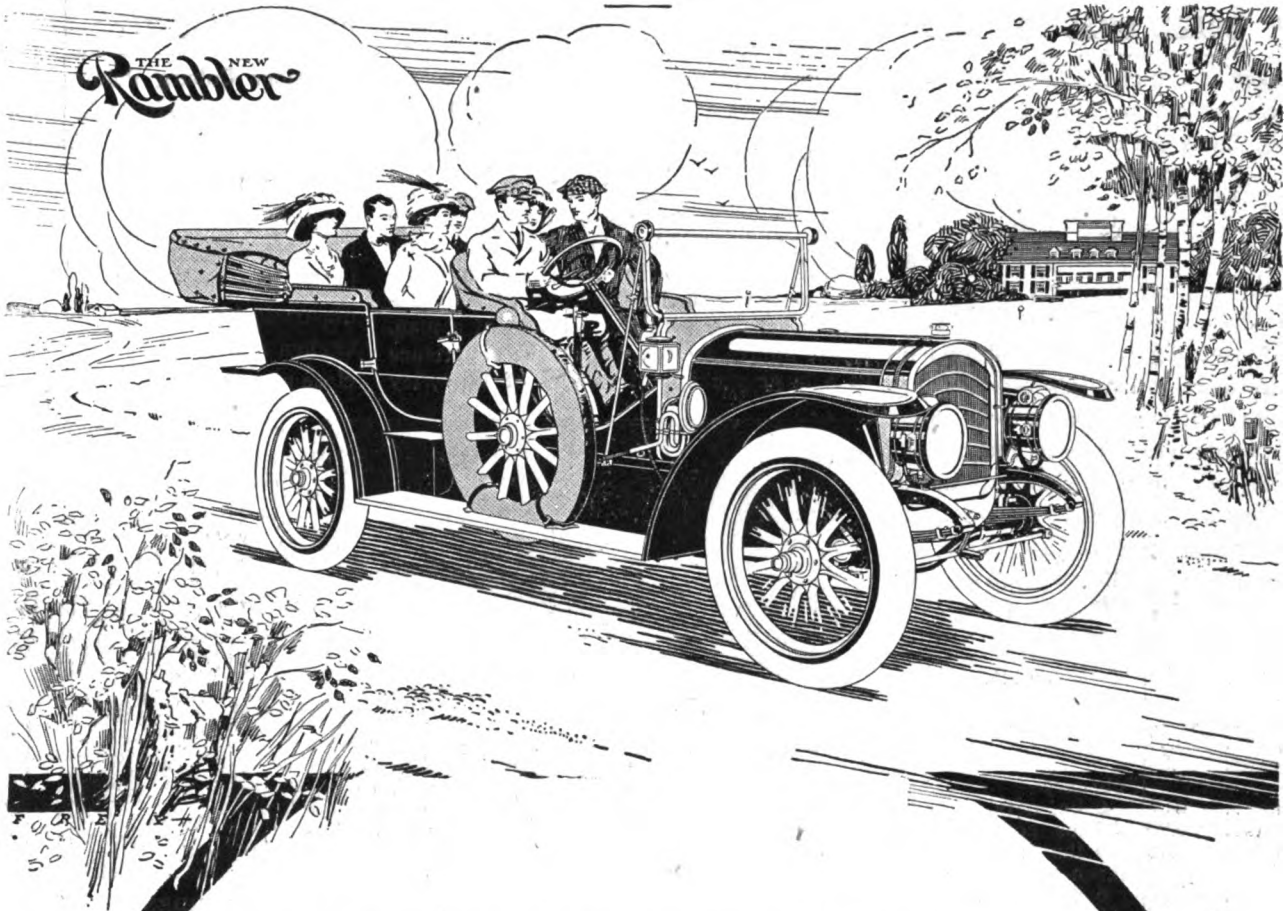
#### Failure to Relay Street Proves Expensive.

While contractors in America are supposed to restore streets they tear up to the same condition they found them in, the laws to this effect are rarely enforced. In England, however, a contractor had to pay heavy damages to a firm whose motor truck was injured by the bad condition in which the contractor had left the street after laying a few gas mains. The judge said, that anyone disturbing the surface of a public road, and failing to restore it to its former safe condition, was responsible for any damages that might result from his negligence.

#### Sage Brush Useful for Road Repair.

At last a use has been found for the notorious sage brush of the Western arid districts. Motor enthusiasts in the West have completed a series of tests involving the use of sage brush in road building, and found it a great success. Sage brush, placed loosely upon the road, is readily crushed into pulp forming a perfect mat. Sand and earth mixing with this mat make it firm, dustless, noiseless, and of excellent wearing qualities.





THE new Rambler, because of its quiet ease of motion, reserve power, and dignity of comfort, affords to the busy man pleasing relaxation and healthful recreation with family or friends at the end of the day. For satisfactory operation in crowded city traffic, on boulevard, or country road the new Rambler, because of the offset crank-shaft, is capable of three or sixty miles an hour, on high speed, climbing any hill with gratifying ease. The Spare Wheel obviates tire trouble. With straight-line drive, big wheels and tires, and new expanding clutch the new Rambler is superior to all in efficiency and better than any in quality, silence, and comfort.

Rambler automobiles, \$1,800 to \$2,500

Thomas B. Jeffery & Company  
Main Office and Factory: Kenosha, Wis.  
Branches: Chicago, Milwaukee, Boston, Cleveland and San Francisco

## HORSES' BOARD BILLS INCREASE

Which Makes It Easier for the Electric to Show a Big Saving—Figures Which Show the Saving.

Some one asked the other day how the high prices of food and other things that enter into living expenses were affecting the automobile business, and the inquiry induced the statistician of the Waverley factory to delve into figures. After observing that it costs more to live this year than it did last year, and a good deal more than it cost five or ten years ago, he found also that it costs more to keep a horse than it did last year, and a good deal more than it did five or ten years ago. In evidence, he submitted these feed bills of a horse kept in regular service for the last two years by a well-known physician of Boston:

1908.	1909.
January—	January—
12 bu. oats.. \$7.92	6 bu. oats.. 3.72
355 lbs. hay.. 4.44	
50 lbs. corn.. .83	
February—	February—
534 lbs. hay.. 6.67	6 bu. oats.. 3.60
6 bu. oats.. 3.90	50 lbs. corn.. .85
25 bu. corn.. .45	410 lbs. hay.. 4.10
March—	March—
590 lbs. hay.. 7.38	6 bu. oats.. 3.60
6 bu. oats.. 3.90	50 lbs. corn.. .85
25 lbs. corn.. .40	
April—	April—
1 bale straw 2.06	12 bu. oats.. 7.74
6 bu. oats.. 4.02	1135 lbs. hay.. 11.35
50 lbs. corn.. .83	1 bag corn.. 1.65
May—	May—
6 bu. oats.. 4.02	6 bu. oats.. 3.90
352 lbs. hay.. 3.87	
June—	June—
757 lbs. hay.. 8.33	1 bale straw 3.54
12 bu. oats.. 8.04	6 bu. oats.. 4.02
50 lbs. corn.. .85	100 lbs. bran.. 1.75
	1135 lbs. hay.. 12.49
July—	July—
6 bu. oats.. 4.00	6 bu. oats.. 4.20
	1 bag corn.. 1.80
August—	August—
770 lbs. hay.. 7.70	6 bu. oats.. 3.90
3 bu. oats.. 2.16	
September—	September—
3 bu. oats.. 2.01	1542 lbs. hay.. 17.23
50 lbs. corn.. .93	6 bu. oats.. 3.72
October—	October—
6 bu. oats.. 3.90	3 bu. oats.. 1.59
572 lbs. hay.. 5.72	12 bu. oats.. 6.36
November—	November—
6 bu. oats.. 3.78	9 bu. oats.. 4.77
1 bag corn.. 1.85	1040 lbs. hay.. 11.44
50 lbs. bran.. .85	
1 bale straw 2.05	
December—	December—
12 bu. oats.. 7.20	1 bale straw 1.77
1086 lbs. hay.. 10.86	6 bu. oats.. 3.42
50 lbs. corn.. .90	5 bales hay 5.98
\$117.82	\$129.34
Blacksmith's bills .....	Blacksmith's bills .....
29.30	32.60
Driver's wages 300.00	Driver's wages 360.00
" board 182.00	" board 208.00
Total expenses \$629.12	Total expenses \$729.94

"An increase of 10 per cent. in the feed bills of a single horse for a single year may not seem startling to the average mind,"

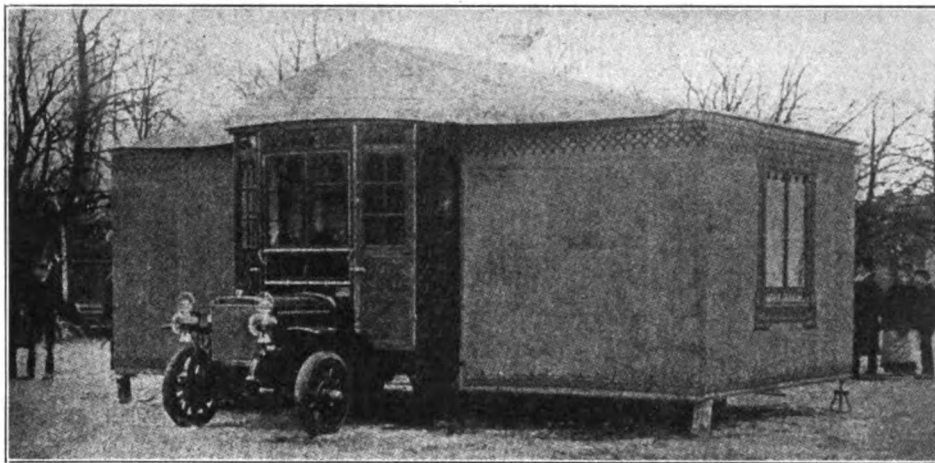
says the Waverley man, "but when you add to that a similar increase in the blacksmith bills and a still greater increase in the wages and board of a man, and keep up that pace for a series of years the difference is quite significant.

"It will be seen that the cost of keeping a single horse in the city of Boston in 1909 was \$100 greater than in 1908. Now compare this cost with that of using an interior-driven electric in the same part of the country, dispensing with the services of a man. These figures are taken from the experience of a large number of owners of Waverley

## "WHY PAY RENT?"—OR A MOVER?

Ingenious Coburg Painter Shows How to Take One's House Out Motoring—A Collapsible "Car-avan."

It will be rather difficult to extend the adaptabilities of the motor car further than has been done by a German painter, of Coburg. The car shown in the accompanying illustration contains in its body a bedroom, kitchen and toilet, while the extensions enclose a parlor and a living room. The walls



TOURING CAR CONVERTED INTO "RESIDENCE."

electrics of various dates and types, and represent average costs for extended periods:

Cost of current per month.....	\$4.11
Cost of battery renewal per month..	4.85
Cost of tire renewal per month .....	4.40
Sundry repairs per month .....	2.02

Total average cost of an electric per month .....	\$15.38
For one year .....	184.26

A saving in favor of the electric of \$545.68 in a single year.

This saving is due to the very reasonable economy involved in dispensing with the services of a man—an economy that becomes entirely practicable and convenient with the use of an electric. If, however, the owner prefers to keep his car at a public garage and avoid the slight trouble involved in washing and looking after his own car, the additional expense would be less than \$20 per month, and he would still save upwards of \$300 per year on the cost of keeping a horse and a man."

### High Mileage of Massachusetts Motorist.

Charles F. Smith, of Fall River, Mass., who for 20 months has kept a daily record of a six cylinder Franklin which he operates, is another motorist who ranks with the high mileage men. During that period his car traveled 49,635 miles, an average of 82 miles per day. In the nine months between April 1, 1909, and January 1, 1910, Smith covered 25,492 miles, a daily average of 94 miles; he carried 1,731 passengers and used 2,303 gallons of gasoline, 617 quarts of oil and 6 tires.

are formed of canvas stretched between aluminum supports; the furniture is of the collapsible kind and can be carried in a comparatively small space, in niches and on shelves ingeniously arranged in the interior of the car. Electric light furnishes the illumination of the rooms. The owner of this strange "caravan" expects to spend all summer in it, and to travel wherever his fancy takes him, stop where he pleases and as long as he pleases, absolutely independent of hotels, railroads, or even village huts, camping out the whole time.

### Boston's "Move On!" Rule Sustained.

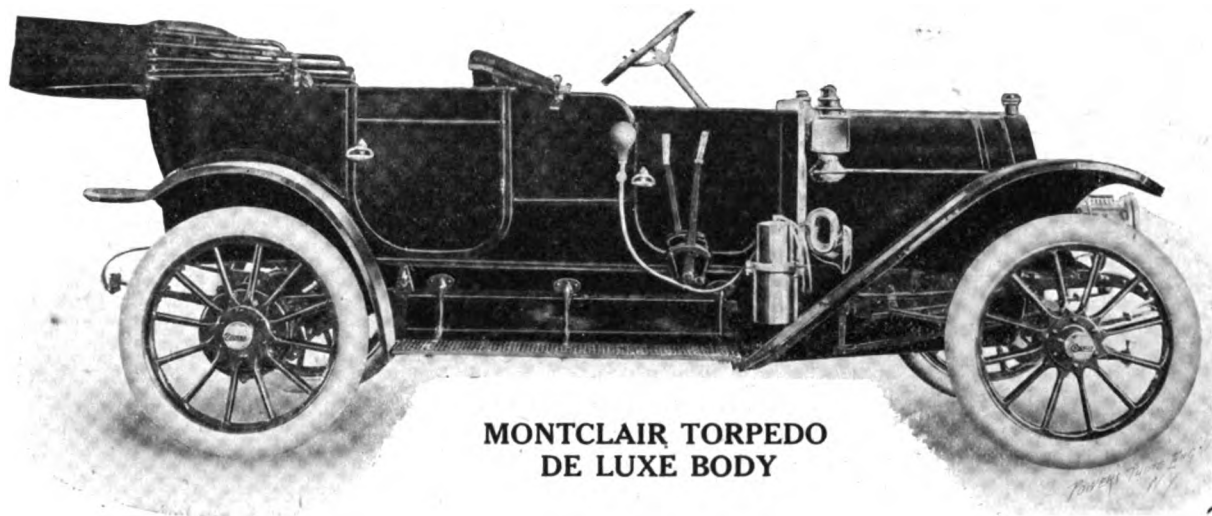
In upholding the traffic rules established by the street commissioners of Boston, the full bench of the Massachusetts Court, sitting last week, denied the appeal of Charles A. Newhall, who was convicted in the lower court of violating the traffic regulations by allowing his automobile to stand for more than 20 minutes in Court Square, Boston. In his appeal, the defendant contended that the passage of the 1909 statute pertaining to automobiles rendered invalid the local ordinance regulating traffic, but the court held that the state law does not affect the ruling of the commissioners.

### Keystone State's Record Registration.

During the first six weeks of the year 1910, the Pennsylvania State Highway Department issued 7,100 chauffeurs' licenses, and registered 11,400 motor vehicles. Both figures constitute new records for the Keystone state.

# KOEHLER "40" \$1650

F. O. B. FACTORY



MONTCLAIR TORPEDO  
DE LUXE BODY

## We Have Had Our Hand on the Trade Pulse for 12 Years

From a modest beginning we have worked up to be the largest distributors of automobiles in the United States. Therefore we know the demands of the dealer, and it is our constant aim to supply them. That we have been successful to date, our record proves. **WE HAVE NEVER MARKETING A FAILURE.**

But conditions are constantly changing, and we must change to meet them, even anticipate them in order to retain our hard-earned leadership. Present conditions demand something different than has been offered. We foresaw this demand and scoured the country over to meet it, but—

## We Couldn't Find What We Wanted and What Our Dealers Wanted So We Were Forced to Make It Ourselves

**The Koehler 40** is a 5 passenger car of 114" wheel-base, has selective type transmission, and is equipped with Splitdorf magneto, 5 lamps, tool box, tools, etc.

**A De Luxe Body of the closed front type, known as the Montclair Torpedo,** absolutely protects passengers from exposure to dust, dirt and cold draughts. This body is without the extreme lines of the full torpedo shape, but retains all its compactness, utility, comfort and refinement.

Our past experience with the trade and individual user, has been our guide in creating the Koehler 40,—we have known what to embody and what to eliminate. The result is a thoroughly high-grade, well-balanced, powerful motor car, and at a price that fills most buyers' minds.

We invite a limited number of live dealers to share with us in the profit of handling this popular car. It will sell at sight because of its attractiveness, will increase your trade because of its satisfactory performance, and will "make good" in any company. Write for specifications, terms, etc.—NOW.

**H. J. KOEHLER CO.,** Sales Office **1709 Broadway, New York City**

BROOKLYN, N. Y., 120 Livingston St.  
MONTCLAIR, N. J., 371 Bloomfield Ave.

BRANCHES  
NEWARK, N. J., 289-291-293 Halsey St.

PATERSON, N. J., 185 Paterson St.  
EAST ORANGE, N. J., 350 Main St.

**NOTE**—Also distributors for Everitt 30. Price, \$1,350. Have open territory in Eastern New York State, Connecticut, New Jersey and North Eastern Pennsylvania. Prompt deliveries.

## RECENT PATENTS.

944,956. Draft Appliances for Self Propelled Vehicles. Dix Dunlap, La Junta, Col. Filed Feb. 9, 1909. Serial No. 476,937.

1. A draft appliance for the wheels of self-propelled vehicles comprising, in combination, a tubular drum adapted to be fitted upon the wheel hub; a series of clamping members secured to said drum adapted for engagement with the wheel rim; a flexible element fastened at one end to the drum and adapted to be wound therearound; and an anchor secured to the other end of said flexible element.

945,037. Tire. David Hays, New York, N. Y., assignor to Edwin Ball Stimpson, New York, N. Y. Filed July 18, 1908. Serial No. 444,289.

1. A device adapted, to be used in connection with a clencher shoe spreader and a felly, comprising in combination a sleeve having arms projecting from one end insertable through an opening in the felly, said arms being adapted to grip the spreader when brought together, a band inclosing said arms and slidable thereon, a rod working in the sleeve and having operative connection with the band, and means adjustable on the sleeve for delivering thrust against the felly to draw the spreader, gripped by the arms, toward the felly.

945,058. Supplemental Wheel. Milton D. Stocking, Lindenwood, Ill. Filed April 2, 1909. Serial No. 487,581.

1. A supplemental wheel comprising a central hub and rim, a plurality of shoes bodily adjustable toward and from the center of the hub, a screw connected to each shoe by which the shoe is supported, and means for holding them in their adjusted position.

945,059. Speed Changing Mechanism. Robert Symmonds, Kenosha, Wis., assignor to Thomas B. Jeffery & Company, a Corporation of Wisconsin. Filed June 19, 1906. Serial No. 322,368.

1. In a speed changing mechanism, the combination with a driving element, of a driven shaft, a pinion fixed to the driving element, a pinion carrier mounted upon the driven shaft to rotate therewith, a pair of united pinions mounted upon said carrier one of which meshes with said first pinion, an adle pinion mounted upon the carrier and meshing with the other of said united pinions, an internal gear wheel rotatively supported by the carrier and meshing with said idle pinion, and means for locking said internal gear against rotation.

945,115. Vehicle Tire. Edmond P. White, Chicago, Ill., assignor to White Tire Company, a Corporation of New York. Filed Oct. 12, 1906. Serial No. 338,542.

1. A tread for pneumatic tires comprising resilient blocks each of a width to extend substantially from side to side of the tire and having a substantially flat outer surface and an inner surface curved to conform to the periphery of the tire casing, a resilient projection on the outer side of said blocks, and means for securing said blocks to the tire, said means comprising a series of overlapping elements having stiffened portions.

945,120. Automobile Sleigh. George W. Devioy, North Spencer, Mass. Filed Jan. 26, 1909. Serial No. 474,327.

1. A sleigh truck for automobiles comprising a pair of spaced runners each hav-

ing its ends turned upward with curves of equal radius, cross bars holding said runners in spaced relation, and clips arranged to be fixedly secured to an automobile axle and provided with elongated openings adapted to receive one of said cross bars and attach the same to the axle, the clips being arranged to permit vertical oscillation of said cross bar.

945,122. Swivel Lamp for Vehicles. James E. Geary, Quincy, Mass. Filed April 7, 1909. Serial No. 488,516.

1. In combination, a vehicle having wheels mounted on journals pivoted to turn with relation to the vehicle body, a steering rod movable transversely of the vehicle body connected with said pivoted wheel journals, a swivel lamp carried by a post, said being pivotally mounted on the vehicle in a substantially vertical axis, a gear segment fast to said post, a second gear segment in mesh with the first gear segment, an extensible telescoping lever secured to said steering rod and movable therewith, said extensible lever and said arm being connected by a universal joint.

945,167. Carburetter. George M. Holley, Detroit, Mich., assignor to Holley Brothers Co., Detroit, Mich., a Corporation of Michigan. Filed May 9, 1906. Serial No. 315,875.

1. In a carburetter, the combination of a body having an air induct and a mixture educt port, a partition crossing the interior of the body separating said ports, said partition having a valve opening therethrough, a valve seated in said opening and having through the top thereof a plurality of relatively small apertures, a depending tube attached to the valve to embrace said apertures, a fuel supply nozzle projecting into the lower end of said tube, and a valve for regulating the supply of fuel.

945,190. Shock Absorber. John H. Otten, Buffalo, N. Y. Filed April 26, 1909. Serial No. 492,296.

1. A shock absorber adapted to be applied to two parts which are movable relatively to one another, comprising an abutment adapted to be connected with one of said parts, a rocking member adapted to roll on said abutment and to be connected with the other part, and a tension device for yieldingly holding said rocking member in its normal position.

945,245. Gas Engine. George L. Odenbrett, Milwaukee, Wis. Filed March 25, 1909. Serial No. 485,636.

1. A starter for multiple cylinder gas engines, comprising a selecting valve driven by the engine and adapted to establish communication with the respective cylinders of the engine when their pistons are in position to receive an explosion, a charging chamber communicating with the selecting valve, an air reservoir and a gas reservoir communicating with the charging chamber, a controlling valve in the connection between the gas reservoir and the charging chamber, and a double valve having an operating member which when partially operated serves to open one valve member to open the communication between the charging chamber and the selecting valve and which operating member when further operated serves to open another valve member to open the communication between the air reservoir and the charging chamber.

945,250. Friction Clutch. Alfred Soderling, Chicago, Ill. Filed Aug. 11, 1908. Serial No. 447,960½.

1. In a clutch, the combination of two oppositely movable co-operating jaws having friction surfaces and mechanism for positively moving the jaws toward or from each other, said mechanism including a ring carried by one jaw and having an internal groove providing oppositely presented shoulders, a second ring carried by the other jaw and extending into said groove thus providing shoulders adapted to engage the shoulders first aforesaid, a system of toggles jointed to one of said jaws and to the ring carried by it, and means for operating said toggles.

945,278. Combined Spark Plug and Coil. Edwin S. Lincoln, Brookline, Mass., assignor to Electric Goods Manufacturing Company, a Corporation of Maine. Filed May 5, 1908. Serial No. 431,025.

1. The combination with a spark plug having spark points, and an induction coil adapted to energize said spark points, of inter-engaging means in part secured to the coil, and in part secured to the plug, said inter-engaging means in their engaged relation being adapted to mechanically support said coil laterally with respect to the plug and embodying electrical connections whereby said coil is placed in operative relation with respect to said spark points.

945,330. Vehicle. John Kelly, Jamaica Plain, Mass. Filed Jan. 27, 1909. Serial No. 474,422.

1. A vehicle of the class described having in combination, a receptacle, a hopper located at the rear of said receptacle, said receptacle having a rear wall provided with two openings, closures for said openings, and adapted to convey material upwardly from said hopper and deposit the same in said receptacle.

945,336. Spring. Charles A. Lieb, New York, N. Y. Filed Dec. 10, 1906. Serial No. 347,225. Renewed Aug. 3, 1908. Serial No. 446,778.

1. The combination with a support and a spring consisting of superposed leaves or bars endwise movable upon flexure of the spring; of mechanical means for increasing the normal friction between the contacting surfaces of the leaves upon flexure of the spring in either direction.

945,365. Automobile. Charles Berg, Philadelphia, Pa. Filed March 14, 1908. Serial No. 421,031.

1. The combination with a vehicle wheel; of an annular armature and an annular commutator carried by said wheel in rigid relation therewith; a stationary axle upon which said wheel is mounted to rotate; a field comprising a series of polar projections extending within said armature; and means distinct from said axle and including a sleeve carried by the wheel maintaining said armature, commutator and field in co-operative relation; whereby said wheel may be removed from said axle without disturbing the relation of said co-operative elements.

945,393. Internal Combustion Engine. William H. Hollopeter, Portland, Ore. Original application filed July 16, 1907, Serial No. 383,994. Divided and this application filed April 26, 1909. Serial No. 492,227.

1. In an internal combustion engine provided with inlet and exhaust valves, a means for operating said valves comprising rock arms for moving the valves to the open position, a cam shaft for operating the rock arms and capable of longitudinal movement, and bearings for said shaft movable about



an axis parallel and displaced with reference to the longitudinal axis of the shaft.

945,489. Lifting Jack. Albert B. Cherry, Boston, Mass., assignor to Samuel Ascher, Brookline, Mass., and Thomas E. Cherry, Revere, Mass. Filed April 26, 1909. Serial No. 492,366.

1. A lifting jack comprising a frame, a ratcheted lifting bar movable therein, an operating lever fulcrumed on the frame and having an abutment on its shorter arm, a lifting pawl pivoted to the shorter arm of the operating lever, a holding pawl having a projection, means for normally maintaining the pawls continuously against the lifting bar, a tripping lever fulcrumed on the lifting pawl at a point between the abutment on the lever and the projection on the holding pawl, said lever being movable on its pivot to bring its end portions into and out of operative engagement with said abutment and projection, and adapted to trip the pawls alternately when in said operative engagement, and means for moving the tripping lever to and from its operative position.

945,585. Lubricator. Johannes T. Pedersen, Woodside, N. Y., assignor to Pedersen Manufacturing Company, New York, N. Y., a Corporation of New York. Filed Jan. 8, 1909. Serial No. 471,249.

1. In a lubricating device, the combination with a sight-feed device and a means for passing the oil visually therethrough, of a valve of two connected coacting members adapted in opposite positions to close off the feed and return and in intermediate positions to regulate the extent of flow in both directions.

945,613. Vehicle Chock. Theodore Scherf and Howard W. Merrick, Cleveland, Ohio. Filed June 24, 1909. Serial No. 504,032.

1. A chock for securing vehicle wheels during shipment comprising a body which is concaved longitudinally and transversely to conform to the co-operating portion of the wheel, feet projecting from the lower end of said body by means of which it may be secured to the floor of the transporting conveyance, and legs for the upper end of said body having means whereby they may be secured to said floor.

945,649. Tire Protector. James C. Waring, Ashland, Ohio, assignor, by direct and mesne assignments, to Guy V. Krichbaum, Ashland, Ohio. Filed Dec. 8, 1908. Serial No. 466,493.

1. A liner for tires comprising a piece of absorbent flexible material impregnated with a vulcanizable rubber solution.

945,725. Vehicle Spring. Charles A. Lieb, New York, N. Y. Original application filed Dec. 10, 1906, serial No. 347,225. Renewed Aug. 3, 1908, Serial No. 446,778. Divided and this application filed April 27, 1909. Serial No. 492,525.

1. In combination with a vehicle spring comprising a plurality of leaves, a compensating clamp for holding said leaves in yielding frictional contact regardless of the direction of strain on the spring.

945,803. Universal Joint. Harrison Quinby, Muncie, Ind., assignor of one-half to William J. Killian, Muncie, Ind. Filed March 3, 1909. Serial No. 481,045.

1. A universal joint consisting of a pair of forked complementary shaft members, the outer face of the fork end of each shaft

member having a recess therein, a ring member having a radial bore therein to register with each of said fork ends, a bearing member adjustably disposed in each of the said bores and having its inner end recessed, a ball between each of the fork ends and the adjacent bearing member, a cap at each of the said bores adapted to close the same, means carried by the ring member between the cap and the bearing member which when the cap is tightened into position will lock the cap and the bearing member against movement.

945,890. Spark Plug. Otto C. Winestock, Perkinsville, Vt. Filed Oct. 26, 1908. Serial No. 459,644.

1. A spark plug comprising a member adapted to remain in the walls of an ignition chamber and provided with bayonet joint slots in diametrically opposite walls, another member carrying the electric terminals of the plug and having diametrically opposite projecting studs adapted to the bayonet joint slots of the fixed chamber, and a ball member pivotally connected to both studs and provided with a handle.

945,968. Drive Wheel Tire Heating Device. Julius A. Hahr, Minneapolis, Minn. Filed July 14, 1909. Serial No. 507,532.

1. In a tire heating device, a channel shaped sheath made up of segmental sec-

tions connected for hinge-like closing and opening movements, formed at its upper portions with an opening for the discharge of the products of combustion and provided at its lower portions with flame supplying means, substantially as described.

946,044. Wheel Tire. Howard H. Hodgson, Toronto, Ontario, Canada. Filed June 4, 1909. Serial No. 500,099.

1. A tire section comprising a rubber section having lateral flanges at each side of its base and a projection at the under side of the base; and a metal sheath embracing the base and lateral flanges of the section and provided with an opening for the projection on the base of the section.

946,057. Brake. Edwin B. Knowles, Bridgeport, Conn. Filed July 1, 1909. Serial No. 505,356.

1. A brake comprising a rotary disc, a brake band inclosing the disc, anchor plates mounted to oscillate, studs connected to the ends of the brake band and loosely connected to the anchor plates, an operating lever pivoted on one of the studs and a connecting rod pivoted to said lever and connected to the other stud.

946,101. Inflating Pump for Motor Vehicle Tires. Max Bohne, Berlin, Germany. Filed Nov. 28, 1908. Serial No. 464,918.

When you sell accessories and supplies your profit is meager or generous, according to how you have bought them, and that is a real reason why you should have a Post & Lester Co.'s catalog and CONFIDENTIAL net trade price book—which costs you nothing.

"How is it," some dealers ask, "that you are able to give such splendid service to Middle West and Southern dealers as well as to the New England trade, without your having a New York or Chicago headquarters?"

Perhaps we can give you a hint of how we do it, by saying we could have a New York or Chicago place the minute we want it. But we don't want one. Enormous expenses are saved in rent for offices, shipping departments, stock rooms and storage space by our having them outside the expensive metropolitan district.

We do business on an enterprising, thrifty, economical and progressive basis, without lavish and extravagant mahogany desk and fifty-cent cigar settings, but with a big cash capital that takes every discount and that gives us every buying advantage.

Then, too, we have been handling automobile accessories for 16 years, supplying the experimenters long before motor cars

generally were placed on the market, and selling to automobile manufacturers and dealers ever since, so that our experience makes us the closest buyers in the business, as the accessory manufacturers sometimes confess with wry faces.

But if we are close in our buying and in our own expenses for doing business, it is in order that we may be liberal with the dealers, on whom our business depends; and the low prices and progressive policy which we give you will make your accessory department a success.

Consult with us freely, and write immediately for the big 1910 Post & Lester Co.'s catalog of standard accessories and supplies and the CONFIDENTIAL net trade price book. Do not send a postal, but show us your business letterhead or card, and then we'll know you are actually in the trade and we will be able to talk to you freely. Address GENERAL SALES MANAGER.



**The Post & Lester Co.**  
HARTFORD, CONN.

Warehouses and Shipping Depots in Boston, Mass.; Hartford, Conn.; Springfield, Mass.; New Haven, Conn.; Bridgeport, Conn.



1. In combination with the axle of a driving wheel of a motor car and the like having a projecting portion on one side, a detachable coupling having a sleeve thereon engaging said projecting portion, a boss permitting the sleeve of said coupling to rotate therein a casing associated with said boss which casing acts as the cylinder of a pump, a piston in said cylinder and means for transmitting motion from said detachable coupling to the pump.

946,145. Motor Vehicle Barke. Henry M. Lyman, Philadelphia, Pa. Filed May 20, 1909. Serial No. 497,341.

1. The combination with a pair of steering wheels of devices for braking the respective wheels equally in a straight ahead movement and means whereby the actions of said devices are automatically differentiated in turning so that greater braking force is applied to the inner than to the outer wheel.

946,465. Steering and Motor Controlling Mechanism for Automobiles. Charles Schmidt, Cleveland, Ohio, assignor to The Peerless Motor Car Company, Cleveland, Ohio, a Corporation of West Virginia. Filed Jan. 15, 1906, Serial No. 296,105. Renewed June 10, 1907. Serial No. 378,287.

1. The combination of a rotatable hollow steering column, a rotatable member mounted upon and projecting into the upper end of said column and having a threaded portion within said column, means preventing the endwise movement of said member, a tube longitudinally moving in the steering column and having a threaded portion with which the threaded part of said member engages, a reciprocatory rod passing axially through said member and through said tube, means mounted upon said member for moving said rod endwise, a handle secured to said member for turning it.

## Over 60 Per Cent. of Pressed Steel Automobile Frames

on American cars are of our manufacture. Our splendid new plant, 1,025 ft. x 286 ft., is now in operation with a press equipment capable of producing over 1,000 sets of frame parts in a single day.

Send us blue prints of your 1911 frames for quotation.

**A. O. SMITH COMPANY**  
243 CLINTON ST., MILWAUKEE

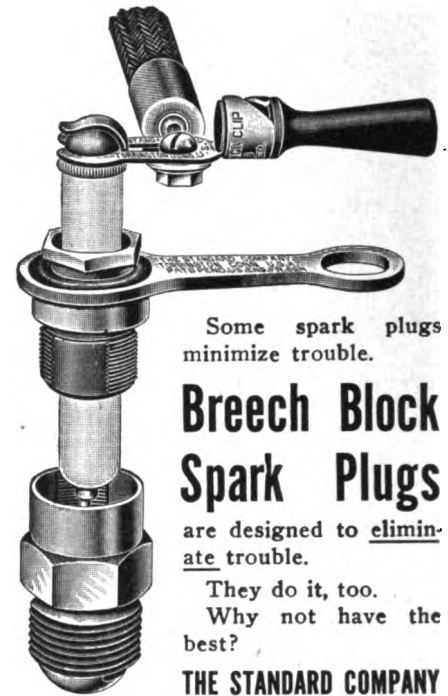
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**BALDWIN CHAINS**  
BALDWIN CHAIN & MFG. CO.,  
Worcester, Mass.

**GILBERT** Motor Car  
Accessories

CATALOGUE ON REQUEST

**GILBERT MFG. COMPANY**  
New Haven, Conn.



Some spark plugs minimize trouble.

**Breech Block  
Spark Plugs**

are designed to eliminate trouble.

They do it, too.  
Why not have the best?

**THE STANDARD COMPANY**  
Torrington, Conn.

*The Acme*  
JUSTIFIED BY NAME

**THE ACME MOTOR CAR CO.**  
Reading, Pa.

**FEDDERS RADIATORS**  
MAKE GOOD - ALWAYS  
FEDDERS MFG. CO. Buffalo, N. Y.

SEND 10c For Set of 12 Post Cards of Locomobile Winning Vanderbilt Race.  
SEND 10c For 11 color Poster of The Finish of This Race.

*The Locomobile Company*  
BRIDGEPORT, CONN.

**STAR-RITE Spark Plugs**  
have "Stayed Right the Longest" for seven years. Get a set from your dealer and have "Plug Happiness." Repaired free of charge. Price now \$1.00.

**THE R. E. HARDY CO., (Inc. 1906).**  
1735 Michigan Ave., Chicago  
(Formerly New York City.)

Send for list of size plugs used in 305 cars and engines.

**DIAMOND CHAINS**  
SAVE POWER  
STRONG ACCURATE DURABLE  
WE MAKE CORRECT SPROCKETS  
**DIAMOND CHAIN & MFG. CO.**  
150 W. Georgia St. WASHINGTON, D.C.

A Necessity on Automobiles—WHAT?

**COLUMBIA LOOK NUTS**

**WILL NOT SHAKE LOOSE**



ORIGINAL

They add an important factor to safety.  
Give a feeling of security.

Are the best kind of accident insurance.

Our "YELLOW and GREEN" booklet "A Nut that Locks and Why" is worth reading. We would like to send you a copy with a NUT THAT FITS THE BOLT you had trouble with yesterday.



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**THE MOTOR WORLD PUBLISHING COMPANY**  
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Enclosed find \$2.00 for which enter my subscription to

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## MUST BE CAREFUL OF LABOR LAW

**Motor Car Manufacturers Seeking Men  
Otherwise May Invite Federal Prosecution—Suit Against Matheson.**

That automobile manufacturers, in their scouring for skilled labor to meet their demand for men, may unconsciously run foul of the immigration laws is indicated by a suit which has been brought by United States District Attorney C. B. Witmer, in the United States Court against the Matheson Motor Car Co., of Wilkes-Barre, Pa. The action is for alleged violation of the immigration law of February 20, 1907, in that the company extended its search for skilled mechanics to Canada.

It is alleged that the defendants advertised in the "Spectator," a newspaper of Hamilton, Ont., for skilled workmen, with wages running from 20 to 40 cents an hour. William B. Lane, a subject of the British crown, answered the advertisement and was given employment in the lathe department at 27½ cents an hour. According to the United States attorney, this is a violation of the law, which states that alien laborers shall not be imported into the United States when there is unemployed labor here to meet the demands.

As practically all of the large makers of cars are reaching out in every direction with a view to securing more men in their production departments, the dangers of inadvertent violations of the contract labor law, incident to securing skilled help, are not to be disregarded. Negotiations to obtain workmen from Canada or abroad, while reflecting enterprise on the part of the employment departments, present the possibility of grave legal consequences.

### Krausz to Sell Overlands Abroad.

Sigmund Krausz has been appointed manager of the foreign department which the Willys-Overland Co., of Toledo, O., has established with a view to entering actively

into the export field. In the latter part of April he will go to Europe with a complete line of samples, and with the assistance of an expert from the factory will demonstrate Overland cars and place European sales agencies. E. G. Eager has been sent to Hawaii, Australia and British Africa on a similar mission, while T. C. McMillan, assistant to Krausz, will remain in charge of the office end of the foreign department.

### Flanders a Studebaker Director.

Walter E. Flanders, president and general manager of the E-M-F. Co., of Detroit, Mich., and Frederick D. Stevens, of J. Pierpont Morgan & Co., were yesterday (Wednesday) elected members of the board of directors of the Studebaker Brothers Mfg. Co., of South Bend, Ind. The Studebaker Vehicle Co., of New York, recently incorporated, has certified to the secretary of state that all its capital of \$8,600,000 has been paid in, \$1,000 in cash and \$8,599,000 in property.

### Acquires Westinghouse Battery.

The Electric Storage Battery Co., of Philadelphia, Pa., whose controlling interests also are concerned in the new United States Motor Co., has acquired the patents and rights of the Westinghouse Storage Battery Co. The latter owned all the rights of the General Storage Battery Co. and the battery patents of the Westinghouse Machine Co. In the future the Electric Storage Battery Co. will have the sole right to manufacture Westinghouse batteries.

### Kelly Drops Toledo Tire Project.

Charles F. U. Kelly has "passed up" Toledo, O., as the location for his proposed tire and rubber company. He has notified the president of the Toledo Chamber of Commerce to call all deals off, as the delay of Toledo citizens in raising the \$100,000 asked of them indicated too much indifference. Kelly says a city further west subscribed \$200,000 for his project within ten minutes after it was presented.

## RUN TO EARTH IN A WOOD SHED

**Difficult Search for "Michigan Six" Plant—  
Promoters Receive Some Unsolicited  
Publicity in Detroit.**

Exceptional boldness and ingenuity in exploiting an automobile stock selling proposition may sometimes lead to extremely embarrassing results, as apparently is the case with a Detroit project, known as the Michigan Motor Car Mfg. Co., Ltd., which in addition to having a car called the "Michigan Six," also has a number of beautifully engraved certificates that it is willing to trade for the real money of investors. So aggressive and important a "front" has been assumed by the promoters that investigators have been tempted into an inquiry as to their "backing," and the results appear highly illuminating in showing the modest equipment that is necessary to create a stir in the automobile promotion field.

During the week of the Grand Central Palace show in New York, there appeared at the curb in front of the building a six cylinder machine in lead gray, bearing big signs proclaiming it the "Michigan Six," and indicating a price of \$1,550, or thereabout. Such inquirers as asked about deliveries and trade terms had difficulty in learning anything definite, but since that time the Detroit office has not hesitated to suggest the great success the car met in the East and has gone so far as to proclaim a sale of \$3,040,000 worth of its cars to a Philadelphia purchaser, involving 1,904 machines and which was announced as the "biggest single sale of cars since the inception of the motor car industry."

With more enterprise than discretion, however, the promoters executed an even bolder stroke by thrusting the Michigan Motor Car Mfg. Co., Ltd., into the arena of advertising warfare between the Association of Licensed Automobile Manufacturers and Henry Ford, the latter being somewhat surprised, if not annoyed, to find

the Michigan company taking half-page spaces in the newspaper to say that it stood with him in his fight, and to champion him as the pioneer of the industry, while hurling defiance at the Selden camp, and guaranteeing "every purchaser of a Michigan Six against litigation."

The Ford Motor Co. having denied any relation or connection with the "Michigan Six" or its makers, an investigation was undertaken by the Detroit "Saturday Night," a weekly newspaper, as to who and what the Michigan Car Mfg. Co., Ltd., might consist of, and the search developed more or less astonishing results. After failing to get much satisfaction at the offices of the enterprise, a representative was sent to Rochester, Mich., which is named as the location of the company's factory.

He was directed by a townsman to an abandoned sugar plant in the hollow of a big farm, the building being at present occupied by a concern known as the Holmes Gas Engine Works. There he was told that the "Michigan Six" headquarters were in "the knitting mill," in a distant part of the village. At the knitting mill he was told to go to the cement factory of the Twentieth Century Tile Roofing Co., a small, one-story building, at the rear of which was a wood shed containing two automobile bodies said to be the property of the Michigan company.

Although he found no evidence of automobile manufacture, he was told that the company would locate its new factory in the abandoned sugar plant as soon as the gas engine people could be induced to move out. A second visit to the sugar plant revealed the presence of C. A. Hamilton and L. D. Sullivan, named on the letter heads of the concern as secretary and purchasing agent, respectively. Their visitor took a photograph of the building.

When matched with the attractive literature which the company issued from its Detroit office with a view to persuading investors to buy stock, the present factory equipment has its deficiencies, especially as "a limited number of interests will be disposed of at par value of \$100. After which a number will be sold at \$150 an interest. The remaining interests will be held at \$200 an interest." No small part of the company's printed matter is given over to reciting the success of Ford and E-M-F., and indicating the fortunes made by holders of stock in those concerns. The officers, in addition to Hamilton and Sullivan, include Stanley Gamble, president; Jesse Dort, vice-president; Fred Hatcher, second vice-president; Rowland Hatcher, sales manager, and H. O. Carter, treasurer. Critical observers in Detroit are curious as to how the wood shed and the sugar plant are to take care of even the Philadelphia order under their management, and as to how many investors will be found, following the unlooked for additional publicity which the concern has received as a sequel to its own publicity efforts.

### THE WEEK'S INCORPORATIONS.

Dallas, Tex.—Mitchell Auto Co., under Texas laws, with \$10,000 capital.

Cleveland, O.—Reed Motor Car Co., under Ohio laws, with \$50,000 capital.

Detroit, Mich.—Pasadena Garage Co., under Michigan laws, with \$2,000 capital.

Kansas City, Mo.—Bond Motor Car Co., under Missouri laws, with \$3,000 capital.

Ogden, Utah.—Inter-Mountain Motor Car Co., under Utah laws, with \$25,000 capital.

Milford, Pa.—Milford Automobile Co., under Pennsylvania laws, with \$6,000 capital.

Denver, Colo.—Dustin Auto Top & Slip Lining Co., under Colorado laws, with \$10,000 capital.

Nashville, Tenn.—Howard-Gregor Co., under Tennessee laws, with \$50,000 capital; general automobile business.

Toledo, O.—E. C. Russell Mfg. Co., under Ohio laws, with \$25,000 capital; to manufacture automobile parts.

Detroit, Mich.—Sibley Motor Co., under Michigan laws, with \$80,000 capital. Corporators—Clyde P. Warner, Eugene Sibley and Ralph S. Moore.

Waterford, Conn.—New London Road Motor Co., removed to New London and charter amended to permit it to engage in the automobile business.

Winona, Minn.—Winona Motor Co., under Minnesota laws, with \$20,000 capital; to manufacture automobile motors. Corporators—Al Clausen and others.

Detroit, Mich.—Lewis Motor Equipment Co., under Michigan laws, with \$25,000 capital. Corporators—Robert F. Monroe, Charles E. Turner and others.

Chatham, N. Y.—Modern Auto-Appliance Co., under New York laws, with \$12,000 capital. Corporators—Frank B. Pratt, William H. Housman and Harry A. Branion.

Anderson, Ind.—Dart Mfg. Co., reorganized under Iowa laws, with \$250,000 capital and plant removed to Waterloo, Ia.; manufacturers of motor trucks and other vehicles.

Detroit, Mich.—Taxicab Co. of America, under Michigan laws; to manufacture and operate taxicabs. Corporators—J. J. O'Connor, Thomas J. Navin and Michael P. Bourke.

Boston, Mass.—Union Drop Forge Co., under Massachusetts laws, with \$200,000 capital; general foundry and machine shop. Corporators—E. T. Ward, W. P. Everts and others.

Chicago, Ill.—Standard Limousine Co., under Illinois laws, with \$5,000 capital; to manufacture automobiles and other vehicles. Corporators—B. and C. A. Carlson and C. B. Parsons.

Goshen, N. Y.—Coates-Goshen Co., under New York laws, with \$150,000 capital; to manufacture and deal in vehicles, motors,

etc. Corporators—A. R. Coates, J. S. Coates and G. F. Gregg.

Seymour, Ind.—American Auto Co., under Indiana laws, with \$15,000 capital; general automobile business. Corporators—J. W. Cunningham, R. F. Buehner, F. R. Robertson and Anna M. Buehner.

Toledo, O.—Mutual Auto & Garage Co., under Ohio laws, with \$5,000 capital; general automobile business. Corporators—E. E. Sheppard, Charles A. Langdon, Charles E. Holt and Alvin C. Jones.

Buffalo, N. Y.—Auto Battery & Electrical Co., under New York laws, with \$20,000 capital; to manufacture automobile, electrical appliances. Corporators—T. P. Meinhard, C. B. Bleyler and Montford Ryan.

Detroit, Mich.—Carhartt Automobile Co., under Michigan laws, with \$500,000 capital; to manufacture pleasure and commercial cars. Corporators—Hamilton Carhartt, Sr., Hamilton Carhartt, Jr., and others.

Jackson, Mich.—Baker Drop Forge Co., under Michigan laws, with \$65,000 capital; to manufacture automobile forgings. Corporators—W. H. Baker, M. C. Townley, C. M. Frost, E. J. Weeks, A. S. Glasgow.

Brooklyn, N. Y.—French-American Automobile Co., under New York laws, with \$4,000 capital; general automobile business. Corporators—Joseph R. Marquette, Benedict Mandelburg and Robert W. Ferguson.

Waterville, O.—Waterville Traction Co., under Ohio laws, with \$50,000 capital; to manufacture motor trucks. Corporators—W. W. Farnsworth, D. Sheldon, A. E. Zock, Charles L. Graff, W. H. Ostrander and J. A. Fowler.

Galion, O.—Howard Automobile Co., under Ohio laws, with \$300,000 capital; to manufacture motor cars. Corporators—Adam Howard, H. A. Pounder, W. J. Geer, H. Gottdiener, B. B. Gill, Frank Faber and F. K. Berry.

New York, N. Y.—Cimiotti Garage Co., under New York laws, with \$2,000 capital; general automobile distributing business. etc.; to manufacture and repair motor vehicles, etc. Corporators—Ferdinand, Walter and Paul Cimiotti.

Chicago, Ill.—Thirty-five Per cent. Automobile Supply Co., under Illinois laws, with \$10,000 capital; general automobile, mercantile and advertising business. Corporators—Albert B. Norwalk, Samuel Rubinsky and Harry D. Simmons.

Brooklyn, N. Y.—Automobile Horn Co., of Brooklyn, under New York laws, with \$100,000 capital; to manufacture automobile horns, lamps, accessories, automobiles and parts thereof. Corporators—J. T. Allan, G. Dittmann and L. Raunheim.

Detroit, Mich.—Peerless Automobile Radiator Co., under Michigan laws, with \$20,000 capital. Corporators—Monroe M. McGrath, Edward O. Lange, Harvey A. Wernet, John A. Giddings, Fred C. Stendel, Frank G. Zens, Andrew L. Gagnon.



## DIVIDEND WELCOMES THE NOISE

**As a Result, Billings & Spencer Will Locate a Forging Plant There—Outgrowth of Night Work.**

Night work, made necessary by the demands of the automobile industry, impose peculiar troubles on drop forge concerns, to whom the motor car makers look for cranks, axles and other forged parts, but as it is an ill wind that blows nobody good it is possible that other small localities will profit like Dividend, Conn., for which noise has won a drop forge plant. The new plant is to be a Billings & Spencer Co. enterprise, and is made necessary partly by the fact that residents of Hartford, Conn., who live near the company's main drop forge plant at Russ and Lawrence streets, will not permit it to run in the dark watches of the night, as would be required if it were to be operated 24 hours per day.

The Hartford plant having reached the limit of its capacity when confined to hours that the neighbors consider reasonable, a location out in a small country place was decided upon for a new establishment which can run night and day if need be. The site selected is in Dividend, part of the town division of Rocky Hill, Conn., and is near a factory already established there by the C. E. Billings Mfg. Co. The town authorities have agreed to build a highway from the site to the main macadam road between Rocky Hill and Middletown, and to make a concession in taxes for ten years. The new plant at first will consist of a drop forging shop 150x70 feet, and a power house, and will be equipped with some of the heaviest hammers now at the Hartford shop. It will be built on the railroad and will also have a dock for Connecticut river boat shipments.

F. C. Billings, vice-president and superintendent of the company, says that the history of forging plants supplying the automobile trade is all very much the same in relation to night work. The neighborhood may tolerate the noise of heavy hammers for a good part of the 24 hours, but will not permit plants of this kind to run both night and day.

### Rapid's Manager Answers Last Call.

Harry G. Hamilton, general manager of the Rapid Motor Vehicle Co., treasurer of the Cartcar Co., and a director in the General Motors Co., died at his home in Pontiac, Mich., on Sunday, 20th inst., his death being due to Bright's disease. His family name was Coadby, and he was born in Rochester, N. Y., November 3, 1861. In his childhood he was adopted by a Dr. and Mrs. Hamilton, whose name he took. After being a newsboy and later a bellboy in Pontiac, he went into the drug business at 16 years of age, and five years later headed a

company of his own. In 1891 he sold out and with A. G. North as partner, organized the Pontiac Spring & Wagon Works, which still continues, but some of the factories of which have been given over the Cartcar Co. Six years ago he and his partner entered a partnership with Morris and Max Grabowsky, forming the Rapid company, to which he devoted himself.

### Selden Licenses to Meet at Banquet.

In order that the licensees under the Selden patent, new and old, may get together in the flesh and see how vast and imposing a company they make, the Association of Licensed Automobile Manufacturers will give a dinner on April 7 at the Hotel Astor, New York, which will be attended by the officers of the licensed automobile manufacturing concerns, who with the expected additions will number 80 or more before that date. The committee in charge consists of H. B. Joy, chairman; H. A. Lozier, Albert L. Pope, Benjamin Briscoe and R. E. Olds.

### U. S. Motor Adds to Its Staff.

L. A. Latta, formerly of the Racine Wagon Co., has been added to the staff of the United States Motor Co. He will act as assistant to Secretary Dorman. The company also has acquired Webb Jay, a veteran racing man and dealer, who will handle the Columbia car in the Maxwell territory controlled by District Manager J. I. Handley in the Central and Southern States, with headquarters in the new Maxwell building, 1735 Michigan avenue, Chicago.

### Will Handle Magnetos in Michigan.

The Michigan Magneto Co. is the style of the most recent accession to the Detroit trade. It has located at 117-119 Bagley avenue and will handle magnetos exclusively. Henry G. Cox, formerly vice-president and sales manager of the Hercules Electric Co., Indianapolis, Ind., is president and treasurer of the new concern. The other officers are A. S. Cox, vice-president, and B. W. Cox, secretary.

### To Produce Wagons in Minneapolis.

For the purpose of manufacturing a light delivery wagon, the Ceerac Motor Co. has been organized in Minneapolis, with George H. Richards as its manager. Richards previously was second assistant treasurer of the Farmers and Mechanics Savings Bank in that city. Pending the location of a factory he has established an office at 420 South Fourth street, Minneapolis.

### President Clifton Returns from Vacation.

Col. Charles Clifton, of the Pierce-Arrow Motor Co., Bualo, N. Y., and president of the Association of Licensed Automobile Manufacturers, arrived in New York this week, returning from his vacation trip to Jamaica and the Isthmus. He indicates much benefit to his health as the result of the trip.

## "CERTIFIED CHECK MAN" JAILED

**Proves to be a Government Clerk with Automobile Appetite—How He Posed as Brick Manufacturer.**

Declared to be "the certified check man," who has been swindling automobile dealers by obtaining cars and giving fake certified checks in payment, Robert Harris, a clerk in the ordnance department of the United States proving grounds at Sandy Hook, was arrested on Saturday, 19th inst., and held on the charge of attempted grand larceny. It was alleged that he presented a forged certified check for \$3,175 to the Roskam-Scott Co., 1780 Broadway, in payment for a car.

According to the police, the man opened negotiations with the automobile dealers two weeks ago by writing on a letter head purporting to be that of John M. Wilson, manufacturer of bricks at South Amboy. The letter head bore a beautifully engraved cut of a brick factory, and the letter was signed "John M. Wilson."

Later the supposed Wilson turned up, and after looking over the line of machines finally decided on a car at \$3,150, and on Friday paid \$100 in cash to bind the bargain.

On Friday afternoon, the police say, the firm sent a representative to look up the customer, and found that neither John M. Wilson nor his factory could be located. The detective bureau was then notified.

Harris appeared Saturday and offered a check for \$3,175 on the National Bank of South Amboy, which was accepted by the firm, and Policeman Shibles got the task of piloting "Wilson" and his car to South Amboy. Shibles drove to the branch detective bureau and put his passenger in jail.

Harry Pike, of the Chalmers-Detroit company, said that Harris was the man who had attempted to purchase a machine from that company about a year ago, using similar means. He said that several dealers from Philadelphia would be in court to attempt to identify the prisoner as the man who has offered to sell new cars to them, giving various excuses for having to make a quick sale at a sacrifice. The American Bankers Association also is expected to take a hand in the case.

Pike said that automobile dealers had been on the lookout for a swindler who has come to be known in the trade as "the certified check man." His plan was to write on a letter head bearing the name of some manufacturing concern, that he was in the market for a car. Later he would appear, select a machine and leave a small deposit, returning a few days later, after banking hours, with a certified check. Meanwhile he would be negotiating with a dealer in another city for the sale of the car at a low price.

## IN THE RETAIL WORLD.

A. D. Spencer has invested in a new garage in Monongahela, Pa.

Sidney H. Hahn has opened a new garage in Jerome lant at Sheepshead Bay New York.

The Star Automobile Co., of Nevada, Ia., began business in that place. Cole cars will be featured.

The Smith-Role Co. has opened a new garage at 21 West Fifth street, Oklahoma City. The concern distributes Cadillacs.

A. F. Sams has been appointed receiver for the Winston Automobile Co., Winston-Salem, N. C., and filed a bond for \$2,000.

Abner Powell, New Orleans, La., has acquired a new garage on Canal street. He represents the White and Hupmobile cars.

The Twin City Taxicab Co. is erecting a large garage in Minneapolis, Minn. The building will be 70x150 feet, of cement and hardwood.

Buroff & Hafenmeister, Watertown, Wis., have purchased the automobile business of R. A. Fuller. The latter severs his connection entirely.

St. Louis, Mo., is the latest city to be honored with an Overland branch; it is styled the St. Louis Overland Co., and is located at 2832 Olive street.

B. H. Kyger has embarked in business in Waco, Tex., and will represent the Ohio car. His territory comprises half a dozen counties in central Texas.

K. O. Lee has added automobiles to his threshing machine business, and opened a garage at Aberdeen, S. D. Jackson, Fuller and Moline cars will be shown.

Wm. H. Durphy, of San Francisco, Cal., who styles himself "Motor Delivery Service Expert," has moved into more commodious quarters at 141-151 Grove street.

Dr. F. M. Reynolds, of Montpelier, Ind., has gone into the automobile business and established headquarters in the Herald building. He has the agency for the Maxwell cars.

Harry P. Branstetter, the Chicago agent for the Kisselkar, is preparing to move into new quarters at 2515-17 Michigan avenue. The building, costing \$75,000, is nearing completion.

The Inter-State Automobile Co., Minneapolis, Minn., has leased new and commodious quarters at 111-13 Central avenue. Its lines comprise the Inter-State and Paige-Detroit cars.

The Holt-Boone Motor Co., successors to Jesse Rankin Holt, have removed to the old E-M-F. quarters on Edgewood avenue, Atlanta, Ga., Demot, Marmon and Varsity cars are sold.

On April 15, the Pope-Hartford Co., Newark, N. J., will remove to new and larger quarters at Halsey street and Branford place. It now is located at Cedar and Halsey streets.

Fifteen cars were burned in a fire which gutted the four story building occupied by the Royal Automobile Garage, 717 Hennepin avenue, Minneapolis, Minn., last week. The loss is estimated at \$50,000.

The Fanning Motor Co., Philadelphia, Pa., of which William H. Fanning is president, has opened quarters at the corner of Broad and Vine streets. Thomas and Mercer cars are displayed.

The Davis-Turney Co. has begun business in Dallas, Tex., and will dispense Matheson cars in that territory. R. H. Davis and L. F. Turney constitute the firm, which has offices in the Goston building.

Kenneth R. Montgomery and M. E. Geer have formed the Montgomery Motor Sales Co., and located at 467-469 Woodward avenue, Detroit, Mich. American and Speedwell cars form the "stock in trade."

Twenty-three automobiles were wrecked by fire which on the 16th inst destroyed the garage of J. G. Reeves, at Camden, N. J. The loss, which falls on the individual owners of the machines, is estimated at \$75,000.

The Metropolitan Motor Car Co., Seattle, Wash., is a new concern just formed to market Lozier cars in that territory. W. T. Sleddon, the former Lozier agent, is interested in the new firm, which will open a branch in Spokane.

Washington, D. C., has a new accessory concern in the Empire Auto Top & Body Co., which has been established at 1217 E street, rear, N. W. Its energies will be devoted to the manufacture and repair of tops, bodies and slip covers.

The Haynes Auto Sales Co., San Francisco, Cal., is making ready to build at Van Ness avenue and Turk street. Theirs will be a one-story structure of reinforced concrete, 50x140, and careful study has been given to the lighting scheme.

The Hokanson Automobile Co., Madison, Wis., has just opened its new three-story brick and steel garage and sales rooms at 14-20 East Doty street. The building is 77x132 feet, covers 23,000 square feet of floor space and cost nearly \$40,000.

The Krit Sales Co. has opened up at 203-205 North Broad street, Philadelphia, and will distribute the Krit car throughout Eastern Pennsylvania, southern New Jersey and Delaware; garages also have been established at Germantown and Bryn Mawr.

F. A. Baker & Co., New York City, dealers and jobbers in bicycles and motorcycles, who recently took possession of their new store at 10 Warren street, have added automobile accessories. Their lines include the United Manufacturers' products.

The White Co. is contributing to the structural and artistic beauty of Chicago, by the erection of a handsome service building at Wabash avenue and Twenty-sixth street. The structure will be four stories and will provide 100,000 square feet of floor space.

Plans have been drawn for a garage to be erected for Charles B. Calvert, Detroit, Mich., at 651 Cass avenue. It will be built of brick with concrete trimmings, 50x80 dimensions, equipped with the latest appliances and will have a capacity for 30 machines.

John F. O'Toole and Thomas Walsh have completed plans for the erection of a modern automobile garage at 800 Wyoming avenue, Scranton, Pa. The building is to be 40x100 feet, and will cost \$6,000. They have obtained the agency for the American and Cole cars.

The sales department of the Stoddard Automobile Garage and Sales Co., formerly at Twenty-second and P streets, Washington, D. C., has been moved to 1313 H street, northwest. Pierce-Arrow, Franklin and Cadillac gasoline cars and the Baker electrics are shown.

To better care for its rapidly growing trade in the territory, the Maxwell-Briscoe Motor Co. has established a southern branch at 225-227 Third avenue, north, Nashville, Tenn. It is in charge of J. J. Cohen and Dr. T. A. Mitchell, the former local Maxwell agent also is connected with it.

The United Garage Co. is the style of a new company formed to take over the garage end of the business formerly conducted by the Kirk Brothers Automobile Co., of Toledo, O. M. R. Hines is president of the new concern, while F. Kirk will continue as agent for the Thomas cars.

When the remodeling of the premises is completed the Chalmers-Hipple Motor Co., Philadelphia, Pa., will occupy the buildings at 206-8 North Broad street. Sales and service departments will utilize the entire three floors of the establishment which will cater to the wants of Chalmers and Hudson patrons.

Work has begun on the new building to be erected for the Cedar Rapids (Iowa) Auto & Supply Co., at 213-17 Fourth avenue, which, when completed will be the handsomest motor car establishment in the city. The structure will be 60x140, three stories, built of brick and concrete throughout and is expected to be ready for occupancy by May 15.

John H., and William M. Brownback, Bryn Mawr, Pa., prominent business men of that place, have purchased a half interest in the Olds-Oakland Co., St. Louis, Mo., and have been admitted to the firm. The former becomes vice-president and the latter treasurer, respectively, the other officers continuing as before.

The Winona (Minn.) Motor Co. has been formed to take over the P. Steffes Launch & Automobile Co., of that city. All the old officers retain their interest in the new concern, which in addition to manufacturing launch engines, will conduct a general automobile business. The plant is located at the foot of Johnson street.

Will B. Wreford, Detroit, Mich., who has handled the automobile department of the

Detroit Free Press for several years, has resigned to become actively identified with the selling branch of the trade. He will be manager of the Michigan sales branch of the Columbia Motor Car Co., which will be located at 243-245 Jefferson avenue.

Rebuilding second-hand cars and refinishing them so as to be able to guarantee them for a year, the Cleveland Auto Trading Co., Euclid avenue and East Fifty-seventh street, Cleveland, O., is making a bid for popular favor. S. E. Morris is manager of the company, which is connected with the Auto Trading Co., of Pittsburg, Pa.

The Philadelphia (Pa.) E-M-F. Co., which was organized in January with temporary quarters at 1231 Chestnut street, has taken possession of the new building erected for it at 342-344 North Broad street. Although one of the largest motor car establishments on the row, the new structure will be devoted to sales only; a service depot will be maintained at 1527 Natrona street.

Dr. Hobson, president of the Hobson Automobile Co., Lexington, Ky., met an untimely death while superintending the work on his new garage at 123 East Short street, on the 16th inst. He had only been in the business two weeks, and was looking down from the loft above the garage floor when the banisters gave way and precipitated him some 30 feet to the concrete floor below.

Leases have been consummated by three automobile firms of Denver, Colo., for a plot of ground with 150 feet front, at Colfax and Lincoln streets, on which new salesrooms will be erected. The concerns who will build are the Krebs-Covington Automobile Co., Overland Auto Co., and the Robertson & Doll Carriage Co. The new structures will be two stories, 50 feet front, and will cost \$15,000 each.

The Elkhart (Ind.) Garage Co., located at 200 North Main street, has been placed in the hands of a receiver on the petition of B. H. Reid, who asks judgment on a \$100 claim. The assets are estimated at \$3,500, and the liabilities at \$7,000. The company was organized November 23, 1906, with \$10,000 capital, with the following incorporators: C. G. Conn, W. J. Groner, John S. and Mary E. Landon.

With the retirement of Robert Atkinson from the firm of Schwaebe & Atkinson, Los Angeles, Cal., local Premier agents, the concern hereafter will be known as the Premier Motor Car Co., with L. H. Schwaebe as president and general manager. Coincident with the changes in personnel, the firm has taken possession of a handsome new sales building on South Olive street, where Premiers will be handled exclusively.

The Lozier Sales Co., Chicago, Ill., has been formed to distribute Lozier cars exclusively in the Windy City, and will open salesrooms at 1501-5 Michigan avenue, April 1st. James Levy, who formerly handled the Lozier, and J. H. Palmer, a recent

recruit to the trade, fill the offices of president and general manager, respectively, of the new firm. Levy retains his interest in the Levy & Hipple Co., which handles the Chalmers.

The Standard Auto Co., Houston, Tex., has been formed in that city with temporary quarters in the Paul building, to handle the Locomobile, Marmon, Packard and National. The concern will be permanently located at Preston and San Jacinto avenues upon the vacation of the premises by the present tenants, the Houston Motor Car Co. Both members of the new firm, E. E. Guthrie and G. F. Cotton, have had several years' experience in the trade, the former having been identified with the Studebakers, while the latter had the local Packard representation.

The famous "automobile row," of Denver, Colo., is in danger of being broken up by the high rentals demanded for the garages in the Broadway district. It is the general opinion among the dealers that before long they will be forced to seek other quarters, and Eighteenth avenue seems to be the popular choice. The first to make the move has been John M. Kuykendall, who is constructing a mammoth garage for gasoline and electric vehicles at Eighteenth avenue and Pearl street, in connection with his Denver Omnibus and Cab Co. venture. Other dealers are said to contemplate a similar move.

#### Firestone Opens San Francisco Branch.

The Firestone Tire & Rubber Co. has opened a branch in San Francisco at 442 Van Ness avenue. This is the third branch which the Firestone company has established on the Pacific Coast, the others being in Seattle and Los Angeles. For the latter branch the company is building a two-story brick structure, 47x155 feet, at Olive and Pico streets.

#### Two New Men on Hartford Staff.

The Hartford Rubber Works Co., of Hartford, Conn., has further augmented its selling force by two additions to its corps. Zachs C. Elkins, of Texas, and O. S. Johnson are the new men who are to help spread the gospel of Hartford tires.

#### Wright Wrench Building New Plant.

The Wright Wrench Mfg. Co., of Canton, O., has broken ground for a new plant, which is to be ready May 1, and which will increase the company's capacity to 2,000 Wright wrenches per day. It will comprise two buildings located on a three-acre site in South Canton.

#### Organize to Make Parts in Detroit.

With the purpose of manufacturing automobile parts and tools from pressed steel and brass, the Campbell-Kingsley Mfg. Co. has been incorporated under Michigan laws with \$110,000 paid in capital. The stockholders represent capital from Detroit, Trenton and Wyandotte, Mich., and many of

them are anxious to locate the factory in the latter place. Pending a decision as to a permanent location, a two story factory building has been leased for one year in Detroit, with privilege of extension. The officers are: Henry Hoehrig, of Wyandotte, president; Dr. W. H. Honor, Wyandotte, vice-president; John H. Kingsley, Detroit, secretary; Dr. N. G. Bowbeer, Wyandotte, treasurer.

#### Building Electric Coupes in Chicago.

The Ideal Electric Co. has commenced the construction of a \$1,875 electric coupe at 444 West Indiana street, Chicago, and expects to produce 500 of the vehicle during the current year. The Officers of the company are John A. Ryerson, president; S. H. Peterson, vice-president, and Carl J. Holdredge, secretary and manager.

#### Another Body Building in Indiana.

Portland, Ind., is to have a new body building factory which will supply bodies for the automobile trade. The enterprise is styled the Portland Body Works and the plant is being put up on a site formerly occupied by W. H. Hood cannery factory. The cost of the buildings is estimated at \$10,000.

#### Excelsior Supply Triples Its Room.

The Excelsior Supply Co., Chicago, has leased the Kelly-Maus building at the foot of Randolph street and shortly will remove thereto. The building is a five story structure, with basement 450x56 feet, and will afford three times as much room as the Excelsior company's present establishment.

#### Matheson Forced to Use Circus Tents.

The Matheson Motor Car Co., of Wilkes-Barre, Pa., has been driven to the tent expedient for expanding its factory space. Two mammoth circus tents have been put up on an eight acre lot, and day and night shifts are being worked in them until new factory buildings are completed.

#### More Detroiters Plan to Build Cars.

The Sibley Motor Car Co. has been incorporated in Detroit to manufacture a four cylinder 20 horsepower car at \$850. Eugene Sibley and R. S. Moore are the moving spirits, and temporary offices have been taken in the Telegraph building.

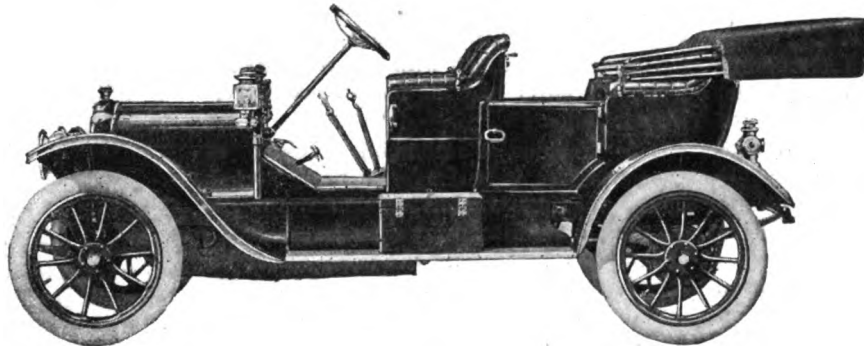
#### Chadwick and Atlas Added to Selden List.

Selden licenses this week were granted to the Chadwick Engineering Co., Pottstown, Pa., and the Atlas Motor Car Co., Springfield, Mass. These additions bring the total number of licensees to 78 American manufacturers and three importers.

#### South Carolina Joins the Procession.

State pride is being invoked in South Carolina for the first automobile manufacturing enterprise within its borders. The Rock Hill Buggy Co., of Rock Hill, has commenced making motor cars.

Some Features of the  
**White Gasoline Car**  
 which result in unusual  
**Economy of Up-Keep**



The White gasoline car is designed and built to run at a lower cost of up-keep, mile for mile, than any other car on the American market. Some of the factors which insure economy both in fuel consumption and in cost of maintenance are:

#### **Intake Gases Heated**

By including the intake passages within the block engine casting, the intake gases are heated. As a result, every particle of gasoline is completely vaporized and each cylinder receives a uniform mixture of the proper richness, thus ensuring very low fuel consumption.

#### **Exhaust Gases Cooled**

By water-jacketing the exhaust passages, the temperature of the exhaust gases is reduced as soon as they leave the cylinders. As a result, the pressure of these gases is greatly reduced and there is a minimum loss of power due to back pressure. This factor also results in low fuel consumption.

#### **Four-Speed Transmission**

The direct drive is on third gear and practically all driving in town is done on this gear. For high-speed running, the fourth gear is used. There is, therefore, no racing of the engine and no undue strains upon it when the car is run at high speed. Furthermore, the engine may always be run at very close to its most economical speed.

#### **Valve Mechanism Enclosed**

There is no chance for dirt and grit to work their way into the bearing surfaces and cause wear and faulty timing, as is the case when the valve mechanism consists of a series of external and unprotected springs, rocker-arms, push-rods, etc.

#### **Accessibility of Every Working Part**

The cost of making an ordinary adjustment on any car is determined largely by the accessibility of the several parts. In the White, accessibility has been developed to a much greater degree than in any other car. For example, as there are no external manifolds, or no overhead valve contrivances, a valve may be removed for regrinding without removing or disturbing any other part. As another example, the magneto and water-pump are on opposite sides of the engine and are driven independently, so that either may be reached without disturbing the other.

Write for catalog of the White Steam and Gasoline cars.

## **THE WHITE COMPANY**

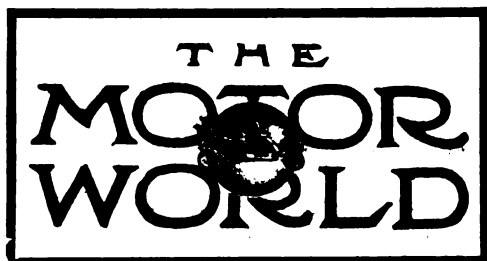
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"The Motor World beats any publication I ever read for automobile news and reliable information."—E. F. Sult, Rocky Ford, Col.

#### The Real Victims of Frelinghuysenism.

In New Jersey some of the opponents of the Edge bill, which sought to permit non-resident motorists to enter that state without payment of an "admission fee," brought themselves to a peculiar frame of mind. They talked of the law as an unwarranted "courtesy" to "visitors," and the Trenton Times, as a choice example, maintained that "in fairness to our own automobilists," non-residents "should be compelled to contribute" to the cost of repairing the roads. The Times also naively complained that unless non-residents are registered in New Jersey there will be no means of identifying them in case of accident, and declares that the "courtesy" is desired chiefly by Atlantic City, Asbury Park and other resorts and by

that portion of the population "largely made up of New Yorkers who come to New Jersey to sleep," who, the Trenton publication did not add, erect homes, pay taxes and otherwise spend in New Jersey the money they earn in New York.

In urging that Senator Frelinghuysen be supported in his opposition to the Edge bill, the Times said that "New Jersey is asked to give everything and can expect little in return," and adding that the rights of those who bear the burden of road maintenance "are more important than 'courtesies' to visitors," it concludes: "It is rather unusual for a guest to demand the right to destroy property of his host and run away without making compensation or apology for the loss he has caused."

It is utterances of this sort that inspire the desire to invoke the power of the national government and the hope that Federal laws may multiply. When the act of freely using the roads in any part of the country becomes a "courtesy," or the citizens of one state are considered merely "visitors" or "guests" in another state, it is time that it was made plain when the common highways ceased to be for all and when a citizen of any state ceases to be a citizen of the United States.

Quite apart from this phase of the matter, however, the Trenton Times's assertion that New Jersey gives everything and receives little in return is distinctly entertaining. For, as a matter of fact, if it were not for the money that flows into it from New York and Pennsylvania, New Jersey would be a "small potato," indeed. Why, even Senator Frelinghuysen sleeps and earns his living and performs much of his "statesmanship" in New York; letters bearing his Raritan, N. J., political address are not infrequently postmarked New York and his automobile is used more, perhaps, in New York than in New Jersey. He is a fine specimen for the citizens of any state to support!

His policy has cost New Jersey many more dollars than its "admission fee" has brought or ever will bring into its coffers. It has kept and is keeping thousands of non-residents out of the state, every one of whom would add to the tills of New Jersey-men, and not merely those in Atlantic City and Asbury Park, either. And the "fairness" of the Frelinghuysen law to the motorists of New Jersey is best shown by its effects on their pocketbooks.

Due to that law and nothing else, they must pay an "admission fee" to enter Penn-

sylvania, Delaware, Maryland and Vermont and a number of other states. It has caused them to be discriminated against on almost every side. They are the real victims of Frelinghuysenism. This is a feature of the situation which the Trenton Times and others similarly minded should not overlook. It was a one-sided affair for a while, but the worms have turned in other states and the New Jerseymen themselves now know how it feels—and what it costs—to be considered a "visitor" or a "guest" when outside of their own borders. If they can support or stand for the man who thus victimized them, they deserve to have the agony piled on them.

#### Accessories and the Jobbers.

Bad feeling and strained relations have arisen between the makers of some accessories and the jobbers over the difficulties which both find in filling orders, now that the rush of 1910 business is on. The jobbers cannot get the goods in quantities they require and the manufacturers cannot make the deliveries which are asked of them. In the tension and fever which has come about, the jobbers blame the accessory makers, and the latter are equally angry at the jobbers, each side taking the view that the other is at fault in not making proper preparations for the business that was to come.

The accessory makers complain that the jobbers are responsible for the whole trouble because they simply would not place quantity orders last fall and during the winter. According to the makers there was a most unusual reluctance on the part of the jobbers to commit themselves to big orders for future delivery, despite the certainty of demand, and the makers were left so much "in the air" that they did not deem it wise to go ahead manufacturing at full capacity during the winter without definite specifications from the jobbers to whom they looked to distribute their goods. In fact, the jobbers are accused of not fulfilling their proper functions of jobbers, in that they did not buy ahead for the season's needs and did not give the manufacturers a fair basis to work on.

On the other hand, the jobbers recognize no heavy ethical responsibilities which would compel them to place specifications early. If the accessory manufacturers were so certain of the coming demand, it is asked, why did they not go ahead and make up the goods, whether they had definite specifications or not? If they needed the money

which the jobbers would supply by early buying, the jobbers nevertheless had the right to hold off.

Underlying the whole difficulty is a matter which both the jobbers and the accessory manufacturers will have to take up more seriously than ever before, and that is the question of rock bottom prices by the manufacturers. While it may be true that the jobbers have been extremely unjobberly in that they have refused to buy at the time that they might reasonably be expected to do so, it is nevertheless a fact that they have had adequate ground in many instances to hold off, if for no other reason than that they needed time to find out the manufacturers' bottom prices.

Another element in the situation, and one for which the manufacturers as a whole are not subject to blame in any degree, is the springing up of new manufacturing concerns that aim to sell goods to the jobbers at lower prices than the older makers. While it is less true of patented and highly specialized goods which are well known to the public, there are many lines of accessories where a jobber could handle the products of one manufacturer just as well as another, so far as big quantities are concerned. On goods of this kind the jobbers not infrequently hesitate to tie up early with the older makers, as the newcomers may have more favorable prices when they actually get started. These lower prices in turn may induce corresponding prices from the older makers who feel the competition, and so, by waiting, the jobbers get more advantageous figures than by placing their orders early.

This phase of it applies particularly to those manufacturers whose goods are not known to the public or the dealers as standard brands, either through advertising or long use and exceptional merit, or through a combination of these attributes. The prices that these classes of accessories bring from the jobbers are more or less dependent on the state of the market, and their variations are what help to play hob with the proper relations of the jobbers to the manufacturing side.

Because of the present experience, both sides have reason to seek a remedy which can be put in effect before another year is out. The most promising improvement would appear to be a guaranteed price arrangement of some kind, by which the jobbers could buy early, but with the assurance that if the manufacturer later cuts

his price they will get the benefit of the new figure. As a further step toward making the jobbers feel safe in buying his goods early, the manufacturer can adopt a rigid sales policy which will permit no wide variations in price to different jobbers and which will not allow dealers and "semi-jobbers" special favors that will make it impossible for the legitimate jobbers to sell to them at a profit after loading up with the goods. Then if the manufacturer's products enjoy any reputation at all as standard articles they can be marketed through the jobbers in a business-like way.

#### Increased Vogue of Large Tires.

Advocates of large diameter wheels for automobile use are noting with complacency the conversion of one maker after another to the principle which it involves. As was noted during the early part of the current show season, the average of wheel sizes has been raised during the past two years until at the present time, for cars of medium weight and power the 34 and 36 inch diameters are most prevalent. Not only this, but the standardization of the 36 inch size by nearly all makers of large cars promises a further adoption of that type in another year. Owing to the conspicuousness of the half dozen or so of makes to which wheels of 40 or 42 inch diameter have been applied, it is hardly necessary to call attention directly to them, but it is a significant fact that still other adherents to this extreme are announced.

Some of the arguments in favor of the large wheel are obvious. For instance, it is plainly evident that the large wheel has a greater leverage in overcoming obstacles than a small one; that it will bridge depressions into which the smaller wheel will drop; that its tread being longer, it will be subjected to less wear in covering a given mileage; and that it imprisons a greater volume of air and hence offers greater resiliency than the tire of the same section but smaller wheel diameter. It is not so evident, on the other hand that, as was pointed out recently by one of the well-known tire manufacturers, the greater radius of curvature of the large tire implies less abrupt flexures at the point of contact with an obstacle; that the strain exerted on a large tire is distributed over a larger area; that the radiating surface is so large as to ensure adequate cooling at all times. These are strong arguments in favor of increasing tire sizes up to reasonable limits.

## COMING EVENTS

March 21-26, Spokane, Wash.—Spokane Automobile Dealers' Association's first annual show in Princess Rink.

March 26-April 2, Montreal, Can.—Fourth National Automobile and Sportsmen's show.

March 26-April 2, Pittsburg, Pa.—Pittsburg Automobile Dealers Association's fourth annual show in Duquesne Garden.

March 28-April 2, Indianapolis, Ind.—Indianapolis Automobile Trade Association's first annual show in individual show rooms.

March 28-29, Savannah, Ga.—Savannah Automobile Club's 675 miles endurance run to Jacksonville, Fla.

March 29-April 2, Rockford, Ill.—Rockford Motorist Association's first annual automobile show in Coliseum.

March 28-April 2, Toledo, O.—Toledo automobile dealers' individual shows in sales rooms.

April 5-6, Amarillo, Tex.—Amarillo Automobile Association's race meeting.

April 6-9, Duluth, Minn.—Duluth and Superior Automobile Club's first annual automobile show in state armory.

April 7-9, Logansport, Ind.—Second annual automobile show in Broadway garage.

April 8-17, Los Angeles, Cal.—Inaugural meet on the new Los Angeles Motordrome.

April 9-16, Elmira, N. Y.—Elmira Chamber of Commerce's first annual automobile show.

April 11-16, Harrisburg, Pa.—First automobile show.

April 11-18, Springfield, Mo.—Springfield Chamber of Commerce's first automobile show.

April 18-23, Bangor, Me.—Second annual automobile show in Auditorium.

April 30-May 1, 2, Philadelphia, Pa.—Quaker City Motor Club's roadability run.

May 2, Denver, Colo.—Start of Flag-to-Flag endurance and reliability contest to City of Mexico for Wahlgreen trophy.

May 5-7, Atlanta, Ga.—Opening spring race meeting on Atlanta motordrome.

May 9-14, Harrisburg, Pa.—Motor Club of Harrisburg's fourth annual reliability contest.

May 18-19, Norristown, Pa.—Norristown Automobile Club's third annual endurance run to Scranton and return.

June 11, Wilkes-Barre, Pa.—Wilkes-Barre Automobile Club's annual hill climb on Giant's Despair.

July 2, Wildwood, N. J.—North Wildwood Automobile Club's roadability run from Philadelphia to Wildwood.

July 4, Wildwood, N. J.—North Wildwood Automobile Club's annual beach races meet on Ocean drive.

**OLDFIELD EMULATES LIGHTNING**

**Covers Kilometer in 17.04 and Two Miles in 55.85 Seconds—Spectacular Speed on Florida Beach.**

Barney Oldfield, in his 200 horsepower Benz racer, yesterday (Wednesday, 21st inst.), once more traveled faster than man ever traveled before for the same distance when he streaked two miles in the phenomenal time of 55.85 seconds, and covered one kilometer in 17.04 seconds, both of which are world's records. The remarkable feats were accomplished on the broad level beach at Daytona, Fla., and made the second day of the meet promoted by the Florida East Coast Automobile Association stand out brilliantly as compared to the first day.

Oldfield was the shining star of the meet and his performance with his racing mastadon shows conclusively that his wonderful flight on Wednesday last, 16th inst., when he broke the world's straightaway record in 27.33 seconds, or at the rate of 131.72 miles an hour, was no fluke.

The first record to be wiped from the slate was the two miles straightaway against time, which had stood at 58 $\frac{3}{4}$  seconds since 1906, when Victor Demogeot, accomplished it with his 200 horsepower Darracq upon the same course. Oldfield, of course, got away to a flying start and the way he streaked over the sand to the wire line at the finish made the spectators hold their breaths. When it was announced that he had covered the two miles in 55.85 seconds, or 2.55 seconds faster than the former world's record, the crowd felt rewarded for the slow going of the day previous. Oldfield's flight was at the rate of 128.686 m.p.h.

The next record to receive a battering was the flying kilometer. The fastest time ever made for the distance stood at 17.76 seconds, to the credit of Hemery and the same Benz car that Oldfield piloted, and the Brooklands track in England. The world's straightaway record for the kilometer stood to the credit of Marriott, who, in his steam freak, made 18 $\frac{3}{4}$  seconds at Daytona in 1906; the best time for gasoline cars, made at the same place and time by Demogeot, was 19 $\frac{3}{4}$  seconds. Oldfield simply slashed all these records, hurtling over the marked course in 17.04 seconds, or at the rate of 131.197 miles per hour.

While these two flights, together with the mile record made exactly a week before, will go down in history as the most startling flights against time ever made by a man and an automobile, they were not the only features of the second day's racing. Oldfield and George Robertson both tried again for the mile record, but they fell short of the mark established by the former last week. In his trial Oldfield covered the mile in 28.41 seconds, or at the rate of 126.694 miles per hour. Robertson, who had just returned from New York

after a flying trip from Daytona, to attend the funeral of a relative, took his seat in Christie's front drive car, prepared to better Oldfield's time. Robertson, however, fell short of the mark, his best time for the mile being 30.39 seconds, while on a second trial he was clocked in 32.36 seconds. Oldfield made a second trial in 32.18 seconds.

Another noteworthy performance accomplished by Oldfield was when he tried his Knox car at the mile distance from a flying start against time. The Warner electrical timing apparatus registered 40.35 seconds, which, so far as is known, is the best time ever made by a stock car. The speed works out at the rate of 89.219 miles per hour.

Seven cars started in the 10 miles free-for-all handicap, and one-sixteenth mile separated the first three finishers. The victory went to W. E. Davis, whose Mitchell car was allotted a handicap of 5:25. Gus Grosjean in a Pope-Hartford, with 2:45 handicap, was second, and Oldfield, driving his Knox from 1:30, was third. Davis's time was 12:13. In the 10 miles free-for-all stock cars, Oldfield, in a Knox, and Ormsdorf, in a Chalmers-Detroit, were the only starters, and the former won by three feet in 8 minutes 0.43 seconds. In the so-called 10 miles Florida championship Grosjean, in his Pope-Hartford, enjoyed a walkover in 9:41, the other starter, R. M. Bond, in a Stearns, not finishing.

The day was ideal for record breaking, as is apparent, and an even larger crowd than on Tuesday viewed the events. It was noticeable that the dozen soldiers who patrolled the course on the first day in regulation uniforms and carrying guns and bayonets, were conspicuous by their absence. It was understood that Captain Cowan would not allow them to perform patrol duty, as representing the state. The day's summary follows:

Two miles against time, flying start—By Barney Oldfield, Benz. Time, 0:55.85 (world's record).

One kilometer against time, flying start—By Barney Oldfield, Benz. Time, 0:17.04 (world's record).

One mile against time, flying start—Oldfield, Benz, first trial, 0:28.41; second trial, 0:32.18. Oldfield, Knox, 0:40.35. George Robertson, Christie, first trial, 0:30.39; second trial, 0:32.36.

Ten miles free-for-all handicap—Won by W. E. Davis, Mitchell (5:25); second, Gus Grosjean, Pope-Hartford (2:45); third, Barney Oldfield, Knox (1:30). Time, 12:13.

Ten miles free-for-all stock cars—Won by Barney Oldfield, Knox; second, Harry Ormsdorf, Chalmers-Detroit. Time, 8:00:00.43.

Ten miles for "Florida championship"—Walkover for Gus Grosjean, Pope-Hartford. Time, 9:41.

Tuesday was ideal for speed-making performances. A strong breeze came from the southwest, the course being laid out from the club house south, so that the drivers

had the wind at their backs on the home-stretch. The coquina-shelled sand was packed firm and smooth, and with the aid of ropes the local police, reinforced by about a dozen soldiers of the First Regiment of Florida, in uniform and with muskets, there was no difficulty in keeping the people off the course.

Although the times made in the three stock car events that were run were unusually slow for the Florida beach, the finishes were close enough in every instance to be exciting. There were four starters in the so-called 10 miles Southern "championship," which, however, was open only to residents of Florida driving stock cars. Gus Grosjean, driving a Pope-Hartford, won by three feet from R. M. Bond, at the wheel of a Stearns, the time being 9 minutes 0.27 seconds. W. E. Davis, in a Chalmers-Detroit, came in third, and E. Hildebrandt, Mitchell, was fourth.

The 10 miles free-for-all handicap was the best filled event of the afternoon, eight cars starting, with David Bruce-Brown, in a big Benz, on scratch. Oldfield chose to drive his Knox, and received an allowance of 1 minute 30 seconds. The prize was a trophy donated by Allen Whiting, of the Automobile Club of America. Harry Ormsdorf, in a Chalmers-Detroit, with 2 minutes 30 seconds handicap, finished first in 9:09.20, with M. B. Aultman, Hudson, second. The latter had 6 $\frac{1}{2}$  minutes handicap. Another Chalmers-Detroit, driven by Hildebrandt, came in third. The handicaps were too much for Oldfield, Bruce-Brown and Bond to overcome.

Oldfield had his innings in the 20 miles free-for-all for stock cars, driving his Knox to victory in 18 minutes 0.60 seconds. He won by less than a foot from Grosjean, who drove a clever race in his Pope-Hartford. Ormsdorf was leading at the turn, but stalled his motor.

The mile speed trials and a five miles race for the big cars were scheduled, but the rapidly incoming tide short circuited the electrical timing apparatus and Oldfield and Christie were compelled to abandon fast work for the day. The summaries for Tuesday follow:

Ten miles for "Southern championship"—Won by Gus Grosjean, Pope-Hartford; second, R. M. Bond, Stearns; third, W. E. Davis, Chalmers-Detroit; fourth, E. Hildebrandt, Mitchell. Time, 9:00.27.

Twenty miles free-for-all, stock cars—Won by Barney Oldfield, Knox; second, Gus Grosjean, Pope-Hartford; third, Harry Ormsdorf, Chalmers-Detroit. Time, 18:00.60.

Ten miles free-for-all, handicap, for Whiting trophy—Won by Harry Ormsdorf, Chalmers-Detroit (2:30); second, M. B. Aultman, Hudson (6:30); third, E. Hildebrandt, Chalmers-Detroit (5:25). Time, 9:09.20. Also ran—Barney Oldfield, Knox (1:30); R. M. Bond, Stearns (2:30); W. E. Davis, Mitchell (6:00), and David Bruce-Brown, Benz (scratch).

## WALL STREET IDEA OF AMATEURISM

**Projector of New Association Talks of Its Aims and Regulations—Why It Won't Affiliate with A. A. A.**

With the sole object of promoting automobile contests for its members, who are supposed to be amateurs, although the constitution and by-laws are not very explicit upon that point, the Amateur Automobile Contest Association has been formed in New York City, and will be incorporated under the laws of the state of New York within a few days.

Nearly all the officers and a majority of the members of the new organization are prominent brokers and financial men rated high in Wall Street, and the club has sufficient capital and influence, it appears, to carry out its plans. The officers of the Amateur Automobile Contest Association are:

President, Northrup Fowler; vice-presidents, Richard M. Jesup, Henry H. Law and John Rutherford; secretary-treasurer, J. Gilbert Wilson; directors, the officers, J. D. Tooker, Clarence M. Chauncey, Charles A. Fowler, Jr., and Jonathan Thompson.

In view of the fact that the Amateur Automobile Contest Association appeared to mark the first serious step toward genuine amateurism and that it was designed to fill the role of a national association, and in doing so, might cross the American Automobile Association, the Motor World sought the officers of the organization to ascertain if this might be the case, and also to learn its definition of an amateur. When interviewed in his office at 7 Wall street, Richard M. Jesup, one of the vice-presidents of the association, said:

"The idea of an amateur automobile association was conceived at a dinner Henry Law, the promoter of the Briarcliff race, and I, had together. We talked it over among a lot of fellows and they all agreed that there should be automobile contests where the man who buys his car and drives it himself could compete upon an equal basis with others of his kind. The result was the formation of the Amateur Automobile Contest Association.

"Any person who joins our association must own his car, he cannot be connected with the automobile trade either directly or indirectly, and in contests that we promote he cannot be helped in any particular whatever by the manufacturers. Any person who accepts gratuities of any kind will be barred from the association."

"What is the scope of your organization? Do you intend to become a national body?" Mr. Jesup was asked.

"There is nothing in our rules to prevent us from becoming a national body, although that is not our present intention. We simply are forming a club or association to

promote purely amateur contests, and to provide plenty of sport for our members," he replied.

When asked if the Amateur Automobile Contest Association would affiliate with the American Automobile Association or run under its rules, Mr. Jesup replied with some asperity:

"Why should we affiliate with anybody? We have money enough to stand on our own legs, and to make our own rules, which is what we intend to do."

So far the Amateur Automobile Contest Association has not arrived at a definition for an amateur, but it is supposed that this will be attended to when the rules of the association are adopted next week. The only thing in the by-laws which has any bearing upon the subject is Section 2 of Article 6, which reads:

"No person shall be eligible for membership who is interested financially in the sale of motor cars or other accessories, or who in any way can be considered as even indirectly affiliated with the manufacturing of or sale of automobiles, their parts or accessories."

When it was pointed out to Vice-President Jesup that this did not define an amateur, he said that doubtless the definition of an amateur would be taken up at the meeting which will be held to adopt rules for competition some time this week.

The first contest of the association will be a hill climb on Saturday, May 28th. The course already has been chosen, but pending official confirmation of the granting of the use of the road for that day the officers do not care to make the exact course public. It is in White Plains, N. Y., however, and is exactly one mile long. Three classes will be arranged for, classified according to piston displacement.

It is announced that the association will hold a road race some time during the summer, but it will not be held over the Briarcliff course, as has been stated in several papers, and will have no connection with that event. Mr. Jesup states that the road race will be a handicap affair, with the handicaps based on piston displacement.

### Extra! Clews's Car Fouls the Law.

Henry Clews, the New York banker whose name and money constitutes nine-tenths of the so-called National Highway Protective Society, was hoist by his own petard on Sunday last, and as a result broad grins are the rule. Mr. Clews and his society believe that anything akin to lynching is none too good for violators of the speed laws and the anti-smoke ordinance. But alas! on Sunday last a policeman in Central Park gathered in the Clews chauffeur for not only speeding, but for permitting the Clews car, in which Mrs. Clews was a passenger, to belch smoke. It naturally is expected that both the banker and E. S. Cornell, the chief factotum of his little national society, will urge that the offender be given the limit of the law.

## PROTESTS AGAINST PROPOSED FEES.

**New York State Association Suggests More Moderate Scale in New Law—Webb is Chosen President.**

With the delegates present from 13 affiliated clubs, the New York State Automobile Association held its annual meeting at the Long Island Automobile Club, Brooklyn, last week and elected officers for the ensuing term as follows: Frank G. Webb, Long Island A. C., president; S. C. Tallman, A. C. of Auburn, first vice-president; Clay W. Holmes, Elmira A. C., second vice-president; B. B. Nostrand, Jr., Peekskill A. C., third vice-president; Bert Van Tuyle, Rochester A. C., secretary; W. H. Smith, A. C. of Syracuse, treasurer; directors-at-large, H. A. Meldrum, Charles Thaddeus Terry and A. G. Batchelder.

Owing to the changing of the date of the annual meeting the newly elected officers will hold office until December, 1911. The secretary's report testified to the degree of his activity, 14 new clubs having been admitted and four reorganized during the year, giving a total of 46 affiliated clubs with combined membership of over 6,000, an increase of 1,547. The treasurer's report showed the association to be in a prosperous condition with a comfortable surplus on hand.

In a general discussion of the proposed new state automobile law, the following pointed resolution, drawn by Chairman Terry, of the A. A. A. Legislative Board, was passed:

Whereas, The New York State Automobile Association has always maintained and probably will insist that there is no jurisdiction in law or reason for the imposition of any tax upon motor vehicles other than a tax upon it as personal property according to its value, and

Whereas, The State Association again goes on record as opposing any tax, whether it be called registration fee or license fee or plainly a tax levied exclusively upon motor vehicles for the privilege of using the highways, be it

Resolved, Nevertheless that if the Legislature insists upon the imposition of a tax upon motor vehicles for the use of the highway, whether it be called registration fee, license fee or by some other name, that the association would never acquiesce or remain passive if any attempt is made to impose any registration fee or tax higher than the following—to-wit—\$3 on cars of 20 horsepower or less, \$5 on cars of from 21 to 29 horsepower, inclusive, and \$10 on all cars of greater than 29 horsepower.

In response to an appeal from S. C. Tallman of the Auburn Automobile Club, the sum of \$200 was appropriated towards guaranteeing the establishment of a ferry across Cayuga Lake during the closing of the roads through the Montezuma marshes for reconstruction. The roads will be closed during the entire year, hence the necessity for the ferry service.



## KANSANS' REMARKABLE VEHICLE

Striking Illustration of Manifold Utility of Engine—Railway Gang Car that Serves Varied Purposes.

Of all the utilitarian uses to which the gasolene engine has been put, few, if any, are more remarkable or more varied than those made possible by the Au-Tra-Kar, as the little vehicle developed and recently

two side shafts for furnishing power. These power shafts seen longitudinally on each side of the car have standard taper shanks at each end, thus giving four points at which flexible or telescoping shafts can be attached. The two clutches, one for use in driving the car and the other for transferring the power to the side shafts, are plainly shown.

The Au-Tra-Kar is particularly adapted to the placing of screw spikes, the one considerable factor preventing the general

clutch which is adjusted to slip when the spike has been set down to the desired degree. Without this friction clutch the engine would be stalled or the head of the spike twisted off. The telescoping shaft between the motor and the spike driver allows of reaching three ties without moving the car. While the man handling the spike driver is guiding the drilling operation, the man at the rear of the car is directing the mechanism which screws the spikes into place, so that neither time nor labor is

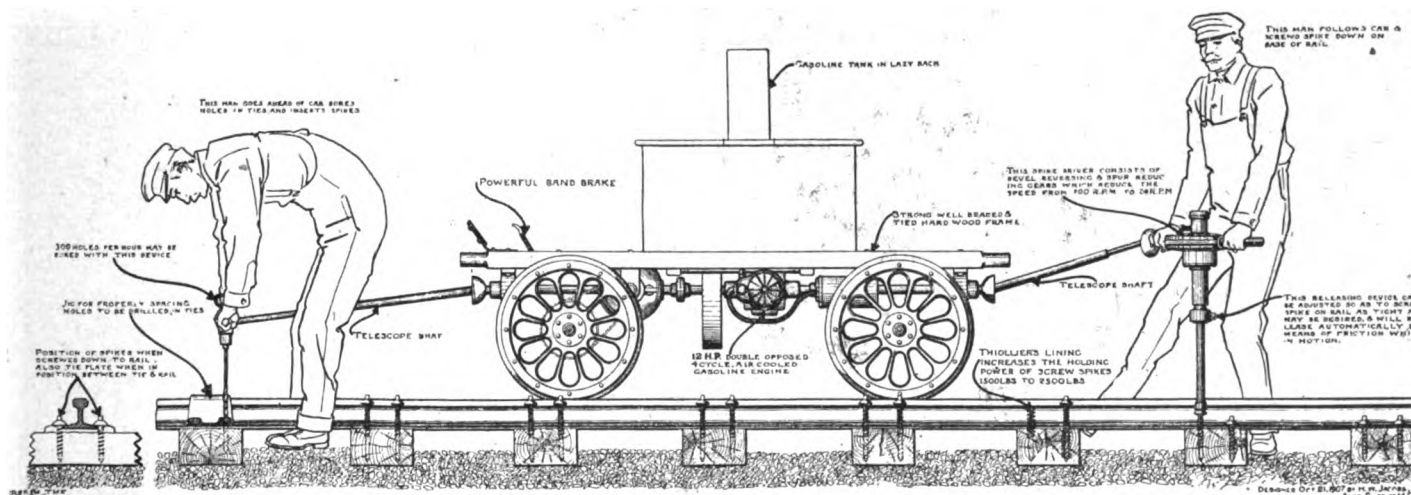


"AU-TRA-KAR" WITH ITS TRACK-LAYING AND REPAIR MECHANISM IN POSITION

placed on the market by the Railway Specialties Co., of Atchison, Kan., is styled. It is at once a section-gang car, an auxiliary locomotive, a power plant for roadside shop, and a drilling and spiking machine. While one end of it is engaged in drilling holes for spikes, the other end is screwing the spikes into place. It seems to solve not a

adaptation of which instead of nail spikes has been the great expense of putting them in by hand methods. The new contrivance, however, is claimed to permit of a ten times greater speed in the boring of holes and screwing in of spikes than was attainable before, in fact it is asserted by the makers of the Au-Tra-Kar that by this new method

wasted. The number of ties annually required for railroad use is about 154,000,000, valued at \$77,000,000, and as each tie carries eight spikes, it can be appreciated that an enormous amount of labor is employed in the mere driving of these spikes into the wood, and what a saving the Au-Tra-Kar may effect.



SHOWING THE FEATURES AND RAIL-SPIKING OPERATIONS OF THE "AU-TRA-KAR"

few of the expensive problems of railway maintenance.

The manner in which it simultaneously performs the operations of drilling and spiking is shown by the accompanying illustrations.

In the photograph showing the under side of the motor there are plainly visible

the formerly expensive screw spikes can be used at a cost less than that of the old plain nail spikes.

In the photograph showing the work of inserting these screw spikes the spike driver is shown hung in the crane, thus relieving the operator of handling its weight. The round part just above the rail is a friction

In some sections of the country, particularly in the West, hard wood ties are difficult to get, and a new way of utilizing soft wood ties had to be found. The Au-Tra-Kar has made possible a method of changing soft wood ties into hard wood by the simple expedient of boring a large hole into the tie where the rail is to rest, and to fill this

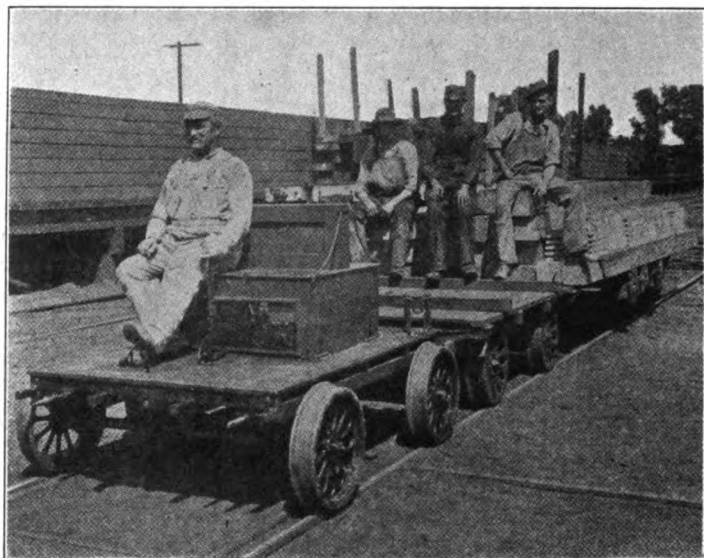
hole with a hard wood plug. This hard wood plug then forms the basis into which the spikes are driven, or screwed. The boring of these large holes and inserting of the hard wood plugs easily is accomplished by the adjustable tools on the flexible shaft carried by the Au-Tra-Kar. The machine can be further used to operate the mechanical tamping bars which are finding favor

laborers to and fro, but when necessary it can pull two or even three push cars loaded to capacity with men or with ties, rails, bars, jacks, shovels, etc. The clutch is of the friction type, and can be disengaged completely, permitting the engine to be used by the track men as a source of power, while the car is standing still, and employing a small air compressor or electric gen-

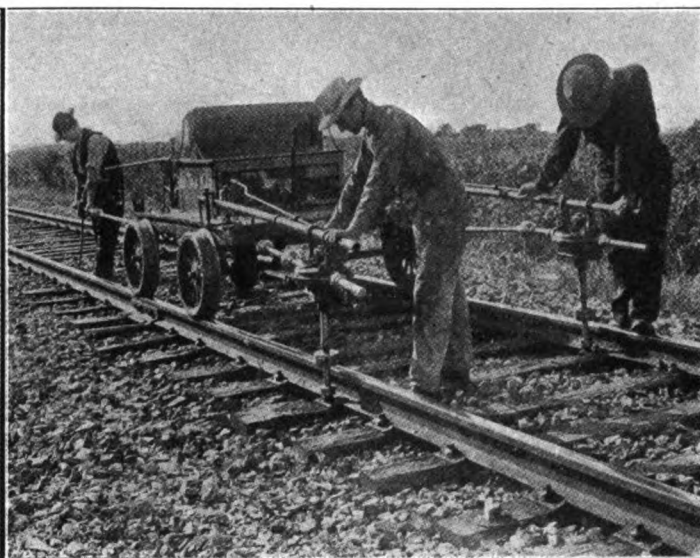
its versatility is such that railway maintenance, so far as roadbed is concerned, is made much easier.

#### Preparing Polished Brass for Paint.

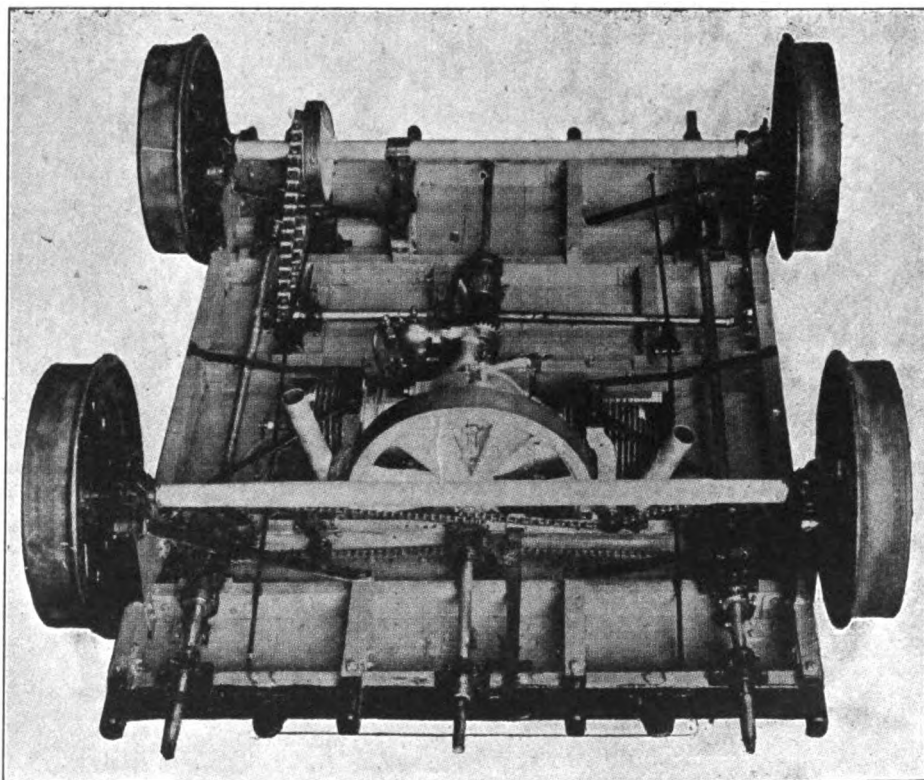
Unless proper measures are taken to clean the surface some little difficulty may be encountered when it is attempted to paint over any of the polished brass work with



"AU-TRA-KAR" USED AS A LOCOMOTIVE



RAIL-SPIKING OPERATIONS IN FULL BLAST



"AU-TRA-KAR" INVERTED, SHOWING POWER PLANT

for packing the ballast between the ties.

The gasoline motor employed is of the double-opposed type, air cooled, and develops 12 horsepower. It not merely saves the time and muscular energy required to propel the old type of hand car in carrying

erators it will operate riveting tools or other air or electric tools at a distance. It can be used also for spraying paint on bridges or to turn a concrete mixer, or with a mowing machine blade attached, it will cut grass and weeds from the right of way. In fact,

which so many of the older cars are adorned. The brass should first be scoured with a mixture of salt and vinegar to remove all grease, after which the surface should be washed with hot soapsuds and wiped dry with a clean rag. Thereafter it is likely that the paint may be applied without risk of its running while wet or chipping off after it has dried.

#### Better than Soapsuds for Carbon.

Someone has been advising the guileless novice to free his cylinders of carbon deposit by the simple expedient of injecting soapsuds into the automatic air valve of the carburettor by means of a squirt can. Although the advisor has nothing to say about the risk of rusting the bright rubbing surfaces through the action of the hot lye in the soap, it is probable that that risk will seem important as to prevent the wise motorist from undertaking the plan. Regular and consistent use of kerosene oil may be relied upon as both effective and harmless.

#### Winter's Wear on Steering Gear.

After the conventional siege of winter work, which is bound to include a certain amount of running over frozen roads and through snow, the steering mechanism of the car should be thoroughly overhauled. There is considerable likelihood that the wheels may be sprung out of line, while worn or sheared keys in the gear itself, or cracked or bent steering arms and connecting rods may have so "loosened up" the system that it is a positive menace to safety.

**LOUISVILLE LEADS SHOW QUARTET**

**Kentuckians Give Their Third Annual Exhibition—Fort Worth, Cedar Rapids and Paterson on the Circuit.**

With the opening of four more local automobile shows last week at Louisville, Ky., Fort Worth, Tex., Cedar Rapids, Ia., and Paterson, N. J., the 1910 show calendar is pretty well depleted, and there are few

more than 100 different models, being the largest exhibition ever staged in the Kentucky metropolis.

The list of exhibitors was as follows:  
Gasolene cars—Miles Auto Co., Packard; Banks Motor Car Co., Ford; Atlas Machine Co., Marmon, Regal, Empire and Grabowsky trucks; Straeffer-Arterburn Motor Car Co., Krit and Parry; John Mason Strauss, Chalmers; Prince Wells Co., Rambler; Yager Motor Car Co., Peerless; Marshall-Clark Motor Car Co., Maxwell; Olds Motor

Broc; Reimers Motor Car Co., Babcock. Steam cars—E. C. Walker & Co., White and Stanley.

Motorcycles—Robert O. Rubel, Jr., Curtiss.

Accessories—Auto Jack Distributing Co., Levy Bros., Louisville Automobile Co., Roy E. Warner Co., L. W. Thompson Co., C. W. Fisher, Andrew Cowan Co., Falls City Buggy Top Co.

After weeks of hard work and preparation



GENERAL VIEW OF THE BLUE GRASS SHOW IN STATE ARMORY, LOUISVILLE.

more exhibitions billed. With the exception of Louisville, the other cities entered the show circuit for the first time, but so successful were the initial functions that their repetition is assured.

First in size and importance was the Blue Grass exhibition which was ushered in by Mayor Head who, following a brief inaugural address pressed the time-honored button which set the lights aglow and also set a deep throated siren screeching its welcome. It was the third annual exhibition of the Louisville Automobile Dealers' Association, and was staged in the state armory, opening on Thursday, 17th, and continuing for the rest of the week.

Every available inch of the 72,000 square feet of space was utilized to display the wares of the 40 exhibitors, 30 of whom showed complete cars. There were more than 50 different makes of car displayed in

Works, Oldsmobile and Oakland; Hite D. Bowman, Stearns; Kentucky Auto Co., Cadillac; Hubert Levy Auto Co., Welch and Buick; Longest Bros. Co., Stoddard-Dayton and Overland; Reimers Motor Car Co., Haynes and Reo; Studebaker Auto Co., Studebaker; Thomas Automobile Co., Winton; Fulton, Conway & Co., E-M-F. and Flanders; Louisville Automobile Co., American Simplex; George Looms, Locomobile; Southern Auto Co., Ohio; United Auto Co., Premier and Kisselkar; Dunham Auto Co., Velie and Buffalo trucks; Glosbrenner Commercial Car Co., Rapid; Brown Auto Co., National; King's Garage, American; Kilgore & Stiltz, Frayer-Miller.

Electric vehicles—Hubert Levy Auto Co., Baker; Longest Bros. Co., Waverley; Miles Auto Co., Woods and Detroit; Studebaker Auto Co., Studebaker; Hite D. Bowman, Rauch & Lang; Southern Automobile Co.,

the Automobile Dealers Association of Cedar Rapids, Iowa, put on their first show in the Auditorium on Monday evening, 14th, and were fully repaid for their efforts by the quick and hearty response which the public paid. The attendance and the interest displayed were gratifying.

Ten firms exhibited cars to the number of 40, in about 25 different brands. There also was a good array of motorcycles and accessories. Among the exhibits was a home product exhibited at a show for the first time, the Beck truck, made by the Beck Carriage Co. of Cedar Rapids.

For the first attempt, the decorative scheme was quite effective. Above was a sky of hanging streamers and festoons of blue and white, while the walls and floor were concealed by green burlap, which in the former case was topped with white. Rows of white pillars interconnected with

streamers defined the aisles. Over all in the center of the hall hung a huge chandelier, 15 feet in diameter and containing over 500 lights, which was the piece de resistance in the illuminating scheme; rows of lamps strung about the exhibits and balcony also helped turn night time into daytime. The final curtain was run down on the 19th with very good prospects for a return engagement next year.

The exhibitors were the following:

Gasolene cars: Campbell Auto Co., Haynes, American, Stearns, Overland, Marion and Brush; George Yuill, Staver; Schreiber-Miller Auto Co., Empire, Moon, Everitt and Henry; Central Machine & Auto Co., Regal; C. E. Fawcett, Flanders, E-M-F. and Studebaker; Foy Supply Co., Reo and Rapid; Joseph Vavra, Rambler; B. & L. Auto Co., Hudson, Chalmers; Cedar Rapids Auto & Supply Co., White, Mitchell, Maxwell and Stoddard-Dayton; P. M. Lattner, De Tamble, Ford; Iowa Motor Car Co., Oakland, Buick; Beck Carriage Co., Beck; George Henderson, Cadillac.

Last week all roads and trails for miles around led to Fort Worth, Tex., which was in high fettle because of the several big attractions which were in session in the Panther City, among them its first automobile show, and not overlooking the cattlemen's convention and fat stock show. The latter were in the nature of old stories, however, and for that reason were overshadowed by the automobile affair, which was held in the big Coliseum, by the Fort Worth Automobile Dealers Association. With a few exceptions every dealer in the city and some from other points, took space, and over 60 different models were shown.

Through the holding of the show in connection with the live stock exhibition hundreds of people were drawn to the city who otherwise would not have made an extra trip to see the cars. Touring clubs came from many small towns and prizes were offered for the largest body of motorists, for those that came the farthest and for the greatest number driving the same make of car. Opening on Monday, 14th, the show lasted throughout the week. Following were the cars on exhibition:

Gasolene cars—Stevens-Duryea, Regal, Mitchell, Cole, Flanders, Oldsmobile, Hupmobile, Brush, Maxwell, Franklin, Ford, Richmond, Buick, Marion, Thomas, Halladay, Pierce-Arrow, Kisselkar, Empire, Chalmers, Hudson, Grabowsky, Rambler, Oakland, Marmon.

Electric vehicles—Detroit.

Steam cars—White.

Through the co-operation of makers and local dealers, Paterson, N. J., this week is having its first automobile show in the Auditorium and indications are that it will not be the last. Beginning with the opening on Monday night the attendance started strong and bids fair to continue so during the rest of the week, for many out-of-town people are in evidence.

Over 30 cars of 25 different factories, among them one foreign machine, are on the floor as well, as a good sprinkling of motorcycles and accessories. Indicative of the invasion of the automobile selling field by women is the presence of Mrs. Rickey, of East Orange, who sets forth the merits of Marmon cars.

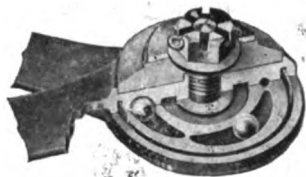
The following cars are exhibited:

Gasolene cars—Reo, National, Pullman, Mercer, Studebaker, Overland, Marion, Franklin, Buick, Hudson, Oakland, Paterson, Jackson, Hupmobile, Empire, Monitor, Paige-Detroit, Cartecar, Goeth, Stoddard-Dayton, Lozier, Knox, Zust, Marmon, Winton, Parry, Schacht.

Electric vehicles—Studebaker.

#### New Idea in Shock Absorbers.

An entirely new idea in spring check construction is that which has been introduced in the new device which has just been brought out by the Ball Bearing Shock Ab-



sorber Co., of New York City, and which is descriptively known as the Ball Bearing shock absorber. Although closely resembling a popular class of shock absorbing devices in which excessive spring action is opposed by the frictional resistance set up between two scissors-like members which are attached to the frame and the axle, respectively, the arrangement, which is shown by the accompanying illustration, depends upon a totally different principle. Within the enclosure formed between the cup-like ends of the two main arms is a set of steel balls held in short circumferential channels which instead of being of uniform cross section, are tapered from semi-circular form at the center to nothing at either end. In consequence, any relative movement between the two arms tends to cause the balls to force the joined ends of the arms to separate as the balls run onto the shallow sections of their runways. Opposing this lateral separation of the arms are a pair of heavy rubber discs which act as compression springs and set up a very effective and elastic resistance which increases progressively as the movement of the arms proceeds. Such is the construction that excessive spring movements either in plunging or rebounding are checked, while the resistance is claimed to be so well graduated that it in no wise interferes with the natural resiliency of the springs themselves.

#### Increased Responsibility of Experts.

Frequently in cases where the driver of an automobile has been haled into court for fast or reckless driving, he has advanced the excuse that there was no danger for anybody, because his car was under such

control that he could stop it in a few feet by the extreme use of the brakes. Numerous recent accidents have proven that this is one of the worst fallacies that could ever enter the head of any driver, and the very latest one which happened in England sent the driver to prison for six months to meditate upon the effectiveness of brakes on snow or ice-covered roads.

A factory tester was trying out a car at good speed along the high road near Highgate, England, when a crossing sweeper stepped upon the road some 50 feet in advance of the automobile. The machine was a six-cylinder make and very powerful; the road had been wet with thaw during the day and had frozen over solidly during the evening, with the result that when the driver applied the brakes to the fullest extent, the steel studded tires on the driving wheels slipped over the frozen surface of the road like skates. The rear of the car spun around with full speed, struck the sweeper and killed him instantly. The force with which the machine "skidded" may be imagined from the fact that one wheel was broken clean off the hub, and the steel frame twisted into fantastic shape.

In sentencing the driver to prison, the judge laid particular emphasis on the fact that he was supposed to be an expert in his field, as he was adjudged competent by his employers to test their new cars on the roads; that under these conditions he should have been fully aware of the fact that ice-covered roads afford no secure hold to the wheels, and he should have known the consequences of severe braking on such roads in causing dangerous skidding, and that under these circumstances he should be considered criminally negligent and be sentenced to prison.

#### Why Spring Bolts Should be Tightened.

With the approach of the season in which so many new cars are put on the road in the hands of inexperienced drivers, it is well to repeat the admonition to tighten up the spring perch bolts after every two or three hundred miles of early running. It is a fact with which experienced drivers are perfectly familiar that a new spring exhibits a certain tendency to settle after being used for a time, which, in turn, tends to loosen the clamps which bind it to the axle. Unless the slackness is taken up as fast as it appears, there is risk of permanent damage to the springs through the working and twisting of the leaves, if not of actual disaster on the road as a result of breakage.

#### When Ruts are Likely to Do Damage.

In connection with the early spring excursions into the country, especial care should be taken to avoid any but moderate speed on badly rutted roads which are still frozen. To strike a deep rut when running at speed tends to cause a bad slew, if not to overturn the car; while in endeavoring to get out of frozen ruts, there is great liability of straining the steering gear.



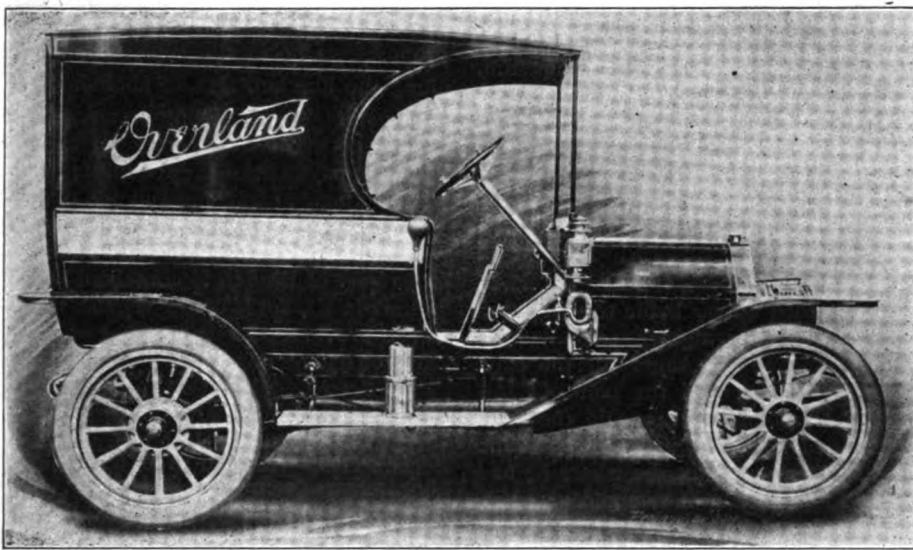
**UTILITY RIG WITH PEDAL CONTROL**

**Overland Discloses a Delivery Model Having Characteristic Features—Details of Mechanism and Body.**

On the theory that one of the strongest demands in a commercial vehicle is simple and easily controlled speed regulating mechanism, there is much to recommend the new utility vehicle which the Willys-Overland Co. has just brought out. This first venture of the rapidly growing Toledo (O.) company is distinguished by the pedal arrangement which has been a characteristic feature of one of the Overland pleasure ve-

hicles in dimensions are  $3\frac{3}{4}$  by  $4\frac{1}{2}$  inches, and its nominal output 25 horsepower. Lubrication is by mechanical oiler with splash distribution in the crank pits. Ignition is by the conventional jump spark.

As the picture shows, the machine retains something of the clean lined, light and handy appearance of the pleasure car from which it is more or less directly derived, while at the same time affording ample body space for the needs of the man who requires a commodious but not bulky vehicle for light delivery purposes. Its rated carrying capacity is 800 pounds net useful load; a rack being provided in the body for such light commodities as cannot well be thrown loosely on the floor. Access to the interior is obtained either by tilting



NEW OVERLAND 25 HORSEPOWER DELIVERY CAR

hicles for the past two years, and which entirely dispenses with the change speed lever, leaving only the emergency brake to be hand controlled. As compared with the relative intricacy of the selective gear shifting device of the average pleasure or commercial car, this system leaves little to be desired where the vehicle is to be placed in the hands of an inexperienced and more or less unmechanical operator.

Another meritorious feature, also borrowed from Overland pleasure car practice, is the planetary change gear which is mounted on the semi-floating rear axle, after the fashion of the popular axle mounted selective gearset. It is the high speed clutch and low speed and reverse bands of this gear which are regulated by means of the two pedals on the foot board. One of the pedals has a rounded pad instead of the usual inclined plane surface, and when pushed forward engages the low speed band. The same pedal drawn back and pressed downward, engages the reverse. The high speed is controlled by means of a separate pedal.

The motor is of the four-cylinder vertical pattern, cooled by gravity circulation of a relatively small body of water. Its cyl-

inder dimensions are  $3\frac{3}{4}$  by  $4\frac{1}{2}$  inches, and its nominal output 25 horsepower. Lubrication is by mechanical oiler with splash distribution in the crank pits. Ignition is by the conventional jump spark.

**Hartford Dealers Elect Officers.**

The annual meeting of the Hartford (Conn.) Automobile Dealers Association was held last week and the following officers were re-elected for the ensuing year: Ralph D. Britton, president; L. H. Elmer, vice-president; S. A. Miner, secretary, and Fred W. Dart, treasurer. Plans for next year's show were discussed and the show committee, consisting of F. W. Dart, E. G. Biddle and W. L. Ledger, were instructed to submit suggestions at the next meeting.

**Harrisburg Has a Trade Association.**

The tradesmen of Harrisburg, Pa., have organized the Harrisburg Automobile Dealers Association and elected officers as follows: I. W. Dill, president; George G. McFarland, first vice-president; Andrew Redmond, second vice-president; E. W. Cox, secretary, and C. C. Crispen, treasurer. Arrangements are being made to hold a show during the week, April 11-16.

**DEFINES A "COMMERCIAL VEHICLE"**

**Attorney General of Connecticut Helps Secretary of State Out of a Difficulty—Effect on Fees.**

At first blush, the defining of a commercial vehicle would appear a comparatively simple task, but the second blush quickly causes doubts on that point and the greater the thought, the larger is the doubt that arises. Last week the Secretary of State of Connecticut, who is entrusted with the registration of motor vehicles, had the question thrust at him and it so filled him with doubt that he called in the Attorney-General of the State for a legal answer, which the Attorney-General promptly supplied at considerable length. His decision as to what distinguishes a commercial vehicle from others is couched in these terms:

"Webster defines 'commercial' 'of or pertaining to commerce; carrying on or occupied with commerce or trade, mercantile.' It is significant that this statute places the commercial vehicle in the same class with the motor truck, and I think it is obvious that with reference to them the legislature was designating vehicles used to transport merchandise rather than persons; a class of vehicles where the horsepower of the vehicle might determine the load to be carried but made little difference with the speed of the vehicle; a class of vehicles whose purpose and use is similar to our horse-drawn express and delivery wagon and trucks; a class of vehicles largely used upon the concrete and stone paved streets of our thickly populated municipalities rather than upon the 'improved' state roads of our country towns.

"Any make or size of motor vehicle, of whatever horsepower, which is exclusively used for the purpose of transporting merchandise, in my opinion comes within the term 'commercial motor vehicle' as used in this statute. The automobile which is used for the general purpose for which such vehicles are used, to wit: for carrying persons, if not owned or controlled by a liveryman, in my opinion is subject to the registration fee determined by the horsepower of the machine, and is not transferred to the commercial vehicle or motor truck class because its owner may occasionally carry home groceries or transport merchandise in it.

"In my opinion to be entitled to the special low registration fee designated for the commercial vehicle or motor truck, the commercial use made of the machine must continue during the period covered by the registration of the vehicle for the purpose, that is, its use cannot be lawfully changed to that made of the vehicle which must pay a registration fee based upon the horsepower, without paying the registration fee required for such vehicles."

**"INVADERS" TROUNCE "NATIVE SON"**

**Three Times They Show the Way to Livingston at Los Angeles—California Gets but One Crumb.**

In retaliation for the several trouncings which he received at the hands of Al Livingston, the native son, and his Corbin the previous week, Ray Harroun, the Hoosier crack, who has invaded the Pacific Coast to see what the local talent can do against his Marmon, turned the tables on Livingston in decisive fashion at the second two days session at Ascot Park, Los Angeles, on Saturday and Sunday, 12th and 13th, respectively. Of the four offerings on the bill, at 5, 20, 50 and 100 miles, respectively, the Indianapolis combination captured all but the first, but not without stiff opposition on the part of Livingston, who put up a game fight until retired through an accident to his machine.

Not only did Harroun and his yellow flier annex the major share of the honors, but they also wrested from the Angeleno lad the 50 miles coast record which he had established the previous week, and furthermore fractured the coast century mark which had stood on the books for three years. It was a comparatively small field that furnished the thrills for the two days, not over half a dozen cars competing, but between the dusty track and the rivalry among the contestants, the going was of the lively order throughout.

**First Day—Saturday.**

Although Livingston, his most dangerous opponent, was on the line against him for the half century, Harroun practically had it won before he started, for the Corbin was in anything but fit shape for the gruelling grind, as its driver well knew, but his grit inspired him to take a chance. In the previous event the Corbin had cracked a hub and Livingston, as he came to the line for the 50 miles, was warned by the referee not to start, but he insisted. Getting away good Livingston took the pole, but hardly had passed the three-quarters stake when the overworked hub went to pieces and the Corbin was retired.

From then on it was Harroun's race, his only adversary being Harold Stone, in a smaller Marmon, but Stone never proved dangerous, being in the race more to worry Livingston than for any other reason. Although compelled to change a tire Harroun glided along to such good advantage that he lopped 10 seconds off the mark made by Livingston a week before and set new coast figures at 50:16 $\frac{3}{4}$ .

The 20 miles event fairly sent the spectators into ecstasies so hotly was it fought. Harroun, Livingston, Frank Siefert with a Palmer-Singer, and Morris O'Donnell, Pennsylvania, were the four which furnished

the fireworks. Siefert started to make a runaway and gave Harroun his dust for five circuits when his engine ran dry of oil and burned out its bearings. Thereupon Harroun went to the front and stayed there to the finish, although Livingston made a desperate effort to nail him at the tape, but fell short. O'Donnell was far in the rear. Harroun was clocked in 19:40, having averaged better than a mile a minute and set new coast figures for the distance.

Livingston's only victory of the meet was the five miles curtain raiser in which he trimmed Harroun in good style registering the five circuits in 4:57 $\frac{3}{4}$ .

The summaries:

Five miles, stock cars—Won by Al Livingston, Corbin; second, Ray Harroun, Marmon; third, Frank Siefert, Palmer-Singer. Time, 4:57 $\frac{3}{4}$ .

Twenty miles, stock cars—Won by Ray Harroun, Marmon; second, Al Livingston, Corbin. Siefert did not finish. Time, 19:40.

Fifty miles, stock cars—Won by Ray Harroun, Marmon; second, Harold Stone, Marmon. Livingston did not finish. Time, 50:16 $\frac{3}{4}$ .

**Second Day—Sunday.**

With a patched up car liable to tear asunder at any time, Livingston came to the line on the second day eager for the fray. Against him were pitted the pair of Marmons with Harroun and Stone in the drivers' seats, and Endecott in a Cole. While even his friends could not see where he had a chance, Livingston still retained his characteristic hallmark of courage and sent the car away in the lead. For the first five miles he and Harroun exchanged the leadership in a series of hot spurts and then the latter allowed Livingston to set the pace, satisfied to trail him and wait for something to happen. For 62 miles this chase went on, when the Corbin was pulled up for tire changes. Much time was lost by this delay as the new wheels were not fitted with demountable rims, and, together with engine trouble, which arose during the stop, Livingston was ten miles to the bad when he got going again. With renewed effort the Corbin was sent ahead to make up its lost ground and so hot was the going that the two cars brushed tires in the 83d circuit, but fortunately they separated before an accident was born. About this time Endecott was eliminated with a broken oil pipe. Circling the oval with great precision, Harroun rounded out the century in 1:43:14 $\frac{3}{4}$ . Stone rung in second and Livingston was third. However, Livingston got the largest share of lap money, a dollar being offered for the leader at each mile, and he took just 61 of the silver discs, the other 39 going into Hoosier coffers.

The summary:

One hundred miles, stock cars—Won by Ray Harroun, Marmon; second, Harold Stone, Marmon; third, Al Livingston, Corbin. Time, 1:43:14 $\frac{3}{4}$ .

**MORE POCKET-PICKING IN PROSPECT**

**New Jersey Senate Prepares to Raise Registration Rates All Around—Seeks to Divert Money, Too.**

Having defeated the Edge bill, which would have permitted motorists registered in other states to enter New Jersey without paying an "admission fee," the Senate, under the presidency of Joseph S. Frelinghuysen, proceeded to lay plans for picking the pockets of the natives of more "easy money." The plans took the form of two bills introduced by Senator Brown, of Monmouth county, member of the Monmouth Automobile Club, and the Associated Automobile Clubs of New Jersey. His first bill proposes to boost the registration fees all along the line and also to abolish the present system of permitting non-residents to use the roads of New Jersey for eight days upon the payment of the fee of \$1; he would compel them to pay the full fee of \$25 for a 40 horsepower car, even for one day's use of the roads of the Mosquito State. This latter part of the bill is contained in a little "joker" in the form of the regular repealing clause providing for the repeal of all prior bills consistent therewith.

Mr. Brown's bill authorizes the following registration fees for automobiles:

First class—less than 10 h.p.	\$3.00
Second class—from 10 to 15 h.p.	5.00
Third class—from 16 to 20 h.p.	10.00
Fourth class—from 21 to 24 h.p.	15.00
Fifth class—from 25 to 39 h.p.	20.00
Sixth class—40 h.p. and over	25.00

The present rates are \$3, \$5 and \$10.

The second bill introduced by the Monmouth senator would further Governor Fort's much discussed pet project of an ocean boulevard along the Jersey coast from Atlantic Highlands to Cape May. It would require the state of New Jersey to pay one-half of the cost of the boulevard instead of the quarter which the state now pays for the construction of new roads, and permit the funds in the State Treasury accrued from the registration of automobiles to be applied to the maintenance of the boulevard, instead of dividing such funds pro rata among the counties.

Needless to say, both bills are vigorously opposed by the automobilists of New Jersey, and resolutions have been passed by the Associated Automobile Clubs of New Jersey, the Automobile Club of Hudson County, and the North Jersey Automobile Club, denouncing both measures and protesting against their enactment.

In discussing the two bills introduced by Senator Brown, Senator Wilson calls attention to the report of the State Motor Vehicle Commissioner which showed that during 1909 but \$7,300 was received from the \$1 a year non-resident tourist rate, while during the same period over \$240,000 was collected from the "natives."

## GERMANY'S TRUCK SPECIFICATIONS

**Government and Manufacturers Revise the Regulations—The Vehicles that Now Will Earn Subsidies.**

Utilizing the experiences of the past two years, the German War Department and the manufacturers of commercial motor vehicles at a meeting held during the first week of February in Berlin, decided upon a revision of the rules under which the government would pay subsidies to automobile manufacturers. Many of the general regulations and specifications have proven satisfactory and have not been changed, but

not require more than one-sixth of a gallon per kilometer on dry, level roads.

All trucks must be provided with both battery and magneto ignition.

Transmission must be of the sliding selective type.

The maximum of speed must be 16 kilometers per hour, and the trucks must be capable of going at a  $3\frac{1}{2}$  kilometer speed on the reverse.

Drive may be either by chain or shaft.

Brakes must be expanding band brakes on rear wheels.

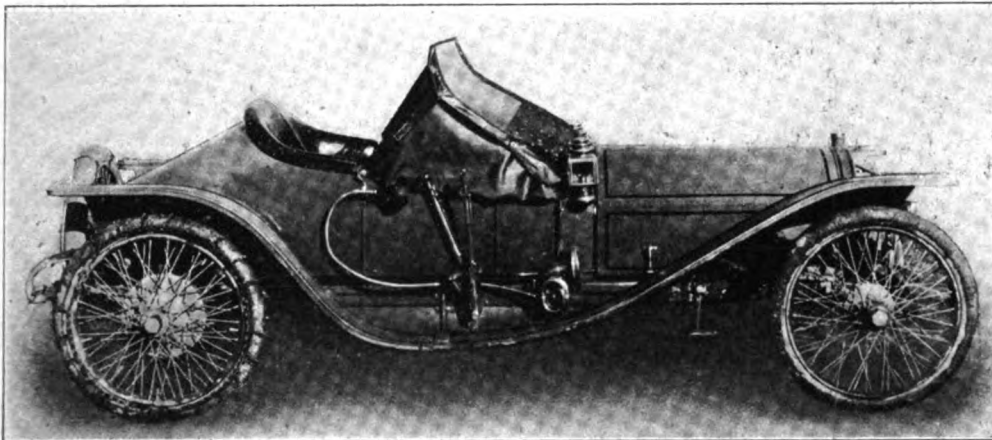
The exhaust pipe must be furnished with a muffler, and shall be bent slightly upward, in order to reduce dust.

All pedals for clutch, brakes and accelerator must bear clear inscriptions.

## PRIVATE CAR AND ITS FEATURES

**Only One has been Built and It Departs from Usual Practice in Both Frame and Engine.**

Although it is several years since the use of wire wheels has been at all familiar in this country, the advantages of that type of running gear have continued to appeal to a certain class of English manufacturers, with the result that they have been in continual service abroad on several makes of car. It is not unlikely, however, judging from a number of indications, that an increase of their use in the United States will occur be-



NOVEL DESIGN OF WIRE WHEELED PRIVATE CAR



SPARE WHEEL CARRIED ON REAR.

some very important changes have been adopted in the requirements of the motors, power of surmounting obstacles, coupling, and the complete standardization of easily detachable parts, so that a full interchange of parts may be effected between vehicles of different makes. The horsepower minimum has been reduced from 35 to 30, and the height of the bonnet from 50 cm. to 45 cm $\frac{1}{2}$ . The tread also has been slightly reduced, from 70.8 inches to 67 inches, while the grade which a loaded truck, pulling a loaded trailer must be able to surmount, has been fixed at 1:8 in place of the former 1:7.

The total weight of the car shall be as close to 15,000 pounds as possible.

The motor truck, with its trailer, must at all times be capable of surmounting inclines of 1:8, when fully loaded.

The tread must not exceed 67 inches, nor the wheel base be longer than would permit the truck to be driven around any existing curve on any public road.

A reliable signaling device must be provided between the driver on the motor truck and the brakeman on the trailer, and a dust-shield must be provided for the brakeman.

Driving wheels must be provided with easily accessible sandboxes.

The trailer shall be similar in construction and build to the motor truck; both together shall form a homogenous whole.

They must be economical in gasoline and

The coupling between truck and trailer must be arranged so as to permit of a free space of at least 12 inches, even in the sharpest curves.

The front wheels of the trailer must be capable of being turned in 360 degrees, a complete circle.

Each truck must be provided with three complete sets of anti-skid devices, preferably short cross chains.

Complete and uniform dimensions are provided for all detachable parts, such as wheels, tires, rims, spokes, hubs, etc., so that interchangeability is possible between different vehicles.

### Forty Years of Columbus Buggies.

To those who are inclined to regard the motor vehicle as yet in its infancy, a statement in the newly issued catalog of the Columbus Buggy Co., may assume the proportions of a mild shock. The statement is to the effect that the company's products have been on the market for over forty years. Of course the explanation is that Columbus buggies were built to please lovers of the horse long before the motor vehicle came on the scene. A perusal of the neatly embellished catalog, however, furnished convincing proof that the wisdom of the old-time carriage maker has not been misapplied in the production of electric automobiles.

fore long. On this account, particular interest attaches to a new car which has been constructed at the Springfield (Mass.) shops of the Hendee Mfg. Co., as a private venture. The car, which is of torpedo racing runabout form, is wire wheel equipped, and otherwise exhibits a number of striking and commendable characteristics.

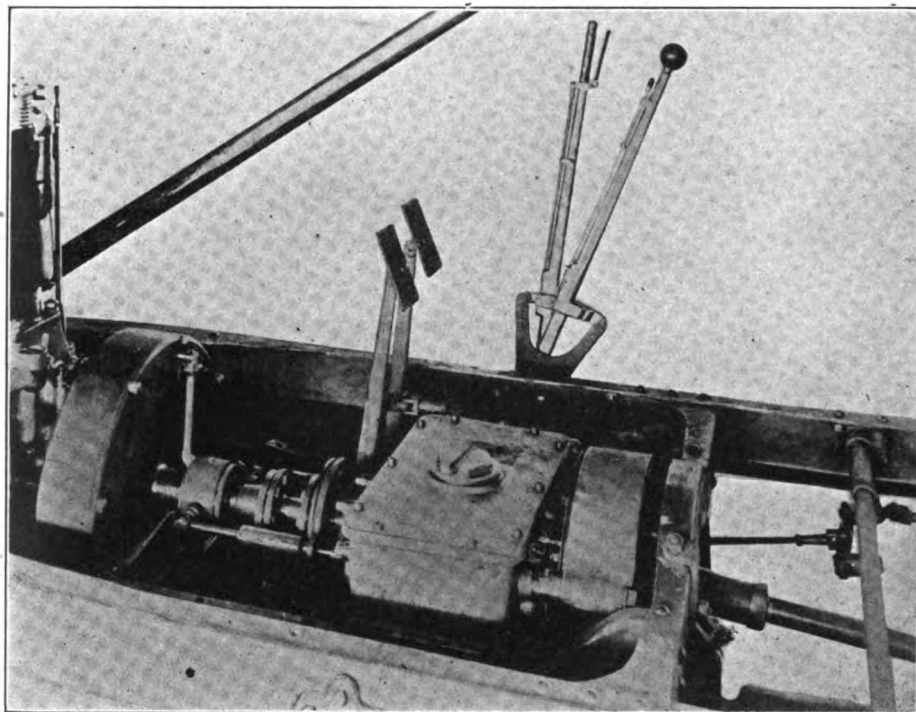
The vehicle, a general idea of which may be obtained from the accompanying illustrations, was designed by James H. Jones, formerly designer for the Knox Automobile Co., and is said to be the lightest of its class yet produced. The chassis complete weighs but 1,600 pounds, notwithstanding the fact that owing to the detachable feature of the gear an extra wheel is carried as a part of the regular equipment. The wheels, it should be mentioned, are of the same general form as the English Rudge-Whitworth, but modified to suit the machine. The complete equipment of five wheels weighs less than the ordinary artillery equipment would weigh without an extra wheel. Such is the method of attachment that a replacement can be made without difficulty in less than 30 seconds.

The motor reveals a construction which is a little unusual in this country, though favorably known; its six cylinders being cast in blocks of three. The cylinder heads are detachable and contain the inlet passages, integrally cast. The valves are of the over-

head type, actuated by push rods and rocker beams, but are introduced into the cylinders without the use of separable cages. An-

As the illustrations plainly show, the body is of entirely original lines, with rotund back and high sides. The dash is brought

completely houses the driver and passenger. The gear shift and brake levers are placed outside the body; the remainder of the con-

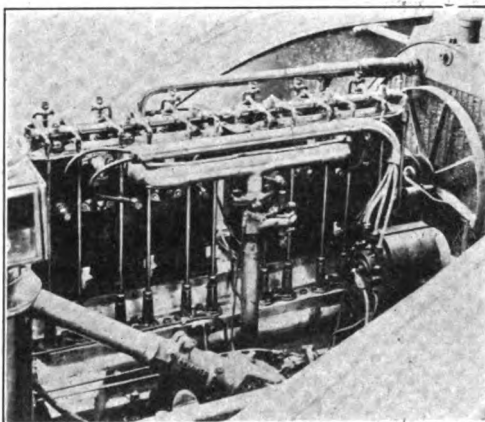


CLUTCH AND CHANGE GEAR ARRANGEMENT

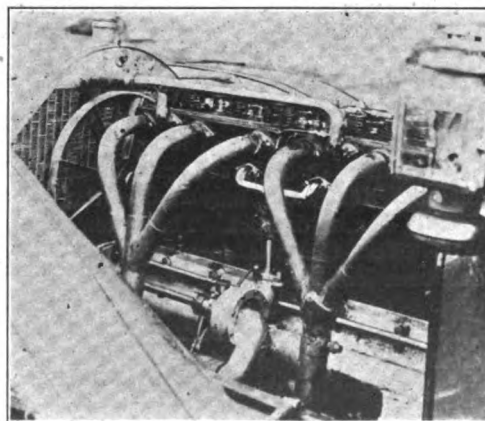
other distinguishing mark is that the cylinders are cast with large openings cored out at the sides, which are closed by aluminum cover plates. All moving parts have been designed with an eye to weight reduction and the preservation of the balance wherever possible, thus developing high efficiency together with low weight. Lubrication is accomplished by the popular and modern force feed system, with an oil reservoir integrally formed in the base of the crank case, and feeds conducted under pressure to the crank shaft and connecting rod bearings.

Both engine and change gear are carried on a substantial sub-frame, the gear box and plate clutch being so arranged that they may be dismantled without disturbing the body. The gerset is of the three-speed selective order, and final drive is through a double jointed propeller shaft to the semi-floating rear axle. The latter is neatly and compactly housed and is so contrived that the active parts—the differential and bevel driving mechanism may be withdrawn without disturbing the axle. The torsional stresses are resisted by a triangular member, which is hinged to the differential housing in such a way as to prevent it from being strained in preserving the alignment of the axle.

The front axle is of pressed steel, with a 4-inch drop. This provision, together with the 4-inch upsweep of the frame in the rear makes it possible for the body to be hung fully 4 inches lower than on most cars of corresponding dimensions, yet without exceeding a rational allowance for clearance.

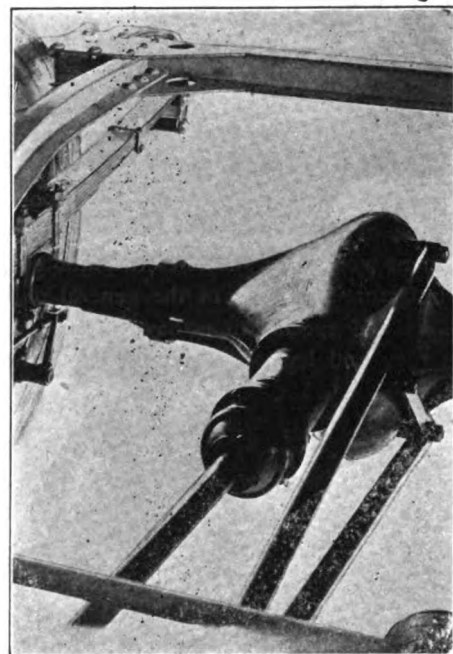


RIGHT SIDE OF SPECIAL MOTOR



LEFT SIDE, SHOWING FREE EXHAUSTS

well back, and surmounted by a high protecting screen which with its side pieces



TORSION AND AXLE EQUIPMENT

trolling mechanism is of normal pattern. The gasoline tank is located in the rear of the torpedo, where also is provided ample carrying space for such spare parts and supplies as may be needed. It may be added that the car already is in service and has given a good account of itself under the trying road conditions of late winter and early spring.

#### Pierce-Arrow Operatives Lunch to Music.

Certainly the only employees of a motor car factory, and possibly the only ones in any kind of an American manufacturing establishment, who have music during their noon lunches are those of the Pierce-Arrow Motor Car Co., at Buffalo. Recently the men, backed by the officers and department heads, organized the Pierce-Arrow Amusement Association. This organization stands behind the baseball team bearing the name of the car, all the players being employees, and also plans to have entertainments for the men and their families at regular intervals. For that purpose the immense dining hall at the Pierce-Arrow plant will be used. In this hall 800 men are served with lunch at noon and a short time ago decided to have music with their meals. Accordingly a grand piano was bought and a man to play it engaged. Now when the 800 men are at their tables between 12 and 12.30, they are regaled with classical and popular music. It is probable that before long plans will be adopted to furnish much more pretentious programs for the entertainment of the men during the noon hour. Needless to add, any scheme for promoting "harmony" among the employees has the approval of the company.



## SCOPE FOR ENGINEERING TALENT

Tracing Growth of Industry, Cuntz Points Out Departments in Which Opportunity for Study Exists.

Nearly everyone connected with the automobile industry realizes that it presents a grand and lofty opportunity for the trained engineer to distinguish himself; that its numerous and varied problems offer him the necessary basis for a notable career. But it is an unfortunate circumstance that until within a year or so the engineering profession as a whole has been largely unaware of the fact. In general, however, it is only necessary to indicate the conditions surrounding a problem to an engineer in order to enlist his sympathy and interest in it. It was with that intent that Hermann F. Cuntz, of the Licensed Association of Automobile Manufacturers, reviewed the present strength and the needs of the automobile manufacturers as a class on the occasion of his recent lecture to the Stevens Engineering Society, at Hoboken, N. J.

In addition to relating some little known phases of automobile history, Mr. Cuntz also dealt with the rapid rise of the industry, and indicating the probable expansion which the future has in store for it, he added some figures which are of timely interest particularly in view of recently published statements of a similar nature which, in the light of the present and all other authority, were grossly exaggerated. Probably there were 300,000 or more cars in use in the United States last year, Cuntz asserted, whereas ten years ago there were not more than 300—in fact, in 1898 just 288 machines were built, he stated.

"That was eleven years ago," he added. "In 1909 the output was about 185,000 automobiles, representing \$200,000,000 in selling value. For this immediate year I estimate that about 175,000 new automobiles will be sold in the United States and manufactured in the United States, in addition to which there will be two or three thousand foreign made automobiles imported. The total manufacture in the United States represents \$325,000,000 worth of automobiles. In England there were in use last year 183,000 automobiles. We brought to the United States and have in use practically 310,000 automobiles, far in excess of those in use in England, although England's active development began in 1896. . . .

"A few years ago the average price was over \$2,000 per automobile; this year it was about \$1,700—a considerable reduction. This current year there is every promise that that the average price per car will be about \$1,600; and that is due to economies in production largely the result of expert mechanical engineering. . . . We have about 310,000 automobiles in commission in the United States—that is, allowing

for depreciation, the scrapping of a large number, destruction by fire and everything else. That would afford—and high power represents the aggregate—between seven and eight million horsepower. . . . If the present condition is to continue—that is, the increase in production of automobiles—we may easily expect to find 100,000,000 horsepower available in these small units in the next ten years. That would represent at the same time about twenty-five or thirty million tons of automobiles."

Regarded as an engineering achievement, the development of the automobile as a machine has been quite as remarkable as its development as an article of merchandise. "Consider for a moment that the locomotive designs were started in about 1800 or 1804, and in one century the steam locomotive has been developed to the state you now see it," says Mr. Cuntz. "The automobile, however, has developed in ten years more than the locomotive has developed in a hundred years." Perhaps the most marvelous feature of that development has been the evolutionizing of the internal combustion motor from the types weighing 400 pounds or more per horsepower to the present construction in which the weight per power unit may be made as low as ten pounds per horsepower without serious inconvenience, and, for aeronautical purposes, frequently is reduced to a much lower figure than that. But the real burden of automobile improvement has come in substituting the thoroughly designed chassis for the running gear of the horse-drawn carriage.

"In fact, up to 1898 and 1897 the vehicles designed were much like horse drawn vehicles," says Mr. Cuntz, "and the idea of getting the center of gravity lower and lower was simply a matter of experimental requirement. I remember when there was a week's conference on and off, between the heads of several commercial manufacturing enterprises concerning a certain model that they had finished, to determine whether they should lower the center of gravity three inches or not. They finally decided that they would give in to the engineer and it was lowered, and as lowered that machine of eleven years ago was probably six inches higher than the present day automobile. So you see it was a gradual development from the old suggestions and designs to the present automobile that you consider the real article.

"As to the question of power development: With increased power, greater speed, taking short turns on American roads, the center of gravity had to be lowered. Lowering the center of gravity helped the situation somewhat but the gauge had to be increased from that used on the early automobiles. They found with increased engines the total weight of the parts increased, and they had to increase the tires. And so it went as a matter of gradual development; experiment and experience dictating as to what changes ought to be made. Today

the center of gravity question, the question of centrifugal force, is one problem for any engineer after graduating, and that he may well take up. There is a field for specializing in becoming an expert on construction of tracks for automobile racing, and that leads him to be consulted as an expert on the banking of common roads. There is the question of centrifugal force in all its original difficulties—for large and small cars. . . .

"The question of the gyroscopical effect of the parts of the automobile has been the subject of considerable discussion and unfortunately I think a great many people are wasting their time on it. The speed of the fly wheel as now used, corresponds to the speed of the engine and the speed of the engine is now less than it was six years ago. But another element enters in, that is using the gyroscope for instance to prevent sluing and side slipping, and that is a fruitful field of investigation and is to be investigated. . . .

"From an historical standpoint the fuel had a great deal more to do with the development of the internal combustion engine suitable for automobile propulsion than is ever imagined. The development of the petroleum industry in the 50's brought about the supply and it was finally used in the internal combustion engines. The previous combustion engine for about 90 years was run by gas from different sources of production. The practical automobile now obtains a very compact fuel in liquid form, because you can very easily carry enough gasoline to drive an automobile 100 miles. But if you were to take a sufficient quantity of gas to do the same work and hold it under a pressure of 100 pounds it would result in the necessity of carrying a tank about as large as a large sized delivery wagon, which, of course, would be a wholly impracticable proposition. So really the compact fuel was essential for the development of the automobile. . . . The number of cars in use shows you what a large supply of fuel is required for automobiles today. Consider 300,000 cars averaging 1,000 miles per year which would equal 300,000,000 car miles, and at ten miles per gallon that would require 30,000,000 gallons of fuel. That represents a pretty large sum and that is a pretty conservative figure.

"When you consider that some vehicles are run with one gallon of gasoline seven miles and others make 34 miles, and others make 48 miles, you wonder why. Reduce it down to miles per gallon of gasoline, and some of the tests we ran a year ago showed the best to be 52 and a fraction, and then another test was 54 miles per gallon of gasoline. . . . One went 20 or 30 per cent. in one case better than another. Now there was a loss somewhere, from the gasoline, the engine, transmission and the rear axle construction—there were losses all along the line. If you could take the power in the gasoline and apply it directly at the rim of the wheel of course it would be a

different proposition. You can't do that so it is the mechanical engineer's problem to save wherever he can.

"If you could save by proper carburation and proper automatic control of your carburetter and proper control of your engine say 5 per cent. of the fuel, and if you could introduce that throughout the United States in all cars being used, in that one item you could save a million and a half gallons per year of fuel. You can see that in the small case of taxicab operators, where they have a thousand cars in operation, that is quite an item. . . .

"But there is another field for the mechanical engineers, and that is in improving the efficiency by getting complete combustion, and to do that various schemes have been devised. Various compounds have been suggested to add to the gasoline and that is a very interesting chemical proposition which anyone would be fully warranted in making a special study of and possibly the subject of a special thesis to find out what the effect is in the way of increased power. One of the problems is to produce such complete combustion as absolutely to eliminate any smell and that is of great importance where there is congested traffic and the exhaust is very noxious. . . .

"The carburetter of today can be made the subject of a special study by an engineer and for the reason that it is one of the parts that has received more study by the ingenious mechanic and the man who knows nothing about mechanics than any other one part of the automobile, and as a result many of the carburetters that have been developed in the last ten years by such individuals have been very successful in minimizing the efficiency of the mechanism, but if you leave out the alleged inventions of these individuals you get a better carburetter than if you used it. There is a case where if you get the right sized openings, and the right shape of your pipe, and the right relative size of the oil orifices, you can make the whole device of one casting, one pipe and one valve, and get a better result if all are well proportioned than if you have 50 different parts in your mechanism.

"The engineer has got to see what the principle is that gives the results, and then the rest is knowledge how to construct it. . . . What the real engineer must always endeavor to provide is the minimum number of parts and economy of production.

"Another tremendous factor in the development of the automobile has been the development in steel, not alone in the line of automobile manufacturing, but in every line of manufacturing. But in automobile manufacture the development has been remarkable because the automobile manufacturer was willing to pay to get his lighter construction, and having developed that steel and having developed the means for heat treating it, it became available for all sorts of purposes and as a result, better steel today is going into all sorts of construction,

typewriters, adding machines, railroad cars and everything else. But this is largely in view of the development and impulse given to improved steel construction by automobile and bicycle manufacturers. . . .

"In speaking of gears, that is what we might call a side issue from one standpoint. The designing and manufacture of an automobile is one thing; to build the machinery to produce it is one of the greatest problems that confronts the manufacturer today. The manufacturer today is ordering his material for production of 1912 automobiles at the present time and the man who is to produce what the manufacturer wants is ordering his machines to produce that material and expects it to be delivered in six to ten months. Not only has that machinery got to turn out the goods, but it has got to turn them out cheaper and more efficiently and more satisfactorily. So any machinery for turning out special parts of automobiles includes gears. . . .

"Passing from the engine to the transmission of power to the rear wheels, ten years ago they were using belts and pulleys. They were using pulleys on friction discs; they were using chains in many complicated ways. At that time the field was practically evenly divided between belts and chains, and discs and pulleys and spur gears, but they did not think it was mechanically a possibility to slide the gears for every change in and out of engagement. But it is marvelous to see how this at first unmechanical sliding gear—and it is very unmechanical in many ways—has now become the universal use. It is hard to say why it should be the accepted usage, but it is in use and made practicable, not on the standards of old practice, but by developing the material and designs in every minute detail so that it would and does work satisfactorily."

#### A. A. A. President's Orful Offense.

Louis R. Speare, president of the American Automobile Association, has felt the heavy hand of the law. On Saturday last, in Brighton, which is a part of Boston, which is in Massachusetts, he committed a heinous offense and was promptly gathered in by a lynx-eyed, open-eared guardian of the peace. Speare's dreadful crime consisted of failure to disturb this peace, in that he did not blow his horn when passing the intersection of a public thoroughfare and a private way.

#### Where Lamp Theft is Epidemic.

According to newspaper estimates, which are notoriously exaggerated, nearly 1,000 lamps have been stolen from automobiles in the city of Chicago within the last few months, and automobile owners are saying uncomplimentary things about police protection in general and Chicago "non"-protection in particular. The police department does not deny that such a traffic is going on, or that hundreds of lamps are stolen every month, but they claim not to be in a

position to station a policeman in front of every automobile which happens to draw up to the curb, while the owner stops to transact some business, or to partake of dinner. As the lamps cost quite a pretty penny, the loss suffered by the automobile owners is considerable.

#### Woman Sues for Mud-splashed Gown.

Considerable interest attaches to the report from London, England, that an automobile owner has been sued for damages which were done to a lady's expensive dress by the mud splashed upon it by the wheels of his passing car. Though the case as yet has not been decided, interest is at a fever heat in English automobile circles, as probably every owner of an automobile will be forced through self-protection, to equip his car with some kind of mud guards, such as are used on Paris public motor cars. The latter are half-moon discs of leather, suspended freely from the axle, and extending from the point where the tire touches the road to that where it leaves it. No other form of mudguard is of any use for this particular purpose, as the mischief to passing pedestrians is done when the wheel forces its way through the wet slush. Even slow and careful driving will cause a splattering of dirty water to a distance of five or six feet from the wheels, while fast travel scatters it a distance of more than ten feet.

#### Owner Responsible Even if Absent.

That the owner of a motor car is responsible for any damage it may cause, even if he is not occupying it, and no matter who is riding in it or driving it, was decided by a jury in the New York Supreme Court last week. The verdict was rendered in the case of Benjamin Freiborn, a youth 17 years old, who was run over and seriously injured by an automobile belonging to James C. Brady, a New York broker, and who sued the latter for damages. The car was driven by a chauffeur in the employ of the New York Transportation Co., who had been furnished for that occasion, and Michael F. Brady, a brother of the owner, was occupying the car at the time. The jury awarded Freiborn \$5,000.

#### Law Lays Heavy Hand on Chauffeurs.

During the past week no less than three chauffeurs in New York City were found guilty of manslaughter and were sentenced two to terms of six months, and the other to three months imprisonment. In each instance they ran into and killed a man, and while the court was merciful, the judges stated that recklessness must be punished. Two other drivers who pleaded guilty to third offenses against the speed law were fined \$100 each and sentenced to three days and one day in jail respectively. Still another, a fourth offender, was released under suspended sentence on condition that he leave the state within 48 hours. He promised to go to Cleveland, Ohio, immediately on his release.

## ACCELERATING THE IGNITION

### Phillips's Method of Obtaining More Rapid Combustion—Its Operation and Advantages Claimed for It.

Despite the high relative degree of success which has been obtained with ignition appliances up to this time, it is a generally accepted fact that the rate of inflammation of the charge in some instances is not as rapid as is desirable. To obviate this shortcoming various projects have been suggested, none of them, perhaps, more ancient or more promising than that of multiple ignition. A recent revival of this scheme in England, in connection with the Phillips system has brought forth considerable discussion and incidentally has served to secure not a little publicity for the invention itself, which is not without novel and ingenious features.

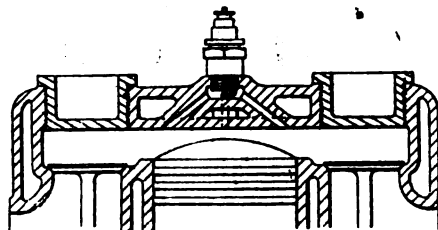
In a word, the plan of the inventor, Robert E. Phillips, is that of introducing into the combustion chamber from various points symmetrically arranged with respect to its contour a series of ignition flames synchronously discharged and themselves energized by the conventional electric spark. In this respect, it may be added, the system differs materially from others which have preceded it, and in which it was attempted to attain the desired result by the use of two or more spark plugs, or a single plug having two or more spark gaps. In the Phillips system only one plug is employed; but instead of being placed directly in the cylinder, it is pocketed, while a series of fine ducts lead from the pocket to various points in the combustion chamber, from which the ignition flames are discharged.

In the last analysis, close readers of gas engine history will trace in this a faint resemblance to the method employed in the early Otto slide valve engines, wherein ignition was accomplished by the expedient of causing a small body of compressed gas contained in a pocket in the valve, to be expanded into the main body of the charge at the instant when the pocket in the slide valve registered with the cylinder port in front of the valve. With the higher compression of present practice, however, as well as the different method of application, it is evident that the actual results obtained should be far more successful than those secured with the Otto engines.

In the first of the two accompanying illustrations is shown a method by which the Phillips system is readily applicable to any engine of the type in which the ordinary spark plug is mounted in the center of the cylinder head. The section shows the cylinder to be of T-head form and of regular construction save in respect to the ignition arrangements. Instead of jutting directly into the combustion chamber, however, as is commonly the case, the spark plug is car-

ried in a recess far enough above the top of the combustion chamber to permit of its being masked by a plug which completes the enclosure of the sparking points, save for a series of small bore ducts which are led out at an incline and radiating from the pocket.

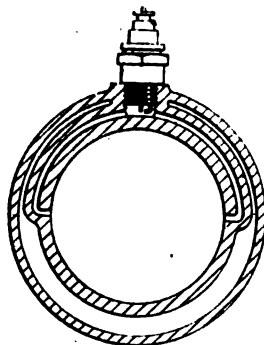
The principle of the thing is this: During the compression stroke a small body of the charge is forced into the ignition pocket and raised to the same pressure as the remainder of the charge, and at the very in-



CYLINDER ARRANGED FOR MULTI-SPARK IGNITION

stant of sparking, it is ignited, its restricted volume causing it to expand through the firing ports, from which it is shot directly into the main body of the charge in the form of little tongues of flame, but at points sufficiently separated to insure the ignition of the main body of gas at several different points. Theoretically the rapidity of the ensuing combustion is governed by the number of the flames and the area over which they take effect. Needless to say, it is essential to the success of the system that the ports should be of exactly the same length and that they should be free from sharp bends and have smooth walls.

An alternative arrangement is that shown in the second illustration, in which but two flame ports are employed, which are cored out of the cylinder casting itself, and enter



ALTERNATIVE ARRANGEMENT WITH TWO FLAME JETS

the combustion chamber at diametrically opposite points. Obviously this arrangement is one which must be taken into account in the original design of the engine.

To the several obvious objections to the system, its inventor is ready with answers which he claims are founded on experimental results; though unfortunately no test data has been published as yet. The apparent difficulty of scavenging the ports together with the probable lag in the firing of the charges, which would be expected to

result, he claims are non-apparent in practice. It has been found that with four holes of 3-32 inch diameter the firing was perfectly regular at all engine speeds, while as compared with results obtained with a single port of 5-16 inch diameter no differences were observed.

The inventor's claims for the system are three in number. By the use of the multi-point ignition more rapid combustion is expected to develop. From this gains of from 10 to 30 per cent. of power are anticipated at high engine speeds, while it also is expected that improved ignition of weak mixtures at low speeds will result.

### Youthful Whiskers that Deceived Dealer.

How careful automobile dealers have to be in Germany, if they desire to keep out of difficulties, is aptly illustrated in a peculiar law suit pending in Frankfort-on-the-Main. The defendant is a dealer in automobiles, who is accused of selling a motor car to a minor for the sum of 2,500 marks. Testimony taken in court showed that one day in January last, there came to his store a young man, wearing imperial and mustaches, apparently 25 years of age, who bought a small runabout, paying cash for it, and drove away in it. Four weeks later the dealer was sued by the parents of the young man, who is said to be only 20 years old, the latter claiming that the sale was unlawful in that the purchaser was a minor, and demanding a return of the purchase price. As is but natural, the dealer refused to hand over the money, for his car had been lost in the shuffle, having been sold and resold several times. The German laws are very strict and explicit in connection with the sale of automobiles to minors, and legally the dealer is guilty without doubt. In view of the mature appearance of the buyer, however, a hard fight is being put up by the lawyers for the defendant, and the outcome of this unique law suit is being watched by every dealer in the Fatherland.

### White Vans Work Well in England.

That the White commercial vehicles are giving a good account of themselves abroad, is shown by a report of Messrs A. W. Gamage, Ltd., London. This concern, which is one of the largest sports outfitters in the world, bought last spring seven White steam delivery vans, and admit having had "a most satisfactory experience during the recent Christmas season." One of these vans ran during the time from May 25, 1909, to March 3, 1910, 12,081 miles. Pneumatic tires are used, one of which gave good service for 10,395 miles, and two others 7,393 and 7,007 miles, respectively. They averaged between 14 and 15 miles on a gallon of kerosene, in spite of the frequent starting and stopping necessitated by the city delivery service. Every month the vans were sent to the shop for one day to be looked over, and every six months taken out of service for one week to undergo a thorough overhauling.

## AGAINST FREAK SPEEDOMETERS

**Swiss Government Rejects Proposal to Make Their Use Compulsory—Objections that Decided the Question.**

The much mooted question whether or not it would be of advantage to the general public and to the police to compel motorists to equip their cars with speed indicators visible to persons on the street, has been decided, at least so far as Switzerland is concerned, the proposal submitted to the Federal government of that country to make the carrying of such devices obligatory on all automobile owners having been turned down by the committee charged with the investigations concerning their usefulness.

The committee reports that out of 21 instruments submitted, 14 were selected for trial, of which, however, only 11 actually were put to test. The committee in its report deals with the instruments in their various groups and expresses the opinion that:

Tachometers and the like without registering contrivances are of no value to the police or to persons outside the vehicle, as the registrations would be practically unreadable at the speed at which the automobiles are usually driven.

Registering tachometers record the speed correctly enough, but their price is too high for them to be rendered obligatory without causing an injustice to motorists; were the carrying of tachographs made obligatory on Swiss roads upon foreign motorists, the Swiss frontiers would be closed and Switzerland debarred from participating in an international regulation of the motor traffic.

Tachometers with optical signals (colored discs appearing according to speed) besides blocking the view of the road would necessitate the use of constantly oscillating parts and would be useless to persons afflicted with daltonism (color blindness).

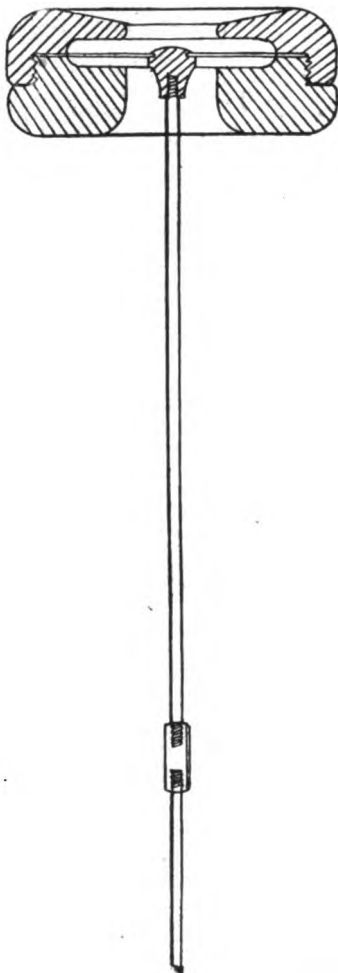
Speed indicators with acoustic signals are out of the question, for while they may give a sufficiently audible sound at the maximum speed decided upon, they would be inaudible just at the time when most needed, i. e., when passing through villages.

On these grounds the committee decided that it could not recommend the obligatory adoption of any speed indicator, recorder or limiting device and strongly advised the cantonal authorities against following such a course.

### Telephones Location of Loose Parts.

For locating loose parts about the engine or other moving parts of the motor car the value of the "sounding rod" long has been known. For many reasons which are obvious, however, a device having a vibrating diaphragm is more efficient as well as more

convenient to handle than the plain wooden or wire rod, which must be held between the teeth while the ears are closed with the finger tips, in order to be of any use at all. Such a device has just been perfected by the Gaylor Automatic Stropper Co., of Stamford, Conn., and is about to be placed on the market under the name "Sonoscope." As the picture shows, it consists merely of an extensible vibrator rod which is jointed



SONOSCOPE VIBRATION TESTER

together in sections, so that it may be adjusted to any length required, and a sounder or ear piece, in which is a sensitive diaphragm much like that of an ordinary telephone receiver. In use, the end of the rod is pressed lightly against the outer part of the mechanism which it is desired to test for lost motion, the vibrations in the metal being transmitted through the rod to the diaphragm. So perfectly is the sound transmitted and magnified, that it is claimed that the sound of the balls traveling around in an ordinary ball bearing may be heard all over a room. Of course, for remote or delicate determinations it is necessary to place the receiver against the ear, but ordinarily it is said, this procedure should not be required.

"The A B C of Electricity." Price, 50c. The Motor World Publishing Co., 154 Nassau street, New York City.

## TERMS THAT APPLY TO TIRES

**Braden Defines Some of the Popular Additions to the Terminology—Also Indicates Causes and Effects.**

Even among motorists some of the terms used with reference to tires are not understood. "It is really surprising," says James A. Braden, of the Diamond Rubber Co., "how many different names and terms automobile owners use in referring to different tire parts and conditions. Some of them have become generally adopted words and phrases. New things in up-to-the-minute dictionaries will be about as follows:

**Bead**—that part of a clincher tire casing which hooks into the clinch or curvature of the rim.

**Carcass**—The body of a tire with tread removed.

**Flap**—A fabric lip or band running around the inner circumference of a Quick Detachable casing, serving the dual purpose of protecting the tube from pinching under the beads and rust of the rim.

**Fabric separation**—The separating of two or more plies of fabric. Usually due to moisture, sand or dirt entering the tire through a cut or by reason of tires being insufficiently inflated. As the plies rub upon one another they may give way, causing a blowout. The fabric of tires rightly made of first-class materials, will not separate except for the causes mentioned. Prompt repairs of cuts, and other preventive measures are the remedies.

**Pinch**—Used with reference to tubes. An injury caused by tube being squeezed between rim and casing, staybolt and casing or other surfaces. Can be patched, though vulcanized repairs are better.

**Sand Blisters**—Lumps on tires caused by sand or foreign substances working into the tread and between the rubber and fabric, through cuts or punctures. Prompt repairs highly desirable.

**Stone Bruise**—An internal injury to the tire casing usually caused by violent collision with some blunt projection. Hard to detect until revealed by the blowing out of the tube. If believed to exist can usually be found by very close inspection, the rubber and fabric of the deflated tire bending more easily at this point. A repair in time will save inevitable mishap on the road and also save the inner tube."

### Incidental Advantage of Front Brakes.

One advantage of the front wheel braking system, which is coming into use abroad to some extent, is that when making tire replacements on the driving wheels, there is no need to block up the front wheels to prevent the vehicle from rolling off the jack. The front brakes readily take care of that difficulty and relieve the driver of considerable annoyance.



**A. A. A. FIXED PENALTY SCHEDULE**

**How Future Reliability Contests Must be Scored—Other Requirements that will Apply to Such Events.**

Chairman Butler, of the A. A. A. Contest Board, this week made known the details of the fixed penalty schedule which has been adopted for use in connection with reliability contests, and which is applied at the final examination of the cars at the completion of a contest. In this schedule each of the essential parts of a car are given a definite number of points penalty for defective condition, greater or less, according to their relative importance to the whole make-up of the car and the condition in which such part is found at the finish of the contest.

The adoption of this schedule at once does away with the somewhat uncertain and indefinite penalty of points of the 1909 rules, for time consumed and money value of material used in placing a car in a safe and satisfactory operating condition, and places each and every contestant upon the same footing, with the same penalties applying to all for each defective and damaged part which the contest may develop; in other words, it reduces the penalization scheme to as nearly as possible an exact and known proposition instead of an uncertain and varying one.

The avoidance of work on a car after final examination and the circulation of time consumed and fractional values of material used, enables a rapid determination of the relative merits of each of the cars and ensures a speedy settlement of the contest after the close of the last day's run. The elimination of fractional penalizations also facilitates the announcement of the score of cars at the end of each day's run during a contest.

**Operative Tests.**

To determine the operating condition of a car at the conclusion of a contest, tests of brakes, clutch, transmission and motor are provided for, with suitable penalties for defective operation.

**Summary of Penalties.**

**Time**—One point per minute, or fraction thereof, late in arrival at any control or checking station.

**Work**—One point per man per minute, or fraction thereof, for labor by driver or passengers.

Two points per man per minute, or fraction thereof, for labor by workmen other than driver or passengers.

Two points per man per minute, or fraction thereof, for replacement of damaged parts by driver or passengers.

Four points per man per minute, or fraction thereof, for replacement by workmen other than driver or passengers.

Three points per occurrence for replenishing gasoline, oil or water, outside of fuel controls.

One point per minute, or fraction thereof, for motor stop when no work is done. No penalty for motor stop during period when work is being done on car, for which work or replacement a penalty is imposed.

**Final Out-door Operative Tests.**

**Brake Penalties.**—50 feet perfect; for each foot, or fraction thereof, over this distance, 1 point.

**Clutch.**—5 points for failure to climb curbs, spin rear wheels or stall motor.

**Gear Set.**—25 points for failure to drive on any forward speed or reverse.

**Motor Test.**—5 points for each cylinder not firing.

**Front and Rear Axles.**—No penalty for one-fourth inch spread between wheels; 5 points for each additional one-eighth inch, or fraction thereof.

**Springs.**—No penalty for sag of one inch; 5 points for each additional one-half inch, or fraction thereof.

**Final Examination Penalty.**

At the close of the contest, each competing car, after being properly washed, shall be delivered to the Technical Committee, who shall record all adjustments, replacements or repairs necessary to place each car in a safe and satisfactory condition, and penalties therefor shall be imposed in accordance with the following Fixed Penalty Schedule:

**Lubrication.**

Broken oil feed .....	3
Inoperative oil feed .....	3
Leaky oil connection .....	1
Loose oiler .....	3
Disabled oiler .....	20
Lost grease cup .....	2
Loose grease cup .....	1

**Carburation.**

Broken gasoline line .....	2
Leaky gasoline line .....	1
Leaky gasoline tank .....	1
Leaky gasoline petcock .....	1
Disabled throttle control .....	15
Broken or loose manifold .....	15

**Brakes.**

Broken operating devices .....	100
Broken brake .....	100
Loose operating devices .....	25

**Running Gear.**

Broken spring leaves, each .....	5
Broken spring clips, each .....	15
Broken spring seating .....	15
Loose spring clip .....	1
Loose spring horn .....	15
Broken frame side member .....	500
Broken frame cross member .....	150
Bent frame pieces .....	75
Broken strut rods .....	25
Broken torsion rod .....	25
Lost muffler .....	5
Broken muffler .....	3
Loose muffler .....	2
Broken wheel .....	100
Loose wheel spoke .....	5
Broken wheel spoke .....	10
Broken running board .....	6
Broken fender iron .....	6
Broken fender .....	5
Loose fender .....	2
Lost mud apron .....	8
Broken mud apron .....	5
Broken rear axle .....	300

**Cooling.**

Leaky water connection .....	1
Leaky radiator .....	20
Loose radiator .....	4
Disabled water pump .....	15
Inoperative fan .....	2

Leaky water jacket .....	50
Fan belt off .....	1

**Ignition.**

Loose terminal .....	1
Broken terminal .....	2
Dead battery .....	2
Lost commutator cover .....	2
Disabled commutator .....	20
Inoperative ignition control .....	5
Disabled magneto .....	20
Loose magneto .....	4

**Steering.**

Broken tie rod or drag link .....	200
Bent tie rod or drag link .....	25
Broken steering rod .....	200
Bent steering rod .....	25
Faulty steering gear .....	200
Loose steering connections .....	15
Broken steering knuckle .....	150
Bent steering knuckle .....	15
Broken front axle .....	300

**Machinery Parts.**

Broken valve .....	5
Broken or impaired valve spring .....	2
Broken cam .....	500
Broken camshaft .....	200
Broken crankshaft .....	500
Bent crankshaft .....	250
Broken valve rocker arm .....	10
Broken push or valve lift arm .....	10
Broken transmission shaft .....	100
Broken cardan shaft .....	100
Broken driving chain .....	30
Broken gear or pinion .....	25
Broken bearings .....	10
Broken body or chassis bolts .....	2
Loose body or chassis bolts .....	1
Lost body or chassis bolts .....	2
Broken clutch .....	250
Broken or impaired universal joint .....	50
Broken or lost bonnet fastener .....	2
Loose bonnet gasterers .....	1
Broken or impaired sprags .....	5
Broken shock absorbers .....	5
Loose shock absorbers .....	2

**Steam.**

Leaky condenser .....	20
Leaky generator .....	50
Faulty thermostat .....	20
Faulty pilot light .....	20
Faulty flow motor .....	20
Faulty gauge .....	5
Steam leak in line .....	1
Water leak in line .....	1

(In cases of leaky radiator or water jackets, recognition must be taken of the degree of leakage and the amount of fixed penalty modified accordingly.)

**Grades of Contest.**

Reliability contests are graded as follows:

**Grade 1.**—A contest not exceeding six (6) days in duration, with penalties for time, road work, final operative test and final technical examination.

**Grade II.**—A contest of more than six (6) days duration, with penalties for time, road work, final operative test and final technical examination, except that carburetter and brake adjustments may be made without penalty and spark plugs may be changed.

**Grade III.**—A contest of any duration in which penalties are imposed for time and road work only, but in which the final operative test and final technical examination are omitted.

**Grade IV.**—A contest of any duration in which penalties are imposed for time only.

**Non-Stop Run.**

For the "perfect road score" of the old rules there has been substituted a "non-stop run," defined as follows:

A run without an involuntary stop of the

car outside of controls, except for tire trouble or on account of traffic congestion, shall be known as a non-stop run.

The motor must be kept running continuously while outside of controls.

The car may be brought to a standstill at any time, no work being done, and the motor kept running.

Stops for tire repairs or replacements with the motor kept running, are permissible.

Non-stop certificates may be issued to contesting cars in Grades 1 and 2 who conform to the requirements of the "Non-Stop" definition in a contest exceeding 1,000 miles in length.

#### Car Equipment.

Just what equipment a stock car may or may not carry in reliability contests is very clearly laid down. It may carry special mud aprons in front of radiator or bonnet screens between the side members of the frame; rubber bumpers for springs, and rebound straps; tire inflating tanks. It may not have special springs or spring windings; shock absorbers may not be added unless part of regular equipment, and covers over coil boxes, magnetos or any other part of mechanism, or screens around carburetter, are not permitted unless part of regular equipment.

#### Tools.

Tools are carried in a special bag and sealed, the observers only having access to same.

#### Parts.

Parts carried are inventorized, officially checked and sealed.

**Tire Repairs.**—There shall be no penalty for tire repairs, provided the engine be kept running while the repairs are being made and no other work is done. The time consumed in making the repairs, while the engine is running, shall be added to the day's running time.

**Oil, Gasolene, Water and Batteries.**—At noon or night controls, tanks for lubrication oil, gasolene and water may be filled without penalty.

For replenishments of oil, gasolene or water at any other places the penalty is 3 points for each occurrence.

Oil or grease may be added to or may be drawn off the various cases when necessary without penalty during the half hour allowed for oiling at the end of each day's run.

Recharging of batteries will be allowed at any time, but all work in connection therewith must be done in the presence of the observer.

#### Seals.

To enable an observer to keep a more accurate record of work done on a car, metal and wire seals will be affixed to the bonnet, coil box, transmission case, differential case, mud pan or apron and parts of ignition system not protected by bonnet seals and any other parts, as may be necessary. There will be no penalty for breaking a seal, which will be replaced at the official garage at the end of a day's run, but the observer will note the seal broken and must report how many times thereafter access was had to the part or parts protected by such seal.

#### Lubrication.

A half hour is allowed at the end of each day's run for proper lubrication of the car in the official garage, seals being broken for this purpose and replaced.

#### Observers.

The rules concerning observers have been broadened and strengthened and the duties of observers enumerated in greater detail than heretofore, the following rule among others having been added:

Observers must not interpret rules for entrants or drivers and cannot say what work may or may not be done without danger of penalization, their duties being solely to record what is done and the exact length of time consumed in doing it.

To induce entrants, who appoint observers, to use the greatest care in their selection, the following penalty is imposed on an entrant for the act of the observer he has appointed:

If an official observer shall desert a disabled car without first obtaining the driver's signature to a statement that he has withdrawn from the contest the entrant who appointed such observer shall be disqualified and must either withdraw from the contest altogether or continue as a non-contestant. By desertion is meant leaving the car without taking with him the driver and passengers. This rule will disqualify but one of the cars of an entrant in case of multiplicity of entries.

#### Optional Provisions.

The following provisions, the adoption of which in any contest is optional with the promoter, and none of which count against a car or are factors in determining the car's road score, have been added:

Rules for tire penalizations;

Rules for penalization of accessories;

The keeping of a record of lubricating oil and of gasolene consumption.

#### Classification for Daily Running Time.

Reliability contests shall be held under Class "A" (price classification) only and run in the seven divisions of such class, as follows:

Division 1A.....	\$800 and under
Division 2A.....	801 to \$1,200
Division 3A.....	1,201 to 1,600
Division 4A.....	1,601 to 2,000
Division 5A.....	2,001 to 3,000
Division 6A.....	3,001 to 4,000
Division 7A.....	4,001 and over

on which the daily running time of the cars is based.

The following average speeds shall be maintained by the cars in the respective divisions:

	Miles per hr.
Divisions 4A, 5A, 6A and 7A.....	20
Divisions 2A and 3A .....	18
Division 1A .....	16

#### Body Equipment Classification.

Stock cars only are eligible, and for the purpose of trophy awards shall be divided into two classes according to body equipment: (1) touring car class; (2) runabout

class, including runabouts, miniature tonneaus, surreys and double or single rumbles.

#### Actor Hale Again Plays Author's Part.

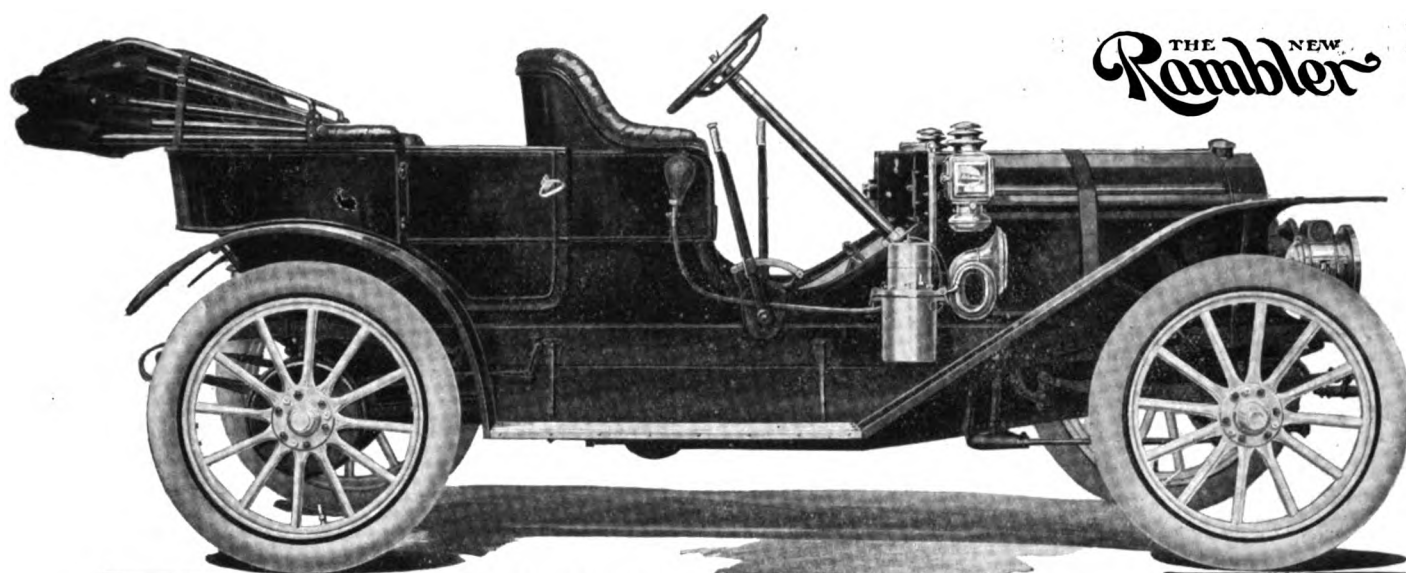
Mr. Walter Hale went abroad again last summer, and the record of his trip has just appeared in the form of the neatly illustrated little booklet, "Leaves from a Motorist's Log Book," which sets forth the itinerary of his circular trip through France, Spain, the Riviera and a bit of northern Italy; and also records some bright and sparkling incidents by the way. Besides knowing how to act, meaning to play a part as well as to behave—Mr. Hale is a Thespian by profession—the author has the gift of condensation and tastefully omits all needless language. The booklet affords a striking testimonial to the efficiency of the Studebaker car, which conveyed the party nearly 4,000 miles at less than three cents a mile, and also less than first class railroad fare on the Continent. It also affords some useful information about the costs of transoceanic freighting, customs formalities and taxes. The pictures, which evidence the "fitness" of the car all through its journey were taken by Fred Niblo, a fellow actor of the author's, who figures in some of the incidents mentioned. The booklet has been issued for free distribution by the Studebaker Automobile Co., South Bend, Ind.

#### Philadelphia Strike Boosts Automobiles.

Although the street car strike in Philadelphia brought considerable hardship upon many people, automobile owners, manufacturers, and dealers, as well as chauffeurs, were not among the losers. Every old kind of a machine was put in service and still the conditions were not half met. People who had been in the market for cars and had been delaying the matter, placed hurry orders at the beginning of the strike. In many cases agents had to sell their demonstrating cars to fill hurry orders. These demonstrating cars sold, have in many cases brought a premium. The union taxicab chauffeurs' sympathetic strike did not affect the chauffeurs employed by private owners, who were much overworked helping friends of the family to get around.

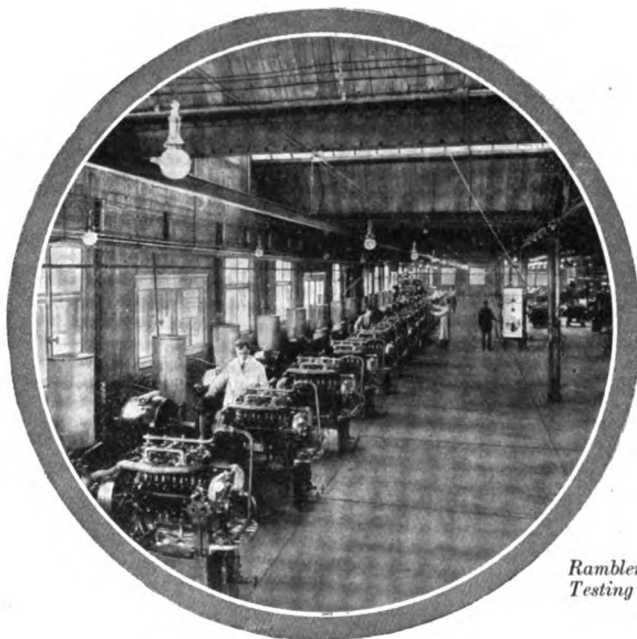
#### Oberammergau Open to Motor Cars.

The famous little Bavarian village Oberammergau, where every ten years the great Passion Play is enacted, has this year made an exception to its standing rule of refusing motor cars to be operated within its limits, as a special concession to foreign automobile owners who contemplate visiting the quaint village during this year's Passion Play, May to October. Not only has the ordinance forbidding the use of automobiles been rescinded during the time of the play, but the Passion Play committee has even built a fire-proof garage with accommodations for 200 cars and their attendants, and has made contracts with a leading firm to keep the roads free from dust by the use of oil or some other binding material.



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## Club Elections

Preceded by the third annual banquet of the organization, the Hornell (N. Y.) Automobile Club held its annual election of officers last week with the following result: A. J. Deer, president; George Peters, vice-president; E. F. Nicholson, secretary and treasurer.

Twenty motorists of Bishopville, Ga., have organized the Bishopville Automobile Club, with the following officers: H. W. Woodward, president; Dr. S. B. Du Bose, vice-president; J. D. Stuckey, secretary and treasurer. The club will mainly devote itself to securing good roads.

Starting with 15 members, the Red Lake Falls (Minn.) Automobile Club has been formed with the following officers: Samuel Gibeau, president; Joseph Helm, Sr., vice-president; Joseph Helm, Jr., secretary and treasurer; directors, Charles E. Broughton, Dr. J. C. Wilkinson and V. M. Higginbotham.

The Dayton (Ohio) Automobile Club has been organized with the following officers: Carroll Sprigg, president; Cyrus Meade, first vice-president; Harvey Kitteridge, second vice-president; Philip Warman, secretary; Rufus Jones, treasurer; board of governors, Irvin G. Kumler, Carl Baumann, E. L. Edwards and John Null.

Officers for the coming year have been elected by the Du Bois (Pa.) Automobile Club, as follows: J. G. Miller, president; Dr. G. W. Gann, vice-president; H. B. Linggle, secretary; A. P. Holland, treasurer; board of governors, John R. Prothero, S. R. Van Tassel, and M. I. McCreight. Seven new members were admitted, raising the total to 55.

Edward Kneeland was unanimously re-elected president of the Automobile Club of Pittsburgh, Pa., at its annual meeting. The other officers chosen are as follows: Edward Kent, William N. Murray and William A. Seif, vice-presidents; Paul C. Wolff, secretary, and William A. Heyl, treasurer. During the past year 149 new members were admitted.

At the annual meeting of the Amarillo (Tex.) Automobile Show Association, the following officers were elected for the ensuing year: John McKnight, president; Lewis Myers, vice-president; Carl Pool, secretary, and Stewart Miller, treasurer. A two days race meet will be held during the convention of the Panhandle Stockmen's Association, April 5-6.

Officers for the coming year have been elected by the Automobile Club of Hudson County, N. J., with headquarters at Jersey City, as follows: Frank B. Stratford, president; Alfred H. Howe, vice-president;

B. H. Ellis, secretary; J. V. Z. Anthony, treasurer; board of governors, James H. Edwards, L. A. Opdyke, Henry Spence, Benjamin E. Farrier and R. R. Row.

The Prescott (Ariz.) Automobile Association is the style under which motorists of that heated section have organized, with the following officers: F. W. Foster, president; Charles T. Joslin, vice-president; H. D. Aitken, secretary, and O. A. Hesla, treasurer. The initiation fees and dues will be devoted to the furtherance of the cause of good roads, which are sadly needed in the locality.

Canton (Ohio) motorists have organized the Automobile Club of Stark County and elected the following officers: J. H. Kenny, president; Charles Steese, Jr., vice-president; W. A. Hoberdier, secretary and treasurer; board of governors, Edward E. Bender, J. R. Dangler, Jr., John Sharer, W. J. Stolzenbach and J. G. Best. The club, which is open to all motorists in the county starts off with 126 members.

At a meeting of enthusiastic motorists held at Champaign, Ill., last week, the Champaign County Automobile Club sprang into existence with the following officers to preside over its destinies: E. S. Swigert, president; Jesse Kirkpatrick, vice-president; C. H. Johnston, secretary, and W. P. Spalding, treasurer. Thirty names were on the charter list and it is hoped to double the membership in a few weeks.

Enthusiastic motorists of Cobleskill, N. Y., have organized the Cobleskill Automobile Club and elected the following officers for the ensuing year: Leland Hodge, president; John R. Becker, vice-president; W. H. Golding, secretary; V. M. Bellingier, treasurer; directors, Dr. John J. Beard, Charles J. Borst, Charles Hallenbeck and Charles Rose. The club, which starts with 35, will affiliate with the American Automobile Association.

Organization of the Huntington (Pa.) Motor Club has been perfected and the following officers elected for the coming year: H. W. Koch, president; J. B. Kunz, vice-president; A. W. Reed, secretary; R. J. Mattern, treasurer; boards of governors, C. H. Miller, W. M. Henderson, G. E. Simpson, Thomas E. Africa, H. M. Kinsel, John White, E. M. Africa, Charles A. Vuille and Dr. C. V. Mierley. Forty-eight names are on the charter roll.

Automobile owners of Malone, N. Y., have formed the Malone Automobile Club and elected the following officers: Joseph F. Wright, president; M. A. Leonard, vice-president; W. J. Goff, secretary; A. N. Henderson, treasurer; governors, E. E. Hogle, M. J. Slason, Dr. C. A. Hasting, W. J. Mearse and J. B. Twaddle. Twenty-six names were on the charter list. The promotion of good roads, favorable legislation and the general welfare of motorists are the objects of the club.

For the fifth consecutive time, Ira M. Cobe was re-elected to the presidency of the Chicago Automobile Club at the annual meeting of that organization. The other incumbents were the following: T. N. Koehler, first vice-president; T. J. Hyman, second vice-president; C. A. McDonald, secretary; George S. Whyte, treasurer; directors, Fred W. Blocki, J. F. Gunther, B. B. Johnson, Allen S. Ray, Claude Seymour and Harry Vissering. The secretary reported a membership total of 881, a gain of 171 for the year. The treasurer also reported a healthy balance.

La Moviganta Klobò, otherwise the Quaker City Ladies' Motor Club of Philadelphia, Pa., just has held its annual election, and the following matrons were elected to guide its destinies during the ensuing twelvemonth: Mrs. Joseph J. Martin, president; Mrs. William Ingram and Mrs. Charles Snyder, vice-presidents; Mrs. H. B. Finck, secretary and treasurer; directors, Mrs. Mary Martin, Mrs. Charles Murtha, Dr. Catherine Sweeney, Mrs. David Ward, Mrs. O. W. Schaum, Mrs. M. L. Wallace, Mrs. Richard Filbert, Mrs. C. Kugler, Mrs. Herbert Reading and Mrs. Stoerr.

John E. Fitzgerald heads the newly organized Hammond (Ind.) Automobile Club which has perfected its organization. The other officers elected are the following: J. G. Albach, vice-president; George B. Sheerer, secretary; R. L. Winkler, treasurer; board of managers, W. B. Conklin, J. T. Hutton, John Lavine, A. M. Turner and C. H. Stewart. The energies of the club will be devoted to road improvement, and also to the rounding up of persons who throw broken glass, nails or other enemies of tires in the street, a standing reward being offered for information leading to their arrest and conviction.

Motorists residing in Coatesville, Pa., and vicinity have organized the Inter-county Good Roads Association, and elected the following officers for the ensuing year: C. K. Paxson, West Sadsbury, president; Dr. S. H. Scott, Lenover, first vice-president; Harry Chalfant, Lenover, second vice-president; Dr. Donald McCaskey, Witmer, secretary; Jonas Newhauser, Bird-in-Hand, treasurer. Organized primarily to secure the improvement of Lancaster Pike between Coatesville and the Gap, they have raised several thousand dollars for the purpose, and upon its completion will devote their efforts to other poorly kept highways in the vicinity.

### Bazaar to Sell a Motor Car.

The managers of the French hospital bazaar to be held at the Metropolitan Opera House, New York, during the week of April 5th, have purchased a Chalmers "30" touring car, to be sold at the bazaar. This is said to be the first time an automobile has formed part of the merchandise offered for "sale" at a charity bazaar.



## RECENT PATENTS.

946,555. Vehicle Shock Absorber. Henry Muehlhausen, Jr., Johannes Thomsen, Chicago, Ill. Filed Sept. 23, 1908. Serial No. 454,289.

1. A frame clamp for a shock absorber, comprising a pair of jaws adapted to engage with an angular frame piece, said jaws being provided with coating beveled surfaces, and a screw connecting said jaws for forcing them together and into engagement with said frame piece.

946,557. Reinforcement for Pneumatic Tires. Albert L. Murray, Grand Rapids, Mich. Filed June 28, 1909. Serial No. 504,907.

1. In combination with the casing and the inner tube of a pneumatic tire, an intermediate tube opened and over-lapped along the entire length of its periphery, said over-lapping portions made to interlock to form, under pressure, an air tight connection, and several thicknesses of reinforcing fabric having the warp and woof at various angles and fully impregnated with and made a part of the material of which the tube is made.

946,632. Carburetter William K. Bassford, Perth Amboy, N. J. Filed Feb. 19, 1909. Serial No. 478,804.

In a carburetter, the combination of a casing forming an air chamber, a tubular gasoline nozzle, extending into said chamber, and having a rectangular port running along the side of the nozzle, a valve extending into said nozzle, for covering said port more and more in direct proportion to its distance in the nozzle, and means governed by the air passing through said chamber for adjusting the valve along the length of said port.

946,638. Tire. David W. Jones, Taunton, Mass. Filed Dec. 8, 1905. Serial No. 290,881.

In a tire, the combination with a pneumatic tube; of a concave annular member of sheet metal fitting over and conforming to the outer surface of said tube; a tread portion seated on said annular member; transverse channels shaped in said annular member, the under side of which channels form projections to engage the surface of the pneumatic tube; annular clamping members; and clamping bolts extending through said clamping members and said tread portion, and seated in said transverse channels, substantially as described.

946,661. Compression Tester for Explosive Engines. John Desmond, Chicago, Ill., assignor to William S. Potwin, Chicago, Ill. Filed March 20, 1908. Serial No. 422,216.

1. A compression tester for explosive engines comprising a sleeve-like casing, a relief valve seated in said casing, a spring for holding said valve to its seat and a thimble adjustably screw threaded upon the end of said spring to adjust the pressure thereof, said thimble having escape ports and said casing having a scale with which said thimble co-operates to indicate the pressure of said spring, substantially as described.

946,674. Means for Securing a Spare Rim to the Wheel of a Vehicle. William R. Hughes and Philip Cave-Moyle, Cheltenham, England. Filed July 17, 1908. Serial No. 444,055.

1. In means for securing a spare rim to the wheel of a vehicle the combination of

a retainer carried by the rim and adapted to engage the outer flange of the permanent rim, and prevent radial movement of the spare rim, a cramp adapted to engage the inner side of the wheel and to prevent axial movement of the spare rim, and a lever pivoted to the spare rim and also to the cramp.

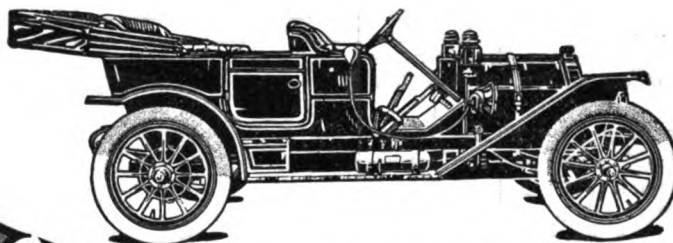
946,717. Means for Tire Inflation. Luther S. Brown, Lemoore, Cal. Filed Nov. 7, 1908. Serial No. 461,575.

The combination of an axle, a wheel having a pneumatic tire provided with a valve, a hub formed with a duct and a nipple, and a spoke formed with a bore, a pipe connected with the nipple at its inner end, a union connecting the outer end of the pipe with the valve, an inner member formed

with an annular groove connected with the duct in the flanged hub and provided with a flange, a split outer annular member formed with a passage and a nipple, means for securing the parts of the outer annular member together, a bracket fixed to the axle, and springs yieldingly connecting the outer annular member with the bracket.

946,737. Pressure Regulated Gas Valve for Engines. Marie L. Riotte, Jersey City, N. J., administratrix of Carl C. Riotte, deceased. Filed March 1, 1909. Serial No. 480,690.

1. In a mixing and regulating apparatus for gas and air, a housing having an outlet, an air inlet and a gas inlet, two cut-off devices mounted one within the other and



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manually adjustable relatively to each other and to said air and gas inlets to vary the relative proportions of gas and air passing to said outlet and mutually adjustable to permit the passage of a greater or lesser quantity of gas and air to said outlet without varying substantially the proportions determined by manual adjustment both of said cut-offs and the housing having ports arranged to register simultaneously and directly with each other.

946,806. Vaporizer Heating Device. Alden E. Osborn, New York, N. Y. Filed Jan. 13, 1906. Serial No. 295,882.

1. In a motor vehicle, an internal combustion engine, a body or casing inclosing the same, means outside of said casing for illuminating the path of the vehicle and also operating to generate waste heat, and means for forming an explosive charge and delivering the same to the engine, said last-mentioned means having a portion thereof heated by said illuminating means and utilizing said waste heat.

946,878. Spark Plug. Joseph E. Schaefer, Jr., Cleveland, Ohio, assignor to Charles W. Fenner, Cleveland, Ohio, doing business under the name Reflex Ignition Co., Cleveland, Ohio. Filed Feb. 23, 1909. Serial No. 479,379.

A spark plug comprising a casing having a rounded end which is provided with a central opening and small openings arranged adjacent to said central opening, the wall around said central opening constituting an electrode and the central opening and openings adjacent the central opening permitting admission and exhaust of gas to and from the casing, a spindle arranged within the casing and insulated therefrom, an electrode carried by said spindle, and a saucer-shaped baffle on said spindle and turned toward the openings in the rounded end of the casing, said baffle serving to catch the oil driven into the casing with the gas.

946,953. Shock Absorber for Automobile Driving Shafts. Conde A. Benoist, St. Louis, Mo. Filed Feb. 5, 1907. Serial No. 355,933.

The combination with a driving shaft, constructed in two parts, of flanges integral with the meeting ends of the two parts of the shaft, an arm formed integral with each flange, the outer ends of which are in alignment with one another, a rod loosely fitting in the apertures formed in the outer ends of said arms, the ends of which rod are screw threaded, nuts located on the screw threaded ends of the rods, a compression spring arranged on the rod between the ends of the arms, and of such dimensions to prevent the ends of the arms abutting; a centrally arranged pin integral with and projecting from the end of one of the shafts and engaging in a corresponding recess formed in the opposite portion of the shaft, there being a groove formed in said pin, and a set screw passing through that part of the shaft provided with the recess, the inner end of which screw engages in the groove in the pin.

947,021. Starting Explosion Engines. Jules E. Malivert, Paris, France, assignor of one-half to Louis Bousquet, Paris, France. Filed March 6, 1909. Serial No. 481,570.

1. The combination with an explosion engine having a plurality of cylinders, of a plurality of sources of fluid under pressure, a valve casing for each cylinder and communicating therewith and communicating with both of said sources, a valve for closing the communication between one of said sources and the cylinder, a diaphragm in the

casing for controlling the valve and arranged between the port leading to the other source and the port leading to the cylinder, one face of the diaphragm being subject to the pressure from the other source and the other to the pressure of the cylinder, and a rotating valve driven by the engine for successively interrupting the communication between the said other source and the valve casings.

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## **RAILROADS READY TO RAISE RATES**

**Increases Likely to be Substantial Ones—  
Dealers Indifferent and Fail to At-  
tend the Hearing.**

If the automobile dealers east of Chicago care very much whether the freight rates on motor cars are raised 25 per cent. or more, they at least gave very little evidence of it at the meeting of the official classification committee of the railroads in the eastern district, which was held in New York City on Tuesday, 29th inst. The railroads have for some time been contemplating the raising of the rates on automobile shipments, and the classification committee was prepared on Tuesday to hear from dealers and others as to why the raise should not be put into effect. If the committee expected to hear loud protests and arguments from the dealers, however, it was disappointed, because no dealers appeared.

The advances which the railroads are understood to have in mind would be at least 25 per cent. on carload shipments and probably 50 per cent. or more where single machines are shipped. As these increases must fall either on the dealer or his customers it was thought that strong representations would be made to the classification committee by the dealers, in opposition to any such steps by the carriers. For this reason the absence of dealers at the hearing was regarded as little less than remarkable.

Although their notice was short, prominent dealers in Boston and New York were advised of the situation, and many of them in immediate indignation expressed their intention of being on hand to tell the committee the injustice of putting further burdens on a class of business from which the railroads already get so much. The Boston delegation did not arrive, and the New Yorkers likewise failed to find their way to the hearing.

Some opposition to the proposed increases was made, nevertheless, as J. S. Marvin, general traffic manager of the National Association of Automobile Manufacturers, together with a delegation of the makers, appeared before the committee and presented facts and figures to show why the advances should not be made. In addition to resisting further raises in the rates, the automobile delegation pointed out some of the existing injustices which result from the system of charging double the first class rate on a minimum weight of 2,500 pounds, where a single machine is shipped, as against the single first class with a minimum of 10,000 pounds if the automobiles are shipped in carload lots.

It will not be known for some time what action the classification committee will take. The hearings of the committee are held semi-annually and the decisions as to increases or decreases are not promulgated until long after these deliberations, so that the increase, if decided on, will not become effective for some months.

### **Kelly to Locate in Racine.**

Although originally intended for Toledo, O., the new rubber company which Charles F. U. Kelly has had in the making for some months, is to be located in Racine, Wis., and has been incorporated under Wisconsin laws as the Kelly-Racine Rubber Co., with a capital stock of \$500,000. The new company, of which Kelly is the president, and which will make automobile, commercial truck, motorcycle and bicycle tires, has purchased ten acres of land in Racine for a factory site, and construction is to be started immediately on a fire proof plant. It is expected to have 250,000 square feet of floor space available for active manufacturing operations in the latter part of July, and an output of 300 tires per day from the start has been promised. The change in plans by which Racine instead of Toledo, becomes the home of the company, was brought about by the substantial inducements that were offered by Racine business men, a number of whom have become associated with the enterprise.

## **STANDARDIZED RIMS PULL THROUGH**

**Tire Manufacturers Unexpectedly Get To-  
gether Again and Readopt Them—How  
Situation Now Stands.**

Instead of being dissolved as the result of the indifference exhibited toward it by the tire committee of the Association of Licensed Automobile Manufacturers, the project for a standard type of quick detachable rim, as evolved by compromise on the part of six big tire companies, has taken a new lease of life and is to be pushed with vigor. Tangible evidence to this effect is afforded in the official announcements made this week, over the names of the companies that have assigned their rim patents to the United Rim Co., the patent holding corporation created for the purpose.

As previously indicated in the Motor World, the plan for a standardized type of quick detachable rim has been making difficult progress for the past two years, but those who have championed it are now convinced that it has reached a point where it may be put squarely before the trade and the public. The companies who are pledged to the cause and who have turned over their rival and conflicting patents to the United Rim Co., in order that the later may authorize a composite type containing the best features previously found separately, include the Diamond Rubber Co., Akron, O.; G & J Tire Co., Indianapolis, Ind.; Goodyear Tire & Rubber Co., Akron, O.; B. F. Goodrich Co., Akron, O.; Hartford Rubber Works Co., Hartford, Conn., and Morgan & Wright, Detroit, Mich.

When the United Rim Co. made its initial attempt to create a standard type which would be acceptable from all standpoints, it encountered trouble with the rim manufacturing concerns who were approached on the matter of taking out a license to manufacture. The rim makers balked at being confined to just one type,

which they must needs be under the terms of the license offered them. The United Rim Co. then agreed to license them for two standard types, provided they would give up the manufacture of all competing rims. These two standard types, as promulgated by the United Rim Co., were described and illustrated in the Motor World for the issue of December 23, and were designated as types No. 1 and No. 2. Licenses for their manufacture were taken by the Standard Welding Co., of Cleveland, O., and the Weston-Mott Co., of Flint, Mich., with the understanding that the tire companies themselves would retire from rim manufacture.

Later a dash of cold water was thrown on the whole thing by the attitude of the tire committee of the A. L. A. M., which refused to take any definite steps towards pledging support for the standardized rim idea or to recommend it to the membership of the Association. With renewed courage, however, the standard rim is again taken up and is to be carried to the ultimate of whatever possibilities are in store for it. The No. 2 rim is the type which is to be made the leader, although the rim manufacturers who have taken out a license may make the No. 1 type also if they find reason to do so. The tire companies who have created the United Rim Co. will themselves cease the manufacture and sale of rims on the first of next July, and will use their combined efforts to make the car manufacturers and the public see the advantage of the standardized type, as produced by the licensed rim makers.

#### Dayton Returns to the Columbia.

Succeeding C. W. Kelsey, F. E. Dayton has been appointed sales manager of the Columbia Motor Car Co., of Hartford, Conn., by the United States Motor Co., of which the Columbia company is a constituent. Kelsey's resignation from the United States Motor interests is in the nature of a surprise to the trade, as he long has been identified with the Maxwell-Briscoe Motor Co., and was its sales manager until recently transferred to Hartford. Dayton, who will take charge of the Columbia sales organization on April 1, is not a stranger to the Columbia line, as he was with the Electric Vehicle Co. for five years, acting at different times in the capacity of salesman and branch house manager at Boston and Chicago. For the past two years he has been sales manager of the New York plant of Rogers & Co., which position he resigns to return to the automobile business.

#### Another Car Coming from Kansas.

Wichita, Kan., is to have a car of its very own, in the Wichita, which is to be made by the Wichita Motor Car Co., as the company will be known. The car is designed by D. N. Baxter, of Wichita, who with A. N. Jones and Rudolph Hatfield will direct the affairs of the enterprise.

## TWO JOIN THE "SILENT MAJORITY"

### Death Calls at Detroit and Buffalo and Claims Well Known Men—The Deceased and Their Careers.

#### JOSEPH A. BRISCOE.

Joseph A. Briscoe, treasurer of the Briscoe Mfg. Co., of Detroit, Mich., and father of Benjamin and Frank Briscoe, died at his Detroit residence on the 25th inst. He was 72 years old and had lived in Detroit for over 70 years, although born in Philadelphia. While still a youth he invented a machine for making nuts and bolts, which not only brought him considerable notice in the mechanical world, but which served as the basis for his forming the Michigan Nut & Bolt Works, a concern still in existence. Later in life Mr. Briscoe was connected with the Westerman Iron Works, of Sharon, Pa., and during the latter years of his active business career he was district agent for the Standard Life and Insurance Co., until his retirement two years ago. He retained the treasurership of the Briscoe Mfg. Co., but permitted the active work to rest on younger shoulders.

His relation to the automobile industry was more real than apparent, in his paternal interest in the activities of his sons, not only in the Briscoe Mfg. Co., making automobile radiators and parts, but in the Brush Runabout Co., of which Frank Briscoe is the head, and the Maxwell-Briscoe Motor Co., and its outgrowth, the United States Motor Co., both of which are headed by Benjamin Briscoe.

#### GEORGE N. PIERCE.

George N. Pierce, of Buffalo, N. Y., who might be considered one of the pioneers in automobile manufacture in the United States, died of heart failure on the evening of the 23d inst., in his apartments at the Lenox Hotel, Buffalo. He was 64 years old, and although it is two years since he had any active connection with the motor car industry, he nevertheless was popularly regarded as one of its "grand old men."

In 1890 he organized under the firm name of George N. Pierce & Co., for the manufacture of bicycles, and became one of the leading manufacturers. Nine years later the firm commenced experimenting with automobiles, and in 1900 it produced a 2¾ horsepower motorette, followed in succeeding years by increasing horsepower and larger models, including a two cylinder touring car of 15 horsepower in 1903. So rapidly did the automobile department of the business grow that in 1906 it was found necessary to divide the firm into two organizations, the automobile branch being styled the George N. Pierce Co., while the cycle branch became the Pierce Cycle Co.

Because of advancing years and a desire

to relinquish business cares, Mr. Pierce two years ago disposed of all his interests in the George N. Pierce Co., and retired as president and director, whereupon the company was reorganized as the Pierce-Arrow Motor Car Co. He did not retire completely from the cycle company, however, and remained one of its directors. Mr. Pierce is survived by his wife, six daughters and two sons. The directors of the Pierce-Arrow company have passed resolutions of sympathy.

#### Miller Again Gets More Room.

Charles E. Miller, the New York jobber, importer and manufacturer of automobile accessories, has found it necessary to expand his main headquarters at 97-101 Reade street. To this end he has leased all of the second floor of the building running through the block from 103 Reade street to 121 Chambers street and adjoining his present location. The enlargement is chiefly for the purpose of increasing the facilities necessary for taking care of his branches in various cities, of which there are ten, in addition to his main store. The branch at 601-3 Baronne street, New Orleans, La., opens this week. In further preparation for the rush of spring business, Miller has been making record breaking purchases of stock, including a single order with one tire manufacturer for over \$25,000 worth of tires for delivery within a week's time.

#### Consolidation Ends Taximeter Litigation.

By a combining of the Franco-American Taximeter Co. and the Jones Taximeter Co., of New York, the patent warfare which has been in process between them has been brought to an end and their interests have been merged in a new company, which will be known as the American Taximeter Co., with principal offices at 736 Seventh avenue, New York. Both the Poppe taximeter and the Jones type will be continued, the patents all having been transferred to the new company. The uniting companies retain an equal representation on the board of directors, Francois Ducasse acting as president and general manager, and Joseph W. Jones as vice-president.

#### Seiberling Back from Rubber Country.

F. A. Seiberling, president of the Good-year Tire & Rubber Co., Akron, O., returned on Friday from an extensive trip in Brazil, where he visited the Amazon rubber district. In commenting on the rubber situation, he indicated that the demand for rubber always will exceed the supply, but that a reaction from the present high prices may be looked for. He declared, however, that low prices, as formerly understood, are a thing of the past.

#### Locomobile to Build Big Addition.

The Locomobile Company of America, Bridgeport, Conn., has awarded the contract for a four-story additional factory, 152x54 feet. The company also is building a one-story forge shop, 151x50 feet.



**ECCENTRIC METHOD IS PATENTABLE**

**Court Sustains Hess-Bright Claims for Ingenious System of Assembling Ball Bearings—Finds Infringement.**

Involving some of the mysteries by which manufacturers of ball bearings accomplish the introduction of the balls between the concentric rings which provide their path of travel, a suit brought by the Hess-Bright Mfg. Co., of Philadelphia, Pa., to establish its patent rights to the Conrad method of assembling has resulted in a victory for the company in the Circuit Court of the United States for the Eastern District of Pennsylvania. In his decision Judge Holland does not agree with the defendant, the Standard Roller-Bearing Co., in the contention that there is lack of invention in the two patents on which the complainant's suit was brought.

The patents in question are No. 822,723, granted June 5, 1906, and No. 838,303, granted December 11, 1906, to Robert Conrad, and transferred by him to the Deutsche Waffen-und Munitions-Fabriken, a German company, of which the Hess-Bright company by assignment is the sole licensee in this country. The first patent is for an improvement in ball bearings, and the second is a "method patent," issued about six months after the article patent. The first claim of the "method patent" reveals the essence of the matter over which the litigation arose. It is as follows:

1. The method of manufacturing and assembling a ball bearing into a unitary structure the parts of which hold each other together, which consists in forming inner and outer rings having opposing grooves, the sides of which are uninterrupted throughout their circumference, and which are separated by a distance less than the diameter of the balls when the rings are concentric, placing said rings eccentrically to each other to widen the space between said edges at one side to a width greater than the diameter of the balls, introducing through said space a limited number of balls extending when in contact with each other only partly around the raceway formed by said grooves, and restoring the rings to concentric position and introducing spacers between the balls to distribute them substantially entirely around the raceway so as to prevent the rings from returning to the eccentric position."

After relating that most of the many patents issued for ball bearing devices have the sides of the grooves interrupted in one way or another to permit the introduction of the balls, with filling openings provided in some cases and sometimes a further provision for these openings being filled up or plugged after the balls had been introduced, Judge Holland finds the Conrad method to be a distinct piece of invention.

"It is very evident that the manufacturing and assembling of this ball bearing device by eccentric displacement is entirely

new," he declares, "as no other ball bearing has ever been made which could be entirely assembled in this way, resulting in making practical a continuous and uninterrupted raceway. The idea is novel and of great utility, involving invention. It is ordered that a decree be entered for the complainant."

**Big Drop Forge Plant for Detroit.**

At an outlay of \$750,000, the Anderson Forge & Machine Co., of Detroit, Mich., now located at the foot of St. Aubin avenue, Detroit, is to build an immense drop forge plant on a 13-acre site some distance out on Jefferson avenue. The plant will require the erection of nine buildings, all but one of which will be of concrete. A mile of industrial railway track will be laid for the handling of raw material and finished products. The expansion, it is stated, is brought about by the needs of the automobile industry. The officers of the company are: Russell Alger, president; Fred M. Alger, vice-president; F. Archer Hinchman, secretary-treasurer, and W. R. Anderson, general manager.

**St. Paul to Have a Motor Truck Plant.**

After experimenting during the past year with a light and a heavy truck built by the Schurmeier Wagon Co., of St. Paul, Minn., under the direction of Frank I. Whitney, the Schurmeier interest have incorporated the Schurmeier Motor Car Co., with \$200,000 capital. For the present the new concern, of which Whitney is the president, will build its vehicles at the wagon factory, but a ten-acre site has been purchased in the "Midway district" between St. Paul and Minneapolis for the erection of a plant.

**Lapeer May Back a Watt Factory.**

The Watt Motor Co., which has been exploiting an unusual type of motor in Detroit, Mich., has succeeded in interesting Lapeer, Mich., the citizens of which place have for some time been itching to start an automobile factory there. At a public meeting in Lapeer the sum of \$35,000 was raised and a further \$15,000 is being sought, so that there may be \$50,000 with which to back a motor car plant, the Watt enterprise having been tentatively selected.

**Petrel Plant is Sold at Auction.**

The plant of the bankrupt Petrel Motor Car Co., of Milwaukee, Wis., has been sold in accordance with the order of the bankruptcy court. Attorney John A. McCormick, of Milwaukee, bought it for \$24,100, but declined to say for whom he made the purchase.

**Manning Joins the Warner Forces.**

Irving H. Manning, recently with the American Locomotive Co., has joined the selling force of the Warner Instrument Co., of Beloit, Wis. He will be a special representative of the company and will not confine himself to any one of its branches.

**SELLING STOCK ON EASY PAYMENTS**

**General Motors Placing Shares with Employees—Publicity Production Campaign Helps Market New Issue.**

Almost coincident with a publicity hurrah concerning the magnitude and fecundity of production of its chief constituent property, the General Motors Co. has placed on the market a new issue of its preferred stock and also has disclosed a plan whereby employees may turn back a part of their wages or give up their savings for General Motors shares. To enjoy the opportunity which is afforded them, the employees who wish to have certificates must take \$500 worth of the preferred stock, to which 20 per cent. of common will be thrown in for nothing, this being the kind that was ladled out so liberally last November as a "150 per cent. stock dividend" on the common stock instead of cash.

The money need not all be paid at once, however, as an instalment method has been devised, which is calculated to make the proposition more attractive and more easily within the employees' reach. The scheme provides for 10 per cent. down and 2½ per cent. a month, and is thus as simple as buying a crayon portrait or a Collier set of famous authors on easy payments.

According to glowing dispatches from Flint, Mich., the plan when placed before employees of the Buick factory resulted in a subscription for \$122,000 worth of the preferred stock, which on the basis of payment outlined will mean that the men who subscribed will be paying on General Motors shares for the next three years.

The total amount of the new issue of General Motors stock is given as \$1,000,000. Assisted perhaps by the publicity boom which made so timely an appearance, the demand for the shares was "immediate and heavy," if the veracious chronicler is to be credited, and, in addition to finding buyers in Flint, were disposed of "in Detroit, New York, Cincinnati and other large cities."

**Rubber's Rise Forces up Tube Prices.**

Because of the recent advances in rubber prices, the Empire Tire Co., of Trenton, N. J., has found it imperative to announce an advance of 30 per cent. on its red rubber tubes in the automobile and motorcycle tire sizes. Its gum gas tubing and rolled end gas lamp connections likewise have been advanced 20 per cent.

**Ann Arbor Will Build Automobiles.**

Ann Arbor, Mich., is making preparations to welcome Koch Bros., who propose to build an automobile plant on Wildt street, near North Main. A \$50,000 company has been organized, and \$31,000 worth of the stock is represented as having been disposed of already.

## IN THE RETAIL WORLD.

Richard H. Hefler, Yarmouthport, Mass., will open a garage on Railroad avenue.

Fred Meintz, Peoria, Ill., will erect a garage on the plot at 1416 Main street, now occupied by a livery stable.

J. W. Gilroy, Peoria, Ill., has opened a garage in the old Glide factory, at Bradley avenue and Institute place. Repair work will be featured.

Harry Baumeister, Louisville, Ky., has taken out a permit to erect a one story garage on Broadway near Seventh street. It will cost \$6,600.

S. M. Trammell, Washington, D. C., has disposed of his garage at 1828 L street, N. W., to Simmes & Welbeck. They will continue to operate the business.

A. L. Sheridan, Indianapolis, Ind., a newcomer in the trade of that city, has opened sales rooms at 27-33 North Capital avenue. He will represent Palmer-Singer cars.

Stone & Downey, Philadelphia, Pa., long established farm implement dealers at 1903-1905 Market street, have taken on automobiles. They will represent the Kisselkar.

Richardson & Willson, East Aurora, N. Y., have dissolved partnership and sold their garage on Elm street to Maurice L. Hanivan. He will continue the business in his own name.

The Pope-Hartford Motor Car Co., St. Louis, Mo., has had plans drawn for a new sales and garage building at 5883-91 Delmar avenue. It is expected to be ready for occupancy by June 1.

Whitmore & Houpt, Jackson, Mich., will occupy the new garage to be erected on West Cortland street by Anthony Feldher. The building will be of pressed brick, two stories, 62x120 feet.

Bids are being asked for the construction of a new garage to be built for the McAlister Motor Car Co., Pittsburg, Pa., on Baum street. The structure will represent an outlay of \$25,000.

The Brattleboro (Vt.) Garage, has acquired the establishment of L. D. Taylor, on Grove street, the latter retiring from business. The new owners handle the Velie and Brush lines.

The Automobile Sales and Distributing Co., of 1206 Main street, Buffalo, N. Y., has taken the agency for Brush cars. Western New York and Pennsylvania are included in the territory assigned to it.

The Holt-Boone Motor Co., Atlanta, Ga., which took over the business of Jesse R. Holt, has leased new quarters at 67-70 Edgewood avenue. Its lines comprise the Demot, Marmon and Varsity cars.

The Anderson Electric Carriage Co., Detroit, makers of the Detroit electric automobile, will open a factory branch in Buffalo, N. Y., at 1114-1116 Main street. It provides both sales rooms and garage facilities.

John S. Feters, South Bend, Ind., has sold his interest in the F. & C. Vulcanizing

Co., at 213 East Jefferson boulevard to Charles Frank and Frank May. The new owners will operate under the old name.

B. D. Hobbs and John Roberts, Springfield, Mo., have dipped into the automobile business and opened a garage in the Auditorium building on Pickwick street. The establishment includes a repair department.

One of the largest garages in Massachusetts, of reinforced concrete, 60x145 feet, with accommodation for over one hundred cars, is being built in Salem, Mass., on Lafayette street. Zina Goodell is the owner of it.

The Whittaker Motor Car Co., St. Louis, Mo., has moved from its old location at 2048 Fair avenue to new and more commodious quarters at 1318 Olive street. Everitt touring cars and Hewitt trucks are handled.

The latest addition to the trade in St. Louis, Mo., is the St. Louis Garage Co., which has opened sales rooms at 1127 Olive street. H. F. Rogers is manager of the company, which will dispense the Johnson car locally.

The United Garage Co. has been formed to take over the garage business of the Kirk Bros. Automobile Co. Kirk, who has the Thomas agency, will continue at the old stand, but will have no connection with the garage business.

The Texas Motor Sales Co., Fort Worth, has broken ground for a new home on Commerce street near Eleventh. Its present location is on Throckmorton street. It has also established branches in Dallas and Oklahoma City.

W. M. Jenkins & Co., Boston agents of the Mitchell cars, have taken possession of 228 Columbus avenue, and established themselves in the more spacious quarters. Their former store at 286 in the same avenue, had proven too cramped.

The Wichita (Kan.) Garage Co., soon will take possession of its new home on North Lawrence avenue. Its dimensions are 100x140 feet, and in appointments and equipment the new establishment will rank with the best in the state.

The Thacker-Brereton Co., and Greer-Templeton Co., Peoria, Ill., have consolidated, under the style of the Jefferson Auto Co., in the quarters of the former. The same lines, viz.: Brush, Oldsmobile, and Buick cars, will be continued.

The Ohnhaus Automobile Co., Ft. Wayne, Ind., has absorbed the garage business formerly conducted by Louis Ohnhaus on West Berry street. Ohnhaus is president of the new company, which will add a livery service and conduct the business on a larger basis.

The Anderson-Nelson Motor Car Co., Oklahoma City, Okla., soon will take possession of its new building at 521 West Second street, and one of the largest establishments in the city. It is a brick structure 50 x130 feet, and will be well provided with re-

pair facilities. The firm acts as state distributor of Moline cars.

Motor cars will share honors with horse vehicles hereafter in the establishment of the Woonsocket (R. I.) Wagon Mfg. Co., 12-24 Worrall street, which has taken on the Parry, Empire, Velie, Lexington cars; Manhattan, Rapid and Alco trucks will be handled.

Edward Donnelly and Harry G. Davis, Saginaw, Mich., have embarked in the automobile business and will open a garage at James and Baum streets. Ground has been broken for the structure which will be of brick, one story, 160x40 feet, and will include a repair shop.

O'Brien & Storz is the style of a new firm which has been formed in Omaha, Neb., to cater to storage and repair trade exclusively. It has completed arrangements for the erection of a garage 66x132 feet, two stories, on Farnam street, between Twentieth and Twenty-fourth.

The Toledo Auto & Garage Co., Toledo, Ohio, has finished an addition to its already big garage, 88x220 feet, of concrete and brick. One-half of the garage will be used for housing gasoline automobiles and the other half for electric vehicles. Opening day was on March 28th.

The Kankakee (Ill.) Motor Co., which recently began business, will take possession of its new garage at 315 Dearborn avenue early in April. The building will be one story, 30x70, and will be constructed of brick. E. C. Caulkins and Howard Mann, are the members of the firm which will market Pratt-Elkhart and Everitt cars.

Work has been begun on a new garage to be erected for the Johnson Automobile Co., St. Louis, Mo., at 4388 Olive street, the local "automobile row." It will be one story, 45x154 feet, and will cost \$12,000. A well equipped repair shop will be a feature. The prospective tenant has leased the establishment for a term of five years.

The Barndt & Johnson Auto Supply Co., Columbus, O., who make bodies and accessories, have purchased the factory at High street and Kingston avenue, formerly occupied by the Columbus Woodenware Co., and will remove its plant there when the new home is put in order. It is a brick structure 150x400 feet, and in height varies from two to three stories. Included in the purchase is five acres of land to provide for future expansion.

Two well known automobile firms of Kansas City, Mo., the Woodward Auto Co., and A. J. Davies have consolidated and reorganized as the A. J. Davies Motor Car Co. Temporary quarters have been established at 3626 Main street, pending the erection of a permanent home next door at 3628. A. J. Davies will be president and treasurer, and C. W. Woodward, secretary of the new concern, which will handle the Knox, and the Chadwick, and also Babcock electrics.

## THE WEEK'S INCORPORATIONS.

Waco, Tex.—Waco Automobile Club, no capital. Corporators—W. W. Seley, H. H. Shear, G. T. Zizinia, E. R. Bolton.

Fremont, O.—Lauth-Jergens Motor Car Co., under Ohio laws, with \$150,000 capital; to manufacture pleasure and commercial cars.

Houston, Tex.—Standard Auto Co., under Texas laws, with \$15,000 capital. Corporators—G. F. Cotton, Isaac Keller, E. E. Guthrie.

Detroit, Mich.—Michigan Magneto Co., under Michigan laws, with \$15,000 capital; to manufacture magnetos. Corporators—Henry G. Cox, et al.

Oshkosh, Wis.—Punctureless Tire Co., under Wisconsin laws, with \$50,000 capital. Corporators—G. D. Weed, W. G. Everhard, Ulrich Anderson.

Galveston, Tex.—Galveston Automobile Club, no capital. Corporators—W. L. Moody, Jr., Sealy Hutchings, George Sealy, Bartlett Moore, J. W. Munn.

Wilmington, Del.—Simmons Motor & Truck Co., under Delaware laws, with \$1,500,000 capital. Corporators—W. N. Akers, W. J. Maloney, M. C. Taylor.

New York, N. Y.—Franco-American Tire Co., under New York laws, with \$5,000 capital. Corporators—Timothy H. and James A. Murray, John D. Thomas.

Chicago, Ill.—Interstate Garage Co., under Illinois laws, with \$5,000 capital; automobile livery. Corporators—I. E. Harrod, E. C. Marsh, John S. Thompson.

New Haven, Conn.—Brown & Underwood Automobile Co., under Connecticut laws, with \$12,000 capital. Corporators—H. H. Brown, E. B. Underwood, L. E. Jacobs.

Detroit, Mich.—Porter-Lovette Co., under Michigan laws, with \$15,000 capital; general automobile business. Corporators—Gilbert E. Porter, Harry S. Lovette.

Boston, Mass.—Aluminum Solder Co., under Massachusetts laws, with \$50,000 capital; to manufacture aluminum solder. Corporators—Joseph Silver, George J. Coles.

Dayton, O.—Automobile Club of Dayton, under Ohio laws, no capital. Corporators—H. J. Meyers, Jr., Philip H. Worman, Roy Fitzgerald, R. E. Jenkins, Carrol Sprigg.

Houston, Tex.—Houston Auto Co., under Texas laws, with \$10,000 capital; general automobile business. Corporators—A. J. Dorman, J. M. Walker, W. D. Myers and others.

Ft. Wayne, Ind.—Ohnhaus Automobile Co., under Indiana laws, with \$15,000 capital; general automobile business. Corporators—Louis Ohnhaus, D. U., and O. F. Evans.

Wilmington, Del.—Steel Inner Tube Co., under Delaware laws, with \$500,000 capital. Corporators—A. M. Bangs, W. M. Bailey, New York City; G. G. Steigler, Wilmington, Del.

Indianapolis, Ind.—Townsend Mfg. Co.,

under Indiana laws, with \$3,000 capital; to manufacture automobile tops. Corporators—G. B. Tanner, Norman Peck, Delbert Townsend.

New York, N. Y.—Boulevard Auto Co., under New York laws, with \$20,000 capital; to manufacture motors, engines, automobiles etc. Corporators—E. N. Sorgenfrei, W. Peters, A. Korsmeier.

Chicago, Ill.—Modern Sales Bureau, under Illinois laws, with \$10,000 capital; to deal in machinery and automobile supplies. Corporators—William Goldenberg, C. Brusard, J. H. Ullmann.

Oklahoma City, Okla.—Oklahoma Motor Equipment Co., under Oklahoma laws, with \$10,000 capital. Corporators—L. E. Allmon, J. A. Carlson, Oklahoma City; M. G. Allmon, Russellville, Ky.

Newark, N. J.—T. C. M. Mfg. Co., under New Jersey laws, with \$100,000 capital; to manufacture automobiles and parts thereof. Corporators—A. Morris Thompson, Allan Coats, William McKay.

New York, N. Y.—Gus Balzer Co., under New York laws, with \$25,000 capital; to manufacture, deal in and repair motor vehicles, etc. Corporators—G. Balzer, C. S. Zimmerman, C. H. Miller.

Cincinnati, O.—Muhle-Louis Automobile Co., under Ohio laws, with \$7,500 capital; general automobile business. Corporators—J. H. Louis, H. M. Muhle, Silas B. Waters, F. J. Zumstein, Henry Smith.

Dover, Del.—Kilroy Piston Ring Co., under Delaware laws, with \$100,000 capital; to manufacture and deal in piston rings, engines and supplies. Corporators—G. F. Martin, E. J. Forham, J. J. Harper.

Toledo, O.—Toledo Regal Sales Co., under Ohio laws, with \$50,000 capital; general automobile business. Corporators—W. S. McMurray, H. J. Chittenden, A. L. Trautwein, William Rothert, Charles Rothert.

Zanesville, O.—Electric Auto Horn Co., under Ohio laws, with \$10,000 capital; to manufacture electric horns. Corporators—Julius Frank, Sam Weber, Sol Weinberg, Lou Weber, S. Lind, Morris Weinberg and others.

New York, N. Y.—Inter-State Motoring Association, under New York laws, with \$50,000 capital; general automobile business, and to build and operate garages. Corporators—T. W. Rollins, M. Turner, H. O. Carriere.

Memphis, Tenn.—P. D. Q. Co., under Tennessee laws, with \$6,000 capital; general automobile business. Corporators—Chauncey R. Benefield, Robert T. Lamb, Gordon Frierson, Ernest S. Bell, William A. Percy.

Gloversville, N. Y.—Timetest Supply Co., under New York laws, with \$100,000 capital; to deal in automobile supplies and supply time tests to automobile owners. Corporators—J. H. Stockamore, T. Robinson and D. D. Lake.

Buffalo, N. Y.—Professional Chauffeurs

Club of Buffalo, under New York laws, no capital, for social and technical purposes. Corporators—Harry Finch, William C. Oliver, Harry Hughes, Edward M. Doody, Albert O. Zimmerman.

New York, N. Y.—Electric Omnibus & Truck Co., under New York laws, with \$100,000 capital; to manufacture electric omnibuses, trucks, etc. Corporators—C. R. Field, J. B. Daniels, Brooklyn; W. B. Barker, New Rochelle, N. Y.

Syracuse, N. Y.—Syracuse Auto School, under New York laws, with \$10,000 capital; to teach automobile driving, repairing, selling, etc.; to manufacture and deal in all kinds of vehicles. Corporators—George C. Davey, Vera and J. J. Fuerth.

St. Paul, Minn.—Schurmeier Motor Car Co., under Minnesota laws, with \$200,000 capital; to manufacture automobiles. Corporators—H. H. Bigelow, E. H. Cutter, Eli S. Warner, J. E. Burkhard, Joseph McKibbin, Fred C. Whitney and O. A. Robertson.

New York, N. Y.—Gyrex Mfg. Co., under New York laws, with \$25,000 capital; to manufacture and deal in engines, motors, automobiles, etc. Corporators—E. H. Stickels, Edgewater, N. J.; C. A. Wardle, New York City; H. W. Webb, Cresskill, N. Y.

Port Richmond, N. Y.—Admiralty Power Co., under New York laws, with \$80,000 capital; to manufacture and sell motors, engines, automobiles, etc. Corporators—C. L. Straub, Plainfield, N. J.; J. H. Davidson, West New Brighton, S. I.; G. H. Bates, Cranford, N. J.

New York, N. Y.—Triplex Engineering Corporation, under New York laws, with \$25,000 capital; to manufacture and repair motors, engines, machinery, etc., both electrical and mechanical. Corporators—C. and E. A. Bechtold, Elmhurst, L. I.; A. H. Bogue, Bronxville, N. Y.

Chicago, Ill.—Drexel Automobile Co., changes name to Drexel Garage, Inc.; Hearne-Marden Motor Co., changes name to Hearne Motor Co.; Lozier Sales Co., under Illinois laws, with \$100,000 capital; general automobile business. Corporators—James Levy, F. C. Gillette and E. H. Garrett.

## Increases in Capitalization.

Hartford, Conn.—Bush Mfg. Co., from \$25,000 to \$50,000.

Indianapolis, Ind.—Delaware Garage Co., from \$5,000 to \$10,000.

Columbus, O.—Barndt & Johnson Auto Supply Co., to \$150,000.

Detroit, Mich.—Hupp Motor Car Co., from \$50,000 to \$250,000.

Dayton, O.—Speedwell Motor Car Co., from \$250,000 to \$350,000.

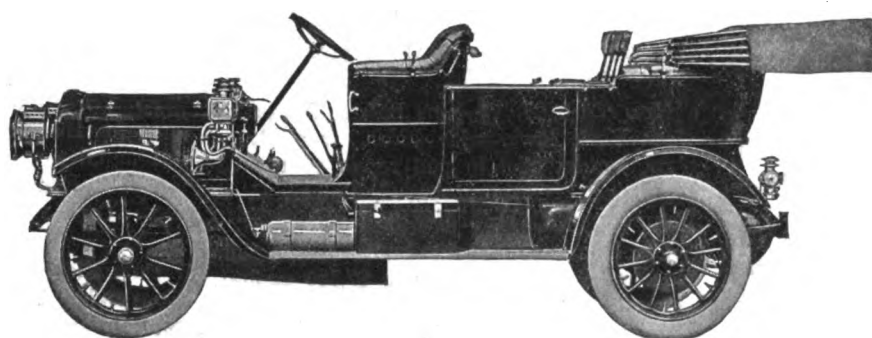
Muncie, Ind.—Wolf Automobile Co., decreased from \$10,000 to \$1,000.

Chicago, Ill.—Automobile Owners Association, from \$2,500 to \$100,000; directors increased from three to five.

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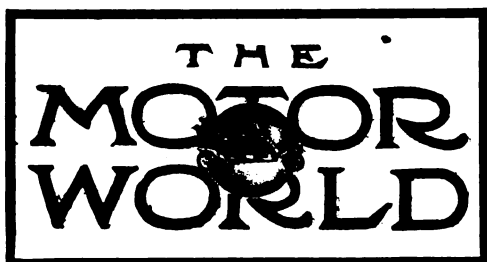
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#### The Answer to a Famous Question.

The treasurer and general counsel of the Automobile Legal Association is angry—so angry that he has ordered the cancellation of his subscription for the Motor World. The Massachusetts gentleman took umbrage at the Motor World's statement that the chief purpose of his "association" was to promote "pickings" for lawyers, hence his wrath. He does not dispute the truth of the statement and, in fact, could not do so if he would, as it does not admit of dispute.

The Motor World has no special desire to ruffle the feelings of anyone, but if stating exact facts gives cause for such ruffling we fear it must continue. For there is real need of plain speaking regarding the increasing number of so-called "associations," "leagues" and "clubs" which have attached themselves to the automobile body, so to speak, and which are but thinly-disguised and wholly, or almost wholly, commercial

corporations, partnerships, agencies or institutions composed of or revolving around one or two shrewd men who are reaching out for some of that "easy money" with which motorists popularly are supposed to be overburdened.

Of course, there is nothing legally wrong in appropriating the terms "association," "league," etc., for such uses, but there is small question that a law forbidding it would serve most excellent purposes, as it is safe to assert that the average person believes that organizations employing such designations represent public spirited movements; and it is more than a fair guess that this state of public mind influenced the promoters of most of the commercial enterprises in selecting the titles for their ventures. "Association," "league" and "club" suggest objects at variance with those suggested by "company," "corporation" and "agency," which latter would be the more fitting designations.

Massachusetts lawyers were first to discern the gratuitous advertising and other benefits obtainable from the employment of the public-spirited designations for subscription agency work and to those in the know nothing has been more amusing than the competition between three rival lawyers or sets of lawyers in Boston, each with a high-sounding "association" of his or their own. The "going" was so good that they all seem to have netted a snug income not only from their "members," who really are subscribers, but from the "appointment" of "official hotels" and the like; for how hotels and garages do love to display "official" signs! They seem to think them worth the price, and if proprietary "associations" and "leagues" continue to multiply there may not be enough hotels and garages to go around.

The more ambitious of these Massachusetts attorneys recently has changed the title of his venture so that it now appears to be of national scope, and only those who are well informed will henceforth be able to distinguish it from the "real thing," the American Automobile Association. It has adopted every purpose, save one, of the A. A. A., and the latter organization cannot well fail to be confused and confounded, yet the attorney in question stands fairly high in A. A. A. councils, while other A. A. A. officials have loaned either their names or their persons to this or kindred enterprises. It is one of the remarkable features of the interesting situation and suggests that the

A. A. A. is not as useful to its members as it ought to be. It ought to be able to do all that is done by these quondam "associations" and "leagues" and it should not stop short of doing so; their existence is a reflection on its usefulness.

Of course, Massachusetts has no monopoly on enterprises of this character, for New York has its own one-man Touring Club of America and its own one-man Motor Contest Association, not to mention the redolent International Automobile League; and within the last few weeks the title of the defunct American Motor League has been picked up and incorporated by a couple of up-Staters who have something to sell, possibly "official" signs among other things.

If the gentleman who first propounded that famous question, What's in a name? were alive today he would not have to seek far for the answer.

#### Furthering Electric Lighting.

After a period of incubation which was prolonged to an astonishing degree, considering its real merits, the electric lighting system for automobile use suddenly has developed to large and encouraging proportions. With it arises an important though by no means serious problem as to the most satisfactory way of supplying the necessary current. The mechanical generator, both of the dynamo and magneto types, has been evolved to a satisfactory degree and offers successful service, but at the cost of adding something to the mechanism of the car as well as increasing the first cost of its equipment to some extent. The small accumulator, on the other hand, already quite extensively employed on cars of the better order as a standby for ignition purposes, affords a satisfactory and inexpensive source of current, but at the expense of dependence upon suitably equipped charging stations. Granted a satisfactory solution of the battery charging problem, it would seem that the cause of the accumulator and of the electric light would be advanced considerably.

In this connection an apt suggestion is furnished by the kindred project of gas lighting for cars. Despite the success attained with the small acetylene generator, the use of tanks charged with compressed gas has assumed enormous proportions through the simple expedient of exchanging empty tanks for freshly charged ones at small cost to the consumer. Already one

manufacturer of accumulators has applied the same idea to the battery field, and there is no apparent reason why the plan should not be adopted universally. Charging boards may be installed in garages and repair shops at small cost to the dealer and the exchange of charged batteries for exhausted ones can be made at sufficient advance over the cost of current to allow abundantly for maintenance and dealers' profits. As a matter of fact, a large proportion of the garages both in town and country already are equipped for charging batteries, so that the most important requirement would be that of arranging and installing a suitable system on a rational basis of exchange. The scheme appears to possess useful possibilities for development. Furthermore, the difficulties which is presents are not those of electrical or mechanical obstacles, but of pure business administration, which is something more tangible if not always easy of achievement.

#### New Possibilities in Inertia.

The usually grave and sometimes learned Horseless Age has been moved to a consideration of the causes which sometimes occasion the inside wheels of a car to rise when the machine is rounding a turn at high speed. Incidentally our neighbor has stumbled upon what looks like a valuable discovery, and prints a photograph in support of it. It is that in gaining momentum a moving car loses its inertia, but that when the power is shut off inertia again rises victorious and overcoming the momentum brings the car to rest.

If this principle applies to all moving bodies, it may be that the long-sought germ of perpetual motion has been unearthed. All that is necessary is to discover some way of preventing inertia from being found again after it is lost, when the momentum would become an all-sufficient propelling agent, competent to replace steam and gas engines, electric motors, and probably clock springs as well. Of course, such a discovery, if pushed to its ultimate conclusion, would work the undoing of such portion of the mechanical world as now is engaged in the manufacture of what commonly are known as "prime movers," but it is reasonable to suppose that this achievement will be a matter of prolonged evolution. That the automobile in skidding around a corner furnishes a key to the mystery, however, seems evident to the Sage of Murray street, who avers that at such

times the force of inertia "is suddenly shattered."

"In running on a straightaway a car gains momentum in proportion to its speed," as the Sage correctly states. But, it further asserts that "it also loses what is known as inertia; that is, were the power suddenly shut off, the car would continue to travel in the direction in which it was going until its momentum was overcome by inertia, when it would come to a standstill." Apparently discriminating between science and Murray street theory, the Oracle proceeds, "In science inertia is also that quality which impels a moving object to continue its line of motion when the mechanical impetus is removed. In the case of an automobile rounding a turn" (note that this is gingerly regarded as a specific case distinct from other moving objects) "the power is not shut off, but the force of inertia, which tends to keep the car traveling in one direction is suddenly shattered. The impetus given by the motor compels the car to continue its motion around the turn, but in overcoming the force of inertia the car tips."

In the terms of antique science, of course, inertia is denominated an inherent property of all matter, neither gaining nor losing in quantity with changes in velocity; and far from being a transitional force, is, or was, regarded as a definite attribute proportional to the mass of the body. In that sense, no power on earth could "shatter" inertia, nor could momentum, which as long ago as the first of last week used to be considered a physical expression for or effect of inertia, either be "overcome by inertia" or increase in proportion to a loss of inertia.

Some three or four years ago when the question was still being discussed now and then, it used to be explained that the inside wheels occasionally rose on a turn because the car was inclined to skid and because in skidding, either the wheels encountered an obstacle, such as a rut—or possibly a gravel pile, such as the Horseless Age shows in illustrating its discovery. The skidding force, of course, was accounted for by the principle of inertia as expressed in terms of momentum or energy of motion. On this hypothesis, it is easy to explain why it is that the inside wheels do not always rise, but only when a car which is improperly balanced exceeds a certain safe limit of speed, or when through heavy traction or the influence of a gravel pile, the outside wheels refuse to skid.

### COMING EVENTS

March 26-April 2, Montreal, Can.—Fourth National Automobile and Sportsmen's show.

March 26-April 2, Pittsburg, Pa.—Pittsburg Automobile Dealers Association's fourth annual show in Duquesne Garden.

March 28-April 2, Indianapolis, Ind.—Indianapolis Automobile Trade Association's first annual show in individual show rooms.

March 28-29, Savannah, Ga.—Savannah Automobile Club's 675 miles endurance run to Jacksonville, Fla.

March 28-April 2, Toledo, O.—Toledo automobile dealers' individual shows in sales rooms.

March 29-April 2, Rockford, Ill.—Rockford Motorist Association's first annual automobile show in Coliseum.

April 5-6, Amarillo, Tex.—Amarillo Automobile Association's race meeting.

April 6-9, Duluth, Minn.—Duluth and Superior Automobile Club's first annual automobile show in state armory.

April 7-9, Logansport, Ind.—Second annual automobile show in Broadway garage.

April 8-17, Los Angeles, Cal.—Inaugural meet on the new Los Angeles Motordrome.

April 9-16, Elmira, N. Y.—Elmira Chamber of Commerce's first annual automobile show.

April 11-16, Harrisburg, Pa.—First automobile show.

April 11-18, Springfield, Mo.—Springfield Chamber of Commerce's first automobile show.

April 18-23, Bangor, Me.—Second annual automobile show in Auditorium.

April 30-May 1, 2, Philadelphia, Pa.—Quaker City Motor Club's roadability run.

May 2, Denver, Colo.—Start of Flag-to-Flag endurance and reliability contest to City of Mexico for Wahlgreen trophy.

May 5-7, Atlanta, Ga.—Opening spring race meeting on Atlanta motordrome.

May 9-14, Harrisburg, Pa.—Motor Club of Harrisburg's fourth annual reliability contest.

May 18-19, Norristown, Pa.—Norristown Automobile Club's third annual endurance run to Scranton and return.

June 11, Wilkes-Barre, Pa.—Wilkes-Barre Automobile Club's annual hill climb on Giant's Despair.

July 2, Wildwood, N. J.—North Wildwood Automobile Club's roadability run from Philadelphia to Wildwood.

July 4, Wildwood, N. J.—North Wildwood Automobile Club's annual beach races meet on Ocean drive.

**GOOD SPORT AT ATLANTA CLIMB**

**Almand Cinches Journal Trophy—Seven Events Provide Warm Competition—Timing Apparatus Goes Wrong.**

Viewed by an enthusiastic crowd of some 3,000 persons, the fourth annual hill climb promoted by the Fulton County Automobile Association, of Atlanta, Ga., was held on

in 3:43. Miller, the driver, did not expect to win, but some fellow agents had bet him that he dare not show up at the climb and that if he started he would never get to the top. Miller won his bet easily. The winner was yet to come, however, and he turned up in C. F. Wolf, who guided his Krit car to the summit in 1:25.

The class for cars costing between \$801 and \$1,200 brought out a larger field of starters, and J. E. Darby, piloting a War-

uct brought the natives cause for rejoicing. The car was the White Star, driven by Charles Jones in 1:15 $\frac{3}{4}$ , while Parmalee's Buick was timed in 1:18 $\frac{3}{4}$ . Schultz, in a Parry, was third, in 1:28 $\frac{3}{4}$ . The best time was made by H. L. Cohen in an E. M. F., but he was disqualified for being without a dustpan, the car having been borrowed from a local owner a few hours before the contest. His time was three-fifths of a second better than was made by Jones in the White Star.

The first driver to score under a minute was William Oldknow, when he swept up the hill in 57 $\frac{3}{4}$  seconds, in the event for cars between \$1,601 and \$2,000. L. E. Pain followed in 1:02 and P. O. Parmalee was third in 1:03 $\frac{3}{4}$ , which was close enough competition to be exciting. All three drove Buicks, they with the exception of two other cars being the only makes in the event.

In the fifth event—for cars between \$2,001 and \$3,000—W. J. Stoddard in a National whizzed to the top in 58 seconds flat, and later in the day cut this time nearly three seconds, when he stripped the car for the free-for-all event. L. W. LaBlanche was second, in the Knox, and Walter T. Candler, third; the last named piloted a Marmon.

As there were only two contestants in the class calling for cars of \$4,000 and upwards, the event resolved into a duel, but it was an exciting one, with C. C. Rooney, Packard, and Walter L. Dunn, Stearns, as the duellists. Dunn was the first up, and he attained the summit in 1:05 $\frac{3}{4}$ . The time was megaphoned down and Rooney smiled as



C. F. WOLF FINISHING IN HIS WINNING KRIT

Saturday afternoon last, 26th inst., on the Stewart avenue hill, near that city. There was not an accident to mar the sport, and only one disqualification, so that the promoters were well pleased with the outcome.

The feature of the afternoon was the driving of A. R. Almand in the free-for-all when he buzzed up the long incline in 47 $\frac{3}{4}$  seconds in E. H. Inman's 90-horsepower Simplex car, winning for the third time the Atlanta Journal trophy, and thereby securing permanent possession of it. In former years he had won it with a Stearns.

The crowd began to arrive at the hill long before the scheduled time for the climb, by trolley, on foot and in automobiles, while even a few dared to appear at the course in archaic horse-drawn vehicles. Everyone brought his lunch, and as it was a hot and dusty afternoon the pop boys made plenty of profit. Just before the time for the first event to be called the timing apparatus, which had been working splendidly all morning, took a notion to go out of commission, and finally the timers had to fall back upon the old-style method of timing by telephone, which anyway is nearly accurate.

The first contestant to get the word was K. T. McKinstry, at the wheel of the little Hupmobile, and he went to the top in business-like fashion in 1:31. The Metz—the tiniest of all the babies—was the next up,



SOME OF THE OFFICIALS AT THE ATLANTA HILL CLIMB

ren-Detroit, made the first trial. His time was 1:15 $\frac{3}{4}$ , while M. Venable, who followed in the Ford, required nearly four seconds longer. L. E. Fain, in a Buick, was the ultimate winner, the watches giving him 1:07.

In the next event, for cars listing between \$1,201 and \$1,600, the victory of a local prod-

he threw in the clutch and let drive. There was a buzz of excitement when it was announced that he had covered the course in 1:04 $\frac{3}{4}$ , winning the event.

With only one event remaining on the program—that was the free-for-all—the 22 policemen under the command of Chief

Rowan pushed are crowd further back along the sides of the road.

As the free-for-all trophy had been won twice by Inman's cars, it goes without saying that the crowd was interested to see if he would gain permanent possession of it. John Toole was the first up, in his Knox, and made a very creditable showing in 50 $\frac{3}{4}$  seconds, the fastest time that so far had been made. Almand then steered a Pope-Hartford in 1:03 $\frac{1}{2}$ , and was followed by Stoddard in his National, which had been divested of its body. His time was announced as 55 $\frac{3}{4}$  seconds, and there remained only the Inman Simplex, which Almand had been elected to drive. As soon as he got the word Almand was off with a rush and a roar and a whirl of dust. It seemed less than a minute before the word came to the watchers at the bottom of the hill that Almand had won the trophy, his time being 47 $\frac{3}{4}$  seconds, which was exactly two seconds slower than the record for the course, made last year by Lambert in a White car. The summaries follow:

#### Cars Costing \$800 and Under.

- 1 C. F. Wolf, Krit ..... 1:25
- 2 K. T. McKinstry, Hupmobile ..... 1:31
- 3 D. R. Miller, Metz ..... 3:43

#### Cars Costing \$801 to \$1,200.

- 1 L. E. Fain, Buick ..... 1:07
- 2 J. E. Darby, Warren-Detroit ..... 1:15 $\frac{3}{4}$
- 3 M. V. Venable, Ford ..... 1:19
- 4 R. C. Howard, Mitchell ..... 1:25 $\frac{3}{4}$
- 5 George F. Hardy, Cameron ..... 1:31
- 6 J. B. Wall, Cameron ..... 2:16

#### Cars Costing \$1,201 to \$1,600.

- 1 Charles E. Jones, White Star ..... 1:15 $\frac{3}{4}$
- 2 P. O. Parmalee, Buick ..... 1:18 $\frac{3}{4}$
- 3 Percy C. Schultz, Parry ..... 1:28 $\frac{3}{4}$
- H. L. Cohen, E-M-F ..... 1:15\*

#### Cars Costing \$1,600 to \$2,000.

- 1 William Oldknow, Buick ..... 0:57 $\frac{3}{4}$
- 2 L. E. Fain, Buick ..... 1:02
- 3 P. O. Parmalee, Buick ..... 1:03 $\frac{3}{4}$
- 4 R. T. Peckham, Pullman ..... 1:13
- 5 T. B. Dial, Buick ..... 1:15
- 6 A. R. Brown, Inter-State ..... 1:15 $\frac{3}{4}$

#### Cars Costing \$2,001 to \$3,000.

- 1 W. J. Stoddard, National ..... 0:58
- 2 L. W. La Blanche, Knox ..... 1:07 $\frac{3}{4}$
- 3 Walter T. Candler, Marmon ..... 1:09 $\frac{3}{4}$
- 4 A. W. Kirk, Pope-Hartford ..... 1:13
- 5 R. G. Young, Selden ..... 1:20 $\frac{3}{4}$

#### Cars Costing \$4,000 and Over.

- 1 C. C. Rooney, Packard ..... 1:04 $\frac{3}{4}$
- 2 Walter L. Dunn, Stearns ..... 1:05 $\frac{3}{4}$

#### Free-For-All.

- 1 A. R. Almand, Simplex ..... 0:47 $\frac{3}{4}$
- 2 John F. Toole, Knox ..... 0:50 $\frac{3}{4}$
- 3 W. J. Stoddard, National ..... 0:55 $\frac{3}{4}$
- 4 A. R. Almand, Pope-Hartford ..... 1:03 $\frac{3}{4}$

\* Disqualified.

#### Altadena Hill Climb Again Postponed.

There is a possibility that the headliner on the Southern California motor calendar, the annual Pasadena-Altadena hill climb, will go by the boards this year at least, for it has been postponed again, this time until some time in April, not yet definitely fixed. It was last set for the 19th inst., and before that for February 22d.

## "CORSET CUP" REMAINS UNWON

### Rain Falls in Florida and Prevents the Race for It—Concluding Events of the "Sandfest."

Rain marred the final day of the three days beach carnival at Daytona, Fla., on Thursday, 24th, and in addition to precluding the breaking of any records on account of the unfit condition of the beach, also necessitated the calling off of the star number on the card—the 100 miles race for the \$5,000 "Corset Cup" offered by the makers of the W. B. straitjacket—after the distance previously had been cut from 300 miles. Barney Oldfield and his Benz were the star performers on the final day, and although he did not slice any more records, he came pretty close to it.

Before the rain fell, which caused a postponement of the races for over an hour, Oldfield spun a mile in 27.88, as against his record of 27.33 made the previous week. Considering the unfavorable conditions this time was remarkable, and was unapproached by any of the other drivers.

As usual, the Christie freak misbehaved and George Robertson gave up after two unsuccessful attempts to get results. Then Christie himself took a try, and with a couple of hundred pounds of ice serving as a cooling medium instead of the conventional radiator, which was removed because it failed to function properly, the inventor managed to register a mile in 33.15. Ben Kirscher, with an old Vanderbilt Darracq, was timed for a mile in 37.24.

There were three other numbers on the card for the last day, and all proved interesting to the 12,000 spectators who were present, although they were much disappointed at the failure to see records broken and the shortening of the program. M. B. Aultman, in a Hudson, captured the ten miles handicap from the limit mark (5:10), in 12:45.98. Oldfield, Knox (0:30), was second, and Kirscher, Darracq (scratch), third. Another similar event at the same distance went to Kirscher, who drove from scratch in 7:21:00. Oldfield with the Knox was the runner up from the (0:30) mark, and R. M. Bond, Stearns (1:25) came in third. In a ten miles match between Aultman, Hudson, and Peter Hart, Buick, the latter won. Time, 12:58. The world's records made by Oldfield and his Benz which was shod with American tires—Firestone—have been accepted by the A. A. A. and are as follows: 1 mile, flying start, 0:27.33; 1 mile, standing start, 0:40.53; 1 kilometer, flying start, 0:17.94; 2 miles flying start, 0:55.87.

#### The summaries:

One mile against time, flying start—Won by Oldfield, Benz, 0:27.88; Christie, Christie, 0:33.15; Kirscher, Darracq, 0:37.24.

Ten miles handicap, free-for-all—Won by M. B. Aultman, Hudson (5:10); second,

Oldfield, Knox (0:30); third, Kirscher, Darracq (scratch). Time, 12:45.98. W. E. Davis, Chalmers (3:30), and R. M. Bond, Stearns (1:25), also ran.

Ten miles handicap, free-for-all—Won by Kirscher, Darracq (scratch); second, Oldfield, Knox (0:30); third, R. M. Bond, Stearns (1:25). Time, 7:21. W. E. Davis, Chalmers (3:30), and M. B. Aultman, Hudson (5:10), also started.

Ten miles match between M. B. Aultman, Hudson, and Peter Hart, Buick—Won by Hart. Time, 12:58.

#### The Morgan Association Stirs Himself.

The Motor Contest Association whose other name is W. J. Morgan, has shaken off his winter lethargy and is preparing to run a pruning knife over the new A. A. A. contest rules for weak spots through the medium of a two days reliability contest from New York to Atlantic City and return on May 10 and 11. It will replace the unmentioned three days circumnavigation of New Jersey which another one-man organization fathered last year, but does not by any means represent the extent of his activities for the coming season, for he also has "in the works" a three days tour around Long Island, and a second staging of another of his loves, the Riverhead road race, notwithstanding the fact that its initial running last year did not leave the Motor Contest Association funds enough to buy gasoline to return from the course.

#### A. A. A. Establishes Championships.

Although there are official championship races in every other form of sport, they have until now been lacking in the automobile field. The deficiency will be supplied, however, the Contest Board of the American Automobile Association having announced that it will hold a national championship meeting at the Indianapolis Motor Speedway, May 30th, following a circuit meet to be held on that track May 27 and 28. The championships will consist of about 15 events for all classes of stock cars, each class competing at both the 5 and 10 miles distances. The prizes will be gold, silver and bronze medals for the first three finishers in each event. The meeting will be under the direction of the Contest Board, to whom entries must be made.

#### Chicago Club's New Gasolene System.

In the hope of making its garage a paying proposition, the Chicago Automobile Club has instructed its garage men to fill the gasolene tank of each car every time it comes in, whether or not any fuel is needed. By this compulsory stimulation of the sale of "gas" the club hopes to convert the annual deficit in the maintenance of the establishment into a profitable venture. The Chicago organization borrowed the idea from the Automobile Club of America, which is said to derive an annual revenue of \$20,000 from the fill-'em-up policy, which is said to have originated there.



**SHOW TRIO WIDELY SEPARATED**

**Pittsburg, Montreal and Spokane Stage Impressive Displays—Wide Range of Cars Placed on View.**

Three more cities had their annual automobile shows last week, including Pittsburg, Pa., Montreal, Can., and Spokane, Wash., the Smoky City staging the largest and most attractive display in Duquesne Garden. The Canadian exhibition was a mixed affair, consisting of automobiles, motorboats, aeroplanes and sportsmen's paraphernalia, and was held in the Coliseum. In far-off Spokane the local dealers held their first show in the Princess Rink and made a very good display.

At dusk on Saturday, 26th, the turnstiles of Duquesne Garden were unlocked and the lights turned on, and with these simple ceremonies the fourth annual automobile show of the Pittsburg Automobile Dealers' Association was inaugurated for its usual term of a week. In size and character of exhibits, in brilliancy and splendor, and in attendance this year's effort eclipsed all of its predecessors.

Assembled in the largest building of which the steel town boasts were over 200 cars representing the products of 65 makers, while 100 accessory firms displayed their wares. Shown for the first time was the Lange truck, made by the Lange Wagon Co., of Pittsburg, while the Pittsburg Six, which also is a native product, although not a new one, made its first appearance this year on the show circuit. In the accessory division the large number of Pittsburg firms who produce sundries of one sort or another was quite noticeable.

There was no economy or rehashing of decorations this year, and the scenic fixings all were fresh and new. Suspended from the centre of the ceiling were long streamers of canary and yellow bunting which trailed to the side walls. These also were similarly attired, and yellow pennants floated from the hoods of the cars. With the exception of the green carpet, everything else in the setting was saffron hued. Hanging from the ceiling were long yellow ropes, from the ends of which dangled potted plants, and each exhibit exuded the fragrant odor of cut flowers. The open windows admitted a gentle breeze which distributed the perfume throughout the building, and caused the hanging plants to sway gently to and fro. Lighting was on an equally gorgeous scale as the decorations, and so numerous and brilliant were the gleaming globes that every semblance of shadow was dispelled by the flood of illumination. Five huge electric domes hung from the roof, and 200 small bronze and art glass domes, filled with miniature lamps, were apportioned among the exhibitors.

On the opening night 5,000 people wended

their way to the garden, and the total attendance indicated a daily repetition of the figures on the first day. Following the fashion of the season in show novelties, a Curtiss aeroplane was provided and dangled from the ceiling, where it received its share of attention. Replacing the string band of last year was the Empire Women's orchestra of 53 pieces, of Boston, and which did similar service at the Hub exhibition.

Following are the exhibitors:

Gasolene cars—Forbes Motor Car Co., Krit and Abbott-Detroit; Anderson Auto Co., Atlas; Urling & Co., Autocar and Corbin; Buhl & McCulla, Brush; Buick Motor Co., Buick; Pioneer Motor Car Co., Chalmers, Hudson, Locomobile; Maxwell-Briscoe Co., Columbia and Maxwell; Keystone Auto Co., Courier, Marmon, Rapid, Overland and Stoddard-Dayton; F. W. Fisher, Croxton-Keeton; A. G. Wilkinsburg Co., Elmore; Pittsburg Auto Co., E-M-F., Flanders, Thomas; Ford Motor Co., Ford; Franklin Auto Co., Franklin; Liberty Auto Co., Hupmobile and Regal; Inter-State Sales Agency, Inter-State; Arlington Motor Car Co., Jackson; Kline Kar Motor Co., Klinekar; Hiland Auto Co., Knox, Peerless; Pittsburg-Mitchell Co., Mitchell; Harvey Motor Car Co., Enger; Larimer & Lowry, Auburn; Pittsburg Speedway Motor Co., National; Vestal Motor Car Co., Otto and Stevens-Duryea; W. C. De Forest & Son, Parry; East End Auto Co., Paterson and Pope-Hartford; Standard Auto Co., Packard; McCurdy-May Co., Pierce-Arrow; Pittsburg Motor Car Co., Pittsburg Six; Premier Sales Co., Ltd., Premier and Reo; Pullman Motor Car Co., Pullman; Martin & Mars, Rambler; McAllister Bros. Motor Car Co., Cadillac; H. Lange Wagon Co., Lange trucks; Sebring Motor Car Co., Sebring; Speedwell Motor Co., Speedwell; Mutual Motor Car Co., Stearns; Studebaker Auto Co., Studebaker; The White Co., White; Whiting Sales Agency, Whiting; Winton Motor Carriage Co., Winton.

Electric vehicles—A. G. Wilkinsburg Co., Baker; Mutual Motor Car Co., Rauch & Lang; Studebaker Auto Co., Studebaker; East End Auto Co., Waverley; Hiland Auto Co., Woods; Keystone Automobile Co., Columbus.

Steam cars—The White Co., White.

Accessories—Petroleum Products Co., Wishart & McGowan, Pittsburg Rubber Co., James L. Gibney & Bro., Pittsburg Reinforced Brazing & Machine Co., E. J. Thompson Co., Automobile Accessories Co., Knapp-Greenwood Co., Pittsburg Auto Equipment Co., Cowell Rubber Co., L. Glesenkamp Sons & Co.

Preceded by a parade of decorated cars in which over 200 machines participated, the first automobile show ever held in Spokane, Wash., was opened in Princess Rink on Monday, 21st, under the auspices of the local dealers. Mayor Pratt made the inaugural speech and presented the silver cup offered by the Chauffeurs' Club for the best decorated machine in the parade, to William

Snow. Twenty-seven makes of car were shown, among them being one foreign product—a Renault. Devoid of any garishness or spectacular effect, the decorations were quiet and tasteful. At the entrance to the hall was an arch of American flags supported by palms, while the pillars and ceiling also were draped in the national colors. Along one side of the building was a row of boxes surrounded by white and gold pillars supporting palms connected by gilded chains. The floor was covered with green burlap and potted plants were scattered about in profusion. The attendance was very good throughout the week, and it is certain that Spokane has not held its last automobile show.

The exhibitors were the following:

Gasolene cars—Dulmage-Rose Co., Studebaker, E-M-F. and Flanders; Elmore Motor Car Co., Elmore; Ford Motor Car Co., Ford; Jackson Motor Car Co., Jackson; Metropolitan Motor Car Co., Acme, Premier, Pullman and Lozier; Northwest Auto Supply Co., Pierce-Arrow, Buick, Knox and Franklin; Nute & Keena, Packard; Overland Automobile Co., Overland and Marion; Pytcher-Tyler Co., Hupmobile, Rapid and White; J. P. Schoenberger, Palmer-Singer; Standard Motor Car Co., American, Reo, Stoddard-Dayton and Renault; Columbia Garage Co., Winton.

Steam cars—Pytcher-Tyler Co., White.

Electric vehicles—Northwest Auto Supply Co., Detroit.

Motorcycles—McDonald Supply Co., Excelsior and Thor; Spokane Cycle & Supply Co., Indian; James F. Stack, Harley-Davidson and R-S.

Transplanting the custom followed at American motor exhibitions, the fourth annual Motor and Sportsmen's Show at Montreal, Can., was opened on Saturday, 26th, by Mayor Guerin amid the tooting of horns and screeching of sirens. Held under the patronage of the Montreal Auto and Aero Club, the exhibition is the most elaborate of its kind ever held in the Canadian city, and over 100 cars, most of them of American descent, share honors with motorboats, aeroplanes, and other auxiliaries of outdoor sport.

There are on exhibition cars of 45 different makes, the product of the leading factories of the United States, Canada, England and France. Conspicuous among them is the Russell car, made in Canada and using the Silent Knight engine. Practically every accessory firm in the province is represented, and one stand, which receives a surfeit of attention, is the Michelin booth, by reason of the hilarious antics of one of the Bibendum twins.

Decorated with flags, flowers, bunting and electric effects, the interior of the immense rink presents a brilliant appearance, while the air of coziness is further enhanced by the temporary ceiling of soft white texture and the great green carpet on the floor. Along the aisles are pillars of staff connected with streamers. On the

opening night 2,000 people were on hand and indications are that these figures will constitute a daily average throughout the duration of the show, which will end this week.

The car and accessory exhibitors are the following:

Gasolene cars—Packard Motor Car Co., Packard; Lozier Motor Co., Lozier; Rapid Motor Vehicle Co., Rapid; Olds Motor Works, Oldsmobile; Maxwell-Briscoe Co., Maxwell; McLaughlin-Buick Co., Buick; Welch and Reliance; E-M-F. Co., E-M-F. and Flanders; Mitchell Motor Car Co., Mitchell; Hudson Motor Car Co., Hudson; H. H. Franklin Mfg. Co., Franklin; Knox Automobile Co., Knox; Charron Automobile Co., C. G. V.; Renault Mfg. Co., Renault; Chalmers Motor Co., Chalmers; E. R. Thomas Motor Co., Thomas; Cadillac Motor Car Co., Cadillac; Peerless Motor Car Co., Peerless; Stevens-Duryea Co., Stevens-Duryea; Canada Cycle & Motor Co., Russell; Girdwood-Stockwell Co., Ford; Reo Motor Car Co., Reo; Simplex Co., National Auto Co., Canadian Automobile Co., Metz Co., Metz; Chase Motor Truck Co., Chase.

Accessories—Hoyt Electrical Instrument Co., Ernest Flentje, John Forman, Canadian Rubber Co., Dunlop Tire Co., John Millen & Sons, Ltd., Goodyear Tire Co., Comet Motor Co., S. F. Bowser Co., Dominion Tire & Rubber Co., McCord Mfg. Co., Rubber Tire Wheel Co., Gutta Percha Mfg. Co., Michelin Tire Co., Franco-American Auto Co.

#### France Evolves a New Dustless Pavement.

Ferro-cement roads are being experimented with in France. The substance is made of cement mixed with iron straw. To make a slab or block of ferro-cement a mass of iron shavings is placed in the mould and there is poured over it a cement sufficiently liquid to penetrate into all the interstices of the iron and completely cover it. When the whole has set the core of iron thus intimately connected gives to the block a great resistance to breakage and to traction, at the same time furnishing elasticity to compression, which enables it to stand superficial shocks. A brick of ferro-cement one and three fifths inches thick, has supported during crushing tests a pressure of about sixty-five tons to the square inch. In breakage tests the resistance was quadruple that of ordinary cement. Resistance to wear was no less remarkable and of course, the pavement is dustless.

#### Fast Touring Car for Salvage Corps.

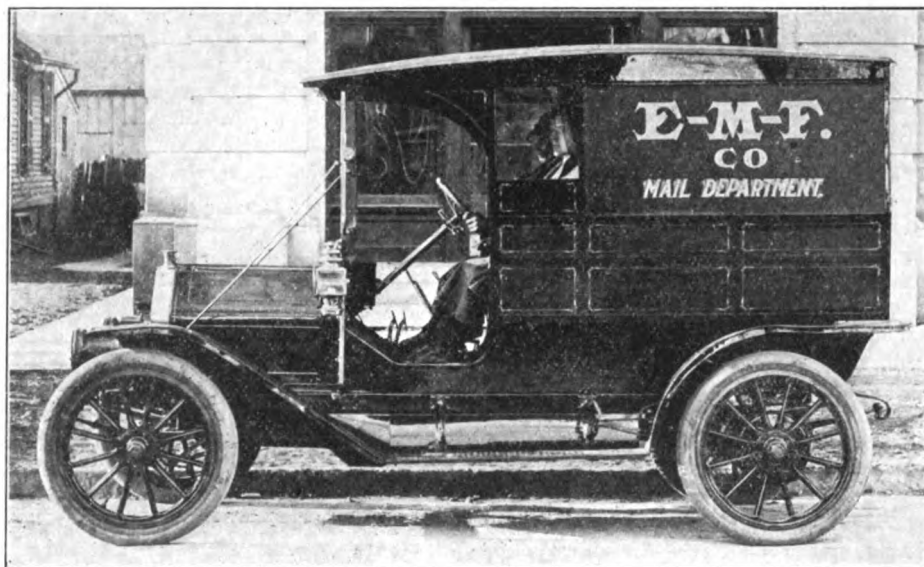
Saving as much as possible goods and merchandise in burning buildings from damage by water is to be the chief duty of the newly organized Salvage Corps, of Indianapolis, Ind. The most important part of its equipment is a fast touring car to carry tarpaulins and two members of the corps to the danger spots where their services are needed.

#### Big E-M-F. Mail Requires Private Car.

The E-M-F. Co., of Detroit, Mich., has produced its first commercial vehicle. It was not built for sale, however, but for the company's own use, and necessity was the prime mover in the case. It seems that the enormous amount of mail matter delivered at the Detroit post office for the E-M-F. Co., aggregating 143,000 pieces of first class mail during the month of February, demanded some kind of an arrangement by which such mail matter could be transferred safely and expeditiously to and from the E-M-F. general offices, the several large touring cars which were employed at times,

gine is in greater demand than ever before. Its adaptability to most conditions and its usual reliability commend it. Another feature of this year's trade is the fully equipped car. A couple of years ago the purchaser of an automobile paid the price for it and then brought the equipment extra. Now the machines are sold fully equipped with lamps, horns, etc.

"About 60 per cent. of the machines owned in Winnipeg have operated through the entire winter. This is even true of the water cooled cars. This is the first year that the automobile has been an active industry for the entire twelve months. The



PRIVATE MAIL CAR IN E-M-F. SERVICE

proving merely half-way measures, the need of a special vehicle becoming evident as soon as the spring "rush" started. Accordingly, a special wagon was built by the E-M-F. Co., upon one of its regular chassis, and now an hourly mail service is maintained between the post office and the four E-M-F. plants in Detroit. The special body of the wagon, which is shown by the accompanying illustration, is painted in the familiar colors of the regular U. S. mail wagons and vans.

#### Market Growing in Western Canada.

The great advance made by the automobile in Western Canada, recently discussed in the Motor World, is still further indicated by a report of Vice-Consul-General James J. McBride, of Winnipeg, who states that, in his opinion, the year 1910 will prove a banner year for high grade machines in his part of the country. Orders for 925 machines, valued at \$1,640,000, are reported to be in hand for delivery before June, and the dealers are in doubt as to their ability to supply the demand.

"The Western Canadian market wants a good grade of machine," says the consul. "While the average price of cars will be about \$2,000, there is a good demand for the \$3,000 machine. The four-cylinder en-

gine is in greater demand than ever before. Its adaptability to most conditions and its usual reliability commend it. Another feature of this year's trade is the fully equipped car. A couple of years ago the purchaser of an automobile paid the price for it and then brought the equipment extra. Now the machines are sold fully equipped with lamps, horns, etc.

"Not only in Winnipeg is the outlook promising. Throughout the entire west orders for automobiles are reported in far greater numbers than ever before. The farmers are using gasolene farming machinery, and are beginning to realize the value of the automobile. Last year the automobile business amounted to about \$1,000,000, while the present estimates are that about double that amount will be invested in machines this year."

#### Small Cars Gain Ground in Germany.

Statistics just issued by the German government in reference to the total quantity of motor vehicles in the Empire, place the number of automobiles at 24,639, divided as follows:

		Increase since Jan. 1, 1909.
Less than 8 h.p.....	12,595	33.5%
From 8 to 16 h.p.....	7,341	34.9%
From 17 to 40 h.p.....	4,605	28.1%
Over 40 h.p.....	98	27.3%
	24,639	30.9%
Motorcycles .....	22,283	6.5%
Total motor vehicles.	46,922	19.7%

## TWO MID-SEASON MODELS APPEAR

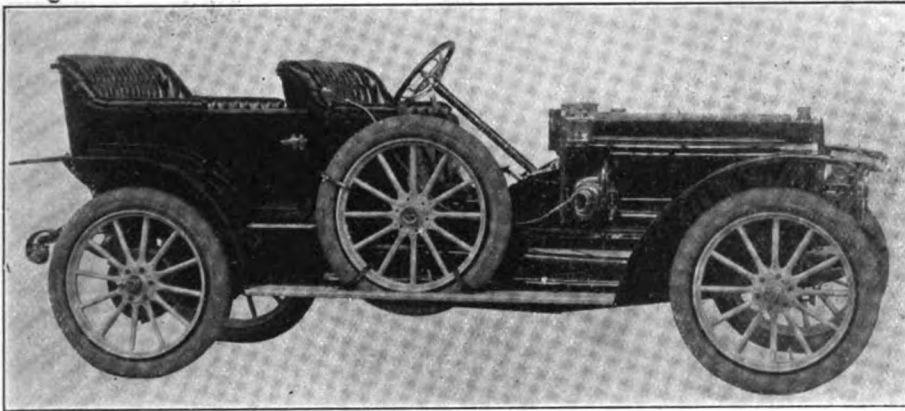
**Jeffery & Co. Bring Out Smart Additions to the Rambler Line—Features of the Newcomers.**

All Rambler cars of present vintage being known as "New Ramblers," it becomes somewhat difficult to express briefly in words the idea that a hitherto unfamiliar augmentation to the line recently has occurred and that there are both New Ramblers and new New Ramblers. Such is the burden of an announcement which just has been made by Thomas B. Jeffery & Co., of Kenosha, Wis., however, whose decision to

member of the roadster class, possessing such conventional peculiarities as oval gasoline tank mounted behind the seat, tilted seat, together with a pronounced rake on the steering column and a trunk equipment in addition to the standard accessory fittings. The chassis, for both models, is that of 34 horsepower, which was brought out in time to be exhibited during the entire show season. It has 109-inch wheel base and tires 36 by 3½ inches.

### Motor Cars for "Wireless" Service.

The French Signal Corps recently has conducted exhaustive experiments with an automobile wireless outfit, and with marked success. The general outward appearance of the car with which the French soldiers

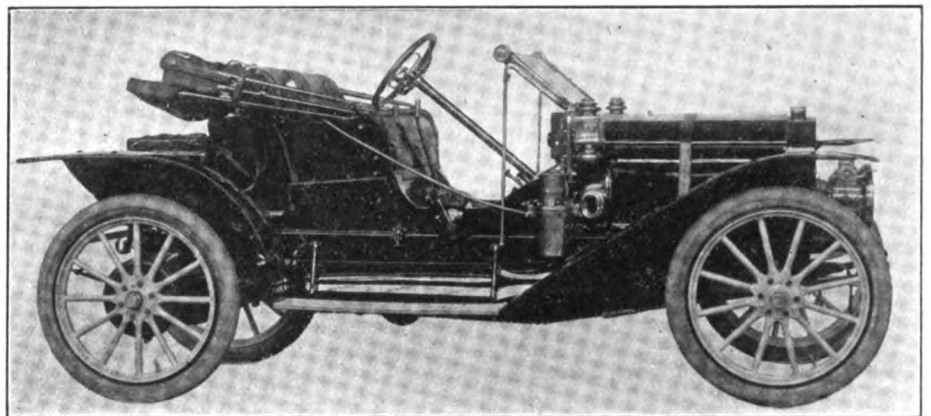


SMALL TONNEAU RAMBLER "MID-SEASON" MODEL

concentrate upon a single chassis model this year was signalized by the appearance of the first New Rambler car. The newcomers are known as models "Fifty-three" and "Fifty-four," and are in small tonneau and roadster form, respectively. Needless to add, the element of novelty in both machines is found above the chassis line; the running gear now is a thoroughly standardized feature common to all members of the line.

The "Fifty-four" is termed a "mid-season" model. It also is a sort of mid-sized model; for it forms a connecting link between the close-coupled and full tonneau types. Its lines suggest the close coupled car in some degree, but is a little more roomy than the ordinary car of this denomination, and therefore, probably, considerably more acceptable to certain classes of users. The advantages claimed for this model are: low seats, which are 2 inches wider than usual, measured from front to back; seat cushions tilted and seat backs raked to correspond; body smaller and lighter than that employed on the standard touring car; 3 inches increase in leg room for the driver and his companion, and a tonneau roomy enough to accommodate three passengers comfortably. The car is sold completely equipped, with lamps, Prest-O-Lite tank, generator, magneto, storage battery, horn and tools.

The model "Fifty-three" is a nobby little



NEW RAMBLER ROADSTER WITH VISIBLE TANK

worked, resembled an ordinary limousine. The mast, its base, the winch by which it is raised, all are carried on the roof and covered with tarpaulins. All sections of the body are movable to permit of rapid ingress or egress, and an easy operation of the necessary parts of the wireless outfit. The apparatus is said to have worked satisfactorily over fifteen miles. So far the French army is the only one to possess an outfit of this kind, but it is likely that before long the Signal Corps of the United States Army will have a similar apparatus. Germany and Italy already have given orders for such vehicles, and it is thought the other nations will follow soon.

## RELIEVING THE RUBBER SITUATION

**Relief not Immediately in Sight, but None the Less Certain—Expert Discusses the Conditions.**

That the present record breaking prices for crude rubber and the prices which promise to prevail during the next few months will bring about an automatic relief of the rubber situation in the future, is the prediction of an expert who is intimately in touch with the rubber situation and whose views are authoritative. The stimulation to production which the high prices will induce, he declares, will result in a radical lowering of the price within the next year or two and in five or six years will make rubber positively cheap, when compared with the figures that now prevail.

Although not venturing any opinion as to what heights rubber may attain during the coming summer, he foresees a subsequent reduction within two years which probably will bring the fine, upriver Para grade to something like \$1.65 or \$1.70 per pound, while the succeeding four or five years, in his opinion, should further reduce the price to something like \$1 per pound.

Many influences are working toward the reduction of rubber prices, he says, and in combination they will exert an effect which

will serve to greatly increase the supply and lower the cost of the crude material. In Brazil itself, where the Para rubber comes from, two new railroads are being extended to points where they penetrate the rubber district, and they will afford a means of solving in a large measure the difficult transportation problems which heretofore had restricted the shipments to the outside world. There are hundreds of thousands of acres of rubber trees in the Para district which as yet are untouched because of their inaccessibility, but this latter condition is being overcome not only by railway extension, but by other means as well.

Low water in the upper part of the Ama-

## THE MOTOR WORLD

zon river long has presented a troublesome obstacle to navigation by the steamers which have been depended upon to convey the crude rubber down to the seaboard, but light draft motor boats now are being introduced with great success. These are able to make their way far beyond the range available to the steamers and their return trips down to the seacoast shipping points can be made without interruption despite low water conditions which paralyze steam navigation in the upper river.

As a rival to the finest Para rubber there is the rapidly increasing output of plantation rubber, the best grades of which are almost identical in character with the Para product. Ceylon is to the forefront in the marketing of this rubber, being one of the

### MARMON BUILT FOR SPEED WORK

**Indianapolis Manufacturers Produce a Wind-splitting Model—Skin Friction Also Considered in the Design.**

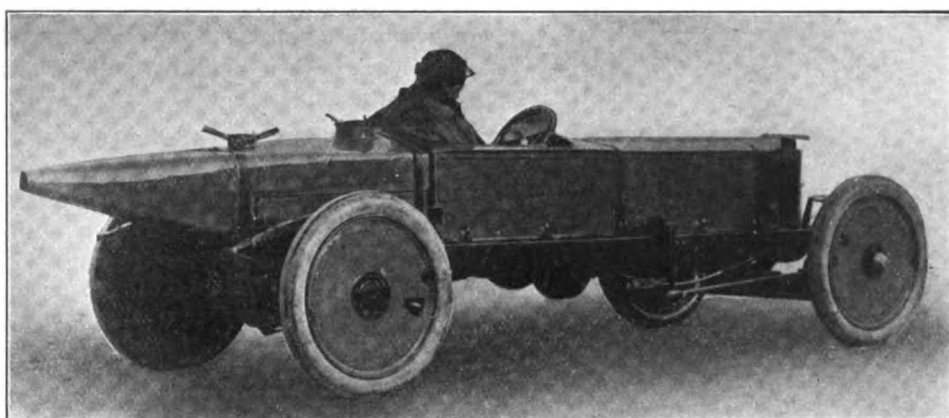
Under the new racing rules of the American Automobile Association, manufacturers who desire to depart from the limitations imposed by the revised stock car definition are given opportunity to enter a special class which has been established on a piston displacement basis, but otherwise free from restrictions. The first of the makers to construct a car especially for racing purposes since the new rules went into effect is the

will travel no less than 40 miles an hour faster than the regular stock car of the same power but carrying the conventional body.

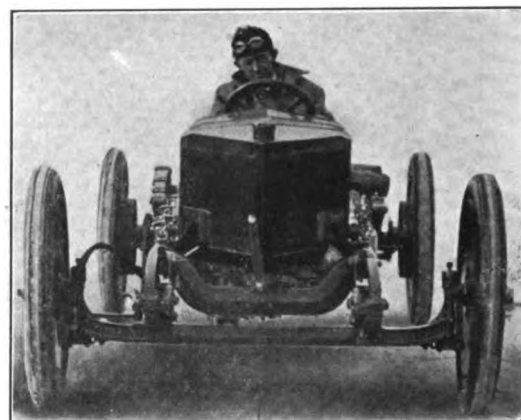
As already intimated, the general construction of the power plant is not radically different from that of the Marmon stock product. One noticeable departure, however, is found in the wheels, which are of the disc type, and therefore supposed to exert less disturbance in the air than the spoked type such as are more commonly used.

#### Denmark a Promising Market.

Little has been heard heretofore about the activities of American automobile manufacturers in Denmark, but from a report by



NEW MARMON SPECIAL RACER, SHOWING DISC WHEELS



FRONT VIEW OF RACER

first districts to take up artificial cultivation of rubber on a big scale, and its offerings now constitute an important and increasingly large element in the market. Immense plantations are in cultivation and are being started in nearly all countries where conditions are suitable, and these will help swell the volume of raw rubber that will be put on the market in the future in competition with that from Para.

These factors will have their effect in restoring normal conditions.

#### Hand Pumps that Prove Useful.

Commercial vehicle operators whose machines are equipped with high placed and semi-accessible radiator filler openings should provide themselves with small hand force pumps of the sort which are marketed in the country for carriage washing purposes. Their use will permit the radiator to be filled readily when a hose is not at hand, and will prove valuable in reducing roadside delays.

#### Care Necessary in Using Anti-Carbon.

When using any of the carbon removing compounds which are marketed for use inside the cylinders, care should be taken to see that none of the liquid is spilled on painted or varnished surfaces. Its effectiveness in removing such surfacing materials is marvelously effective and almost instantaneous.

Nordyke & Marmon Co., of Indianapolis, which has just completed a weird-looking vehicle which, owing to its peculiar abdominal formation, has been dubbed the "Wasp."

By the terms of the new rules, Class "C" is open to "any gasoline car or chassis made by a factory which has during the twelve months prior to the date of contest produced at least 50 motor cars (not necessarily of the same model)." Eligibility is further governed by piston displacement limitations, which are the same as those for stock chassis entered under the limited weight clause. The new Marmon racer is designed to be entered in Class "5," which calls for piston displacements of between 451 and 600 cubic inches. The engine is of six-cylinder construction and the machine complete weighs close to 2,200 pounds.

In accordance with the ideas of Howard C. Marmon, its designer, the bodywork has been laid out with special reference to the reduction of windage to the lowest possible minimum. The wedge-shaped prow and long, pointed stern are clearly shown in the accompanying pictures, which also reveal the smooth and unbroken surface which is carried out at the sides in order to decrease the skin friction—which small factor it was thought might exert a sensible retarding influence on the progress of the car. In this connection Mr. Marmon is quoted as expressing the belief that the new car

Consul-General Wallace C. Bond, of Copenhagen, it appears that not only are American motor cars very much in evidence there but that they are gaining in popularity. There is but one automobile factory in Denmark, and this produces only delivery cars. All pleasure vehicles are imported from the United States, England and Germany, and the American prices are such that they are proving strong competitors of the other countries.

"The low priced car is likely to prove the best seller here," says the consul in his report, "as the average income in Denmark, especially among the middle class, is much lower than in the United States. A limited market could doubtless be found for some high class cars of 50 to 80 horsepower, with more or less luxurious equipment. Motor cars for delivery purposes are gradually replacing the horse-drawn wagon, and the demand will increase for some time. The manufacturer with the right price will undoubtedly do a profitable business here."

#### Why Battery Wiring Requires Attention.

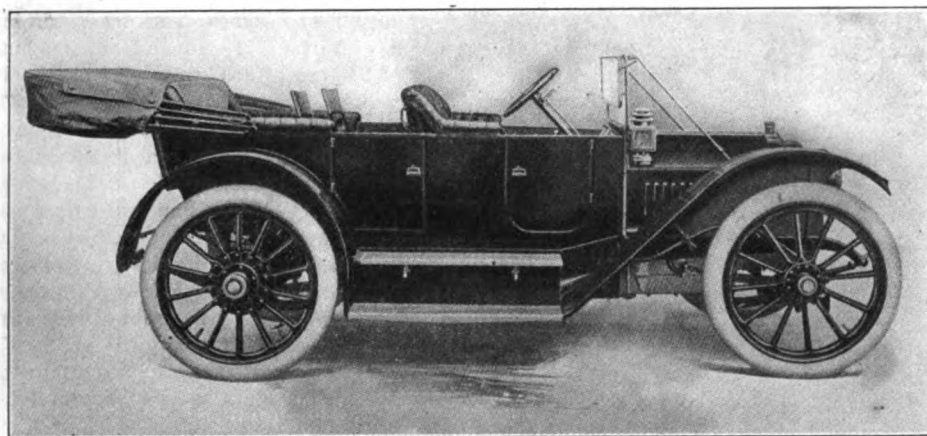
Where batteries are used only at rare intervals and mainly for starting the motor, it is well to go over the primary wiring occasionally to make sure that there is no leakage of current. Otherwise, the supply may be found inadequate just when it is most required for emergency purposes.



**EMBODIES ADVANCED CONSTRUCTION**

**Owen Car Discloses a Radical Product of Improved Practice—Center Control and Long Stroke Motor.**

Few of the new productions which are flooding the market in such overwhelming quantities at the present time, can lay claim to more novel and advanced features than the Owen, which is an essentially high grade machine, as well as a promising one. Among its unusual features may be noted the use of large wheels, a long stroke motor, left hand driving position with right hand lever control, low center of gravity,



OWEN 50 HORSEPOWER TOURING CAR WITH LEFT HAND CONTROL

closed front, straight line—otherwise torpedo—body, and a most complete touring equipment. The method of arranging the controlling devices in particular is of interest. The gear shifting lever is mounted on the gear case by a ball and socket device, and is placed far enough forward on the foot board to permit the driver to pass across the car if necessary, without inconvenience. The braking equipment is entirely operated by pedal means. The emergency equipment, which acts through a beam equalizer on bands expanding into drums on the rear wheels, is held by a ratchet device, which is actuated by means of a rocking toe pad. The service brakes, which also are applied to the rear wheels, are actuated by the clutch pedal, when it is pushed to the limit of its travel.

The motor has the unusual cylinder dimensions of  $4\frac{3}{4}$  inches bore and 6 inches stroke. By the A. L. A. M. formula, this would yield a rating of only  $30\frac{5}{8}$  horsepower. The maker's rating for the motor, however, is 50 horsepower, which is readily accounted for by the great relative length of stroke. The cylinders are cast in pairs in "L" form, with the valves mounted on the right hand side. This provides ample space on the left for the steering gear, which is placed well forward in order to allow a good and sufficient rake to the steering column.

The magneto is the only independent auxiliary which is carried on the left side of the motor. The centrifugal water pump, which also is on that side of the machine, is housed within the gear casing in front. All engine gears are spiral cut, and the valve actuating mechanism employs roller lifts. Self-contained constant level engine lubrication, Bosch dual ignition with separate switches controlling the individual plugs, long, four-bolt connecting rods, long pistons and "mechanically expanded" white brass bearings, are other features of merit about the engine.

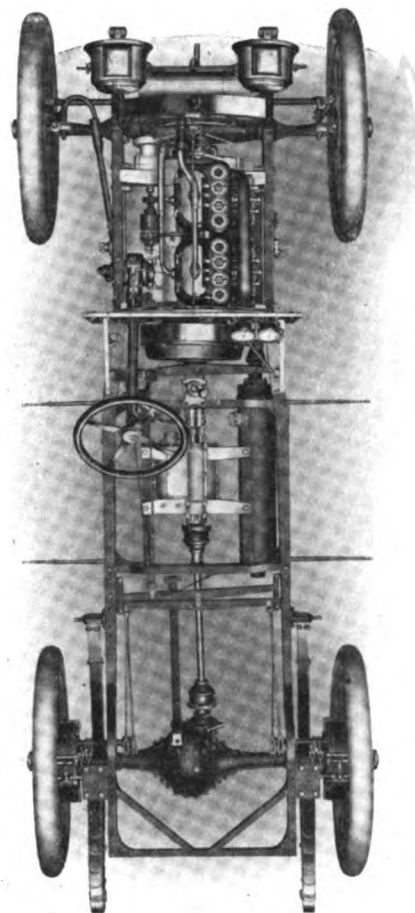
The master clutch is of the leather-faced cone type; the change gear, of the three-speed selective pattern. Owing to the extraordinary proportions of the motor un-

usually high torque is developed at low speeds, so that the power plant is especially well fitted for continuous running on high gear. With the rear axle driving ratio of  $3\frac{1}{2}$  to 1, the engine has been developed to yield its maximum torque pull throughout the range of average touring speeds. Final drive is through a double jointed cardan shaft, the rear axle equipment being of the full floating type.

Owing to the method of hanging the springs and also to the type selected, unusually comfortable riding qualities are claimed for the car. The front springs are of semi-elliptical pattern. Three-quarter elliptic springs are used in the rear, but for the sake of obtaining the low center of gravity which is one of the noticeable qualities of the chassis, the lower members are hung on the under sides of the axles. The wheels are shod with 42 inch tires of 4 inch diameter. The wheel base is 120 inches, and the tread is standard, of 56 inches. One unusual and rather pleasing feature of the chassis design, which also lends not a little distinction to it is the method of mounting the acetylene gas tank. Instead of being carried on the running board as is the general custom, the tank is mounted transversely in front of the radiator. The frame side members are tied together in front by means of a stout tubular member, which also furnishes a handy support for

the searchlight brackets, which are reinforced by a second tie rod which points them at their upper ends. To the lower cross member the gas tank is secured by means of heavy metal straps.

The stock equipment of the car, which is made by the Owen Motor Car Co., Detroit, is complete to the last detail. It includes among the more regular equipment features, a top and slip cover, wind shield, speedometer, clock, gasoline gauge, electric horn, combination electric and gas head-



NEW OWEN CHASSIS

lights and combination electric and oil side lamps, tire chains, and trunk rack, in fact, practically everything but the gasoline itself.

#### "Semelle" as Relating to Tires.

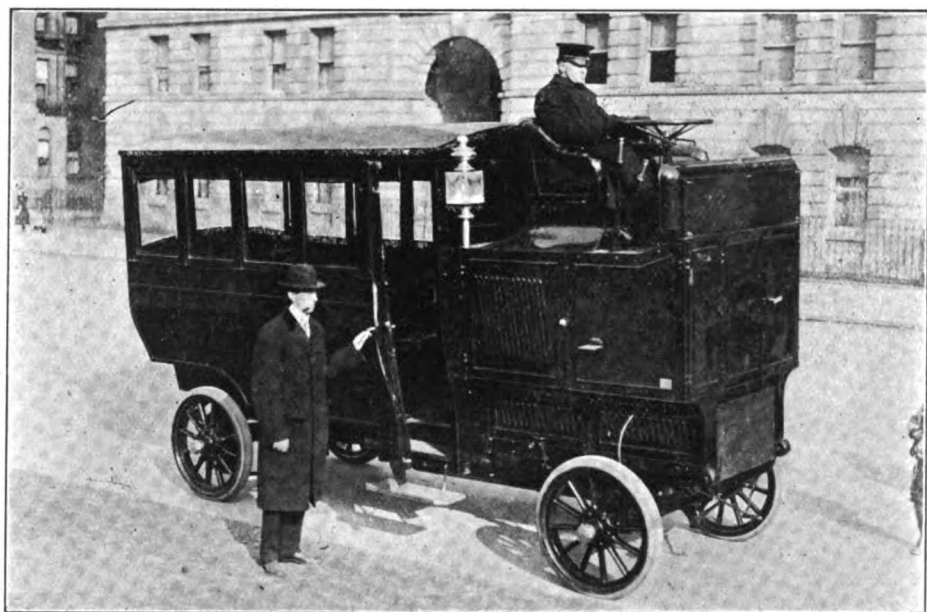
As the result of a lawsuit which for more than a year has been in progress between Michelin & Co., of France, and the Austrian Continental Co., it has been decided by the minister of public works in Austria that the word "Semelle" is a trade mark to which the Michelin company is entitled to exclusive use. Although it is a common French word as applied to other arts and in a general way means the bottom or base of a structure, it has a peculiar and special meaning when stamped into the leather tread of a Michelin anti-skid tire and itself designates the anti-skid feature as applied to tires and is exclusively Michelin trademark property in this sense, according to the Austrian ruling.

**HERE'S THE UP-TO-DATEST HEARSE**

**Represents the Ideas of a Modern New York Undertaker—Conveys Both the Casket and the Mourners.**

New inventions and applications of new ideas in connection with motor propelled vehicles are cropping up in the most unexpected places. There is, for instance, in New York City an undertaker, Fred Hulberg, of 265 West 125th street, who has invented and patented a motor vehicle different in design and principle from any other car yet built. The patent was issued to Mr. Hulberg as long ago as April 27, 1909,

The motive power is furnished by a 45 horsepower Continental gasoline engine, situated under the chauffeur's seat, below the hearse compartment. The chassis has a wheel base of 138 inches, 60 inches tread, while the wheels are 34 inches, fitted with 4-inch solid rubber tires. It is fitted with Timken roller-bearing axles, three speeds forward and one reverse, multiple disc clutch, chain drive, and four brakes—two on rear wheels and two on the transmission shaft. Ignition is by Bosch high tension magneto, vibrating coil and timer—two complete systems with separate plugs. The cost to build this first car exceeded \$6,000, but Mr. Hulberg states that a second car could be built much cheaper by him, as he now has the patterns and some



NOVEL MOTOR HEARSE WITH SEATING SPACE FOR MOURNERS

but the vehicle itself has not been completed until recently. It is a hearse, which in addition to carrying the body will convey the mourners to the cemetery.

The hearse part of the car is entirely of steel, and the casket is put in in front, as will be seen from the doors in the accompanying picture. It is large enough to accommodate the very largest mahogany coffin made today. It extends into the passenger compartment 20 inches and is concealed from view by mahogany movable doors or partitions forming the appearance of a stateroom similar to that in a sleeping car. These doors are folded back when the casket is taken out, giving an additional space for two seats. The passenger compartment is made of wood and can accommodate 14 persons; the revolving chairs are upholstered in green leather, and the floor is handsomely carpeted, while the windows are fitted with regulation Pullman shades. The vehicle is lighted by electricity, and a telephone is fitted inside for communication with the chauffeur. Speedometer and electric signaling devices are installed. The outer finish is deep black.

experience. All the patterns necessary for the manufacturing of the car had to be made especially, as the ordinary touring car parts were found to be too light and the heavy truck parts too heavy. Mr. Hulberg endeavored to have the car built by some automobile manufacturer, but could find no one willing to go to the trouble; so he decided to build it in his own repair shop.

The repair shop itself is quite unique in the completeness of its equipment which even includes vacuum cleaning apparatus for brushing the 125 horses kept in his stable, and an electric power plant for lighting the premises and furnishing motive power for the various machines in his repair shop. He has built most of his own carriages and hearses.

Tests made with the new car since its installation a few days ago, have shown that it can do the work of four horse drawn carriages with four drivers, can travel at a speed of 20 miles an hour if desired, and make the trip to Woodlawn cemetery and back, including time consumed in the burial in a little over three hours. Horse-drawn funerals take from six to seven hours.

**HAIL! THE COMMERCIAL CAR COMES**

**Magazine Writer Discovers Its Approach and "Turns Loose" Accordingly—List to His Paean of Praise!**

Leslie's Weekly, in an enthusiastic editorial on March 10th, sings a paean of praise to the commercial motor car, such as would turn the salesman of a motor car factory green with envy. After vigorously asserting that motoring has proved a blessing to public health, and that motorists fight the great white plague with sunshine and fresh air, it launches into a description of the future and the advantages of the commercial motor car, which should prove the turning factor in many cases where the merchant or farmer is still undecided whether or not he "can afford" to buy an automobile.

Heading its article with the terse "Get an Automobile," the magazine continues:

"We are beginning to realize the scope of the commercial automobile. It is opening up the country. Suburban real estate is being developed in a marvelous manner. Farms in the vicinity of cities which brought from \$30 to \$40 an acre a few years ago are now divided into villa plots and bring twenty-five times their original value. The automobile is populating the mountain tops; it is taking travelers to every attractive nature spot.

"The farmer, through his familiarity with the gasoline engine, has been quick to see the possibilities of the automobile. He is putting it to untold uses. If a threshing machine breaks down, the hands are delayed but a few hours while the broken part is whisked 30 miles to a repair shop. City concerns which have extensive territory to cover are rapidly adopting the automobile. Horses are rendered worse than useless by blizzards and heavy slush, but the automobile delivery trucks have demonstrated that they are capable of weathering conditions which no horse driver would attempt to master. The automobile relieves the horse of the misery of slippery, hard pavements, the drudgery of hot streets, and the cruelty of drivers. The motor ambulance brings first aid to the injured. A complete emergency fire department—ladders, chemicals and hose—comes to your assistance swiftly and surely aboard a single, self-propelled conveyance. Public safety has been greatly increased at the time of riot or mob by the almost instant transportation of large numbers of police to the scene of trouble. The motorcycle will probably solve the question of policing our cities. Motorcycle men are kept in reserve at Toledo police stations. Anybody who needs a policeman in that city can get one within two minutes. Toledo covers 28 square miles, but there is not a place a motorcycle policeman cannot get to within five minutes.

"'Get a horse!' is no longer the cry of the street. 'Get an automobile!'"

## SIMPLE TESTS FOR LUBRICANTS

### How Flash and Burning Points May be Determined—Finding Acid and Grit—Little Apparatus Required.

While for ordinary purposes it is best to use only the standard grades of motor car lubricant, such as are recommended and sold under well-known brands, there are times when it is desirable to be able to examine the qualities of an unknown oil before putting it to the test of actual service. While complete apparatus for oil testing in general is applicable only to the laboratory of the trained chemist, there are a number of tests which may be applied by anyone who is inclined to take the simple measures necessary.

One of the most important of these is a method of determining the flash and burning points of the oil, and is intended to be applied in connection with what is known as a water bath. A simple device for the purpose may be made, as shown in the accompanying illustration. Into the lower part of the apparatus a, a sufficient quantity of water is put to cover the bottom of the upper part b, after it is in place. The oil to be tested is placed in the upper portion of the utensil and a thermometer, c, is suspended in the oil in such a way that it will not come into contact with the sides of the vessel. Heat is then applied and the rise in temperature of the oil is noted at regular intervals. As the temperature rises a match is repeatedly held near the surface of the oil, and after a time enough vapor will be given off to cause a brisk explosive flash. The temperature at which this occurs is known as the flash point of the oil. If the heating be continued above the flash point, a second point may be reached at which the oil on the surface will take fire. The point at which this temperature occurs is known as the burning point.

To determine whether an oil contains acid, perhaps the simplest test of all is to wind a piece of cotton waste around a polished steel rod or shaft, saturate it with the oil and then expose it to the sunlight in a warm place for several days. If the metal shows rust at the end of that time, the oil contains a sufficient amount of acid to be injurious to the journals, and probably to the cylinder walls as well.

A more exact method of test is given by the Scientific American, thus:

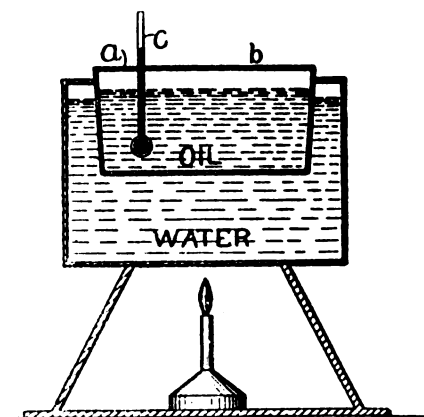
"Dissolve a small amount of sodium carbonate in an equal volume of water. Place it, together with the oil to be tested, in a flask or beaker and shake thoroughly. The quantity of precipitate will be a gauge of the amount of acid present.

"To detect the presence of grit," the above authority continues, "drop a small amount of the oil on white or very light-colored blotting paper. The oil will be ab-

sorbed, and the grit will be visible as small black specks on the blotter.

"To find the temperature at which the oil congeals: Put 15 parts of Glauber salts into a beaker (or clean tumbler). Place in this a bottle containing a sample of the oil. Place over the salt a mixture of 5 parts hydrochloric acid and 5 parts of cold water. The temperature is reduced slowly, and can be observed from time to time as the oil thickens. Any freezing mixture or even ice can be used in place of the above."

It may be added that the sodium carbonate, Glauber salts and hydrochloric, or



muriatic, acid may be obtained in small quantities at any drug store for a few cents.

### Telephone Service at the Wayside.

A novel wayside telephone service for the benefit of automobilists, whereby the latter are supplied with portable telephone sets that may be "plugged in" at points along the streets and country roads, is the latest offering of the "Independent" telephone companies, who are seeking to outdo their Bell rivals in enterprise and in winning the favor of the public. The Home Telephone Co. of Michigan explains the service to Michigan motorists as follows:

"Wayside service is furnished through a portable telephone set, specially designed, aluminum receiver and transmitter in one piece, weighing only 10 ounces, carried in a leather case, not heavy enough to be a burden in the pocket, nor big enough to be an annoyance in the automobile.

"Public connecting stations, not more than a quarter mile apart, whether in city or country, located on poles, street corners, trolley posts, etc., afford ready connection with the Home Telephone system. Insert the plug from your portable instrument and get instant service."

"For the immediate relief of the automobilist in trouble on the country road, or in the city after hours. A short walk to an open station, an instant telephone connection with the garage or repair man, and relief is on the way. You can also tell the wife that you will not be home for an hour or two."

Other people besides motorists may find this latter phase very convenient.

## WEIGHT ASSISTS BRAKING EFFECT

### Heavy Cars can be Stopped as Quickly as Light Ones at the Same Speed—Scientific Reasons.

It is commonly accepted, and indeed, self-evident, that the maximum braking power of a car is attained when the wheels are made to slide; but certain considerations which follow directly from this fact frequently are overlooked in discussions of the braking problem. One of these is that the minimum distance in which a car can be stopped depends on the rate at which it is traveling when the brakes are applied and on the condition of the road, but is practically uninfluenced by the weight of the car. This fact, while readily apparent to those who are familiar with technical subjects, is probably calculated to appeal to the layman as distinctly remarkable. It means, in a word, that the most powerful racing car can be brought up in the same distance as a touring machine of less power and more weight, when both are checked at the same rate of speed. An even more important conclusion is that the heavily loaded commercial vehicle traveling at its maximum of perhaps 12 miles an hour, can be brought to rest under emergency conditions as quickly as can a light runabout when going at the same rate.

The philosophy of the thing, however, is not so obscure as at first might seem to be the case. Supposing the wheels to be locked, it is evident that the only resistant factor to be considered must be the friction between the wheels and the ground. Frictional resistance, is governed in proportion to the weight in motion and to the nature of the rubbing surfaces. Thus the heavier the car, the greater the frictional resistance developed when the brakes are locked. The force which tends to impel the car forward after the power is cut off, on the other hand, is its momentum, which depends upon the weight and velocity. As the weight affects both the moving and retarding forces in direct and equal proportion, its effect is negligible. So that, strange as it may seem, the actual weight of the vehicle does not govern the distance it will slide in coming to rest; only the velocity and the traction being of moment. A brief expression for the same idea is that as the weight increases so do the tendency to continue in motion after the external supply of power is removed and also the frictional resistance.

It is an easy matter to demonstrate this by mathematical means, but for ordinary purposes it hardly is necessary. It also is not difficult to show that the principle applies equally well whether only the rear wheels are braked or whether the brakes are applied to all four wheels. In the latter case, although only a portion of the

weight is carried by the rear, and therefore sliding, wheels, the remainder being in constant proportion to the weight, may be considered as reducing the frictional resistance. So that for all practical purposes, the question of weight may be left out of consideration in connection with problems involving emergency stoppage.

It is important in this connection, however, to call attention to the fact that these considerations apply only when the wheels are locked; and therefore, that they express the limits which obtain when it is desirable or necessary to bring a vehicle to rest within the shortest possible time. With one exception, the sliding friction expresses the minimum stopping power of any vehicle. The exception is the generally trifling and always unreliable factor of windage.

Were the machine to move invariably through a body of still air, its motion would be resisted by a force roughly proportional to the square of its velocity, and its cross section area, and therefore of considerable magnitude at high speeds. As far as the question of windage may affect the emergency stopping powers of the average car, however, it may be considered almost negligible, since it decreases very rapidly as the speed of the vehicle is diminished.

In connection with a more technical consideration of this subject a foreign expert has recently prepared a number of calculations showing the minimum stopping distances of cars with both two and four wheel braking equipments, from which the accompanying table has been compiled. For comparative purposes, the theoretical windages at different speeds also are given. Incidentally the figures furnish a striking demonstration of the theoretical advantages of the four-wheel braking principle, which, as might be expected, may be considerable at very high speeds.

Speed. m.p.h.	Rear Wheel Brakes.—		Brakes on all Wheels.—		Windage. lbs. on 30 sq. ft.
	Distance Traveled. Feet.	Time Coming to Rest. Seconds.	Distance Traveled. Feet.	Time Coming to Rest. Seconds.	
70	397	7.7	260	5.1	530
60	290	6.6	194	4.38	396
50	200	5.5	135	3.65	275
40	126	4.4	86.5	2.92	174.5
30	73	3.3	48.5	2.2	97
20	32.3	2.2	21.5	1.46	43.6
10	7.33	1.1	5.37	.73	11
5	1.89	.55	1.34	.365	2.75

In presenting the calculations the expert in question adds a word as distinguishing between the power required to stop a car and that necessary to maintain it at a given speed, and also in regard to the quantity of motion to be dealt with supposing the car to be stopped instantaneously as in the case of a collision. He says:

"It may be well to point out here that to stop a car in motion is quite a different thing from maintaining it in speed—even a high rate of speed—because in the latter case we are using the power of the engine to overcome only the air resistance and the friction of the mechanical parts, together

with such losses as are set up by bumping over road inequalities; whereas in the former we have to dissipate the energy stored up by the momentum of the car which is equal to its weight multiplied by its velocity in feet per second. The actual momentum of a 2,000 pound car traveling at 40 miles per hour is a trifling (?) 117,600 foot-pounds, and the impact of such a force if stopped instantaneously would amount to . . . just 96 foot-tons, that is, it would strike the same blow as a weight of 96 tons falling through a height of one foot. Bearing this in mind, it does not surprise one that a car will travel some distance after the brakes are applied and the wheels locked."

#### Valuable Hints in Varnishing.

It is a mistake—mostly fatal to good results—to attempt to alter the composition or nature of the varnish by adding to or subtracting from or by thinning said material. The varnish maker is paid to assume that responsibility. You are simply charged with the duty of applying the varnish to the surface. That responsibility is sufficient to demand all your skill and attention, says the Carriage Monthly, in laying down rules for the automobile varnisher.

The surface to be varnished should be, as near as possible, of the same temperature as the varnish. A slight difference existing between the two will result in a bad working and an even worse looking varnish when it is finally shaped upon the surface.

Invariably store the varnish supply in a warm place, well up from the floor, where the temperature may be maintained at a uniform degree.

Keep an extra varnish can at hand in which to pour the surplus material at the conclusion of the day's work, or of the work

varnish pails or pots. Using varnish from a dirty dish defeats any plan for clean varnishing.

The varnish too thin in body, will lack the requisite depth and brilliancy, whereas, if too thick in body, it will refuse to flow out, in which state brush marks and "piling up" of the material inevitably ensue.

Avoid varnishing over a previously applied coat of varnish not thoroughly dry. Such a practice is the forerunner of surface fractures and checks. Give the varnish coats as they undergo the process of drying plenty of sunlight and ventilation. Varnish is human in this respect that it thrives upon sunshine and fresh air.

The best ventilation for the varnish room is through a five or six-inch pipe let through the ceiling and leading down into the apartment with a perforated drum attached to the lower end of the pipe, the drum containing loosely picked curled hair.

Washing the surface is a determining factor in all varnishing. Varnishers have a saying to the effect, "By their washing ye shall know them." A surface well washed, with no sediment clinging anywhere, is quite half finished.

In washing, use water—soft, preferably—plentifully, and do not spare the water tool. Work carefully around molding and all obstructions with this brush, in order to eliminate pumice stone and other deleterious surface atoms.

Guard the varnish brushes rigidly. Keep them in a clean receptacle, in a varnish exempt from driers, and exclude the air and all dust accumulations.

For the varnish room which cannot be mopped out, wet up common soft wood sawdust and sprinkle the floor, sweeping it immediately thereafter.

This is and has been the rule for the last century, but times change, and with the changes go the old ways and new ones are adopted. The vacuum cleaner is now used to suck up the dust directly from the floor and ledges. They are used in homes, offices, churches, theaters—in fact everywhere that dust gathers. For the varnish room nothing better could be used. All other places in the shop need cleaning, and the vacuum cleaner does the work.

#### Waste of Water Leads to a Strike.

Because of the excessive waste of water in the cleaning of its vehicles, the General Motor Cab Co., of London, recently decided that its garage grooms should use buckets instead of hose and nozzles. The company is one of the biggest in the world operating taximeter cabs and the consumption of water in its garages, until the compulsory use of buckets, was 360,000 gallons per day. With the introduction of the bucket method the consumption was reduced to 60,000 gallons per day, but the grooms who were called upon to carry buckets instead of using hose were very much dissatisfied, and 150 of them went on a strike, but the company remains firm for the bucket method.

in hand. Do not tolerate the practice of pouring refuse varnish back into the regular storage can or tank. It develops dirty work.

Buy, if possible, and have your winter's supply of varnish shipped ahead of the cold weather. There is real danger of the varnish becoming chilled during transportation with the mercury below freezing point.

Open up the varnish can, say, a half hour, before using the varnish to permit prevailing gases to dissipate, thus insuring improved working properties.

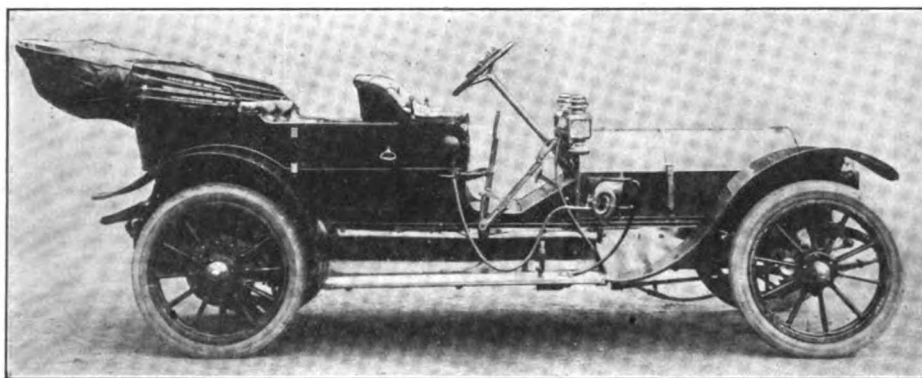
Do not under any circumstances use dirty



**MATHESON LAUNCHES A NEW "SIX"**

**Silence and Unusual Flexibility Among Its Strong Points—Wherein New Model Differs from Predecessor.**

Following a year and more of successful six-cylinder production, the Matheson Automobile Co., New York City, has announced a new model to supersede its original and staunch sextuple car, and distinguished as



NEW MATHESON "SILENT SIX" TOURING CAR

the "Silent Six." Nor is the appellation merely a nominal one, for it is explained with considerable pride that, while relatively noiseless operation long has been attainable by the use of suitable muffling devices, the silence of the new six is the result of structural developments which tend to quiet running without sacrificing either economy in operation or flexibility. Indeed, one of the strongest recommendations which has been given the new car is that so great is its flexibility that it can be brought down from full speed on high gear to a pace which can be attained without difficulty by a man walking backwards, and actually amounting to about three miles an hour.

Outwardly, the "Silent Six" does not differ materially from its immediate predecessor. It is here illustrated in five passenger touring form, with its complete stock equipment. In mechanical detail as well it is a close reproduction of the model "17" car, being rated at 50 horsepower, and having  $4\frac{1}{2}$  by 5 inch cylinders, cast in pairs and formed with large overhead valves, actuated by rocker arms from a single cam shaft on the right side. Transmission is by multiple disc clutch and axle mounted change gear. Its price has been advanced to \$3,500, however, which represents a \$500 increase over the cost of the previous model.

Points which distinguish the new motor from the old, and which may be supposed to contribute in greater or less degree to the silencing of its action are numerous though not strikingly radical. Lubrication is one feature which has undergone some change. In the new motor the engine is oiled by splash insofar as the pistons and connecting rods are concerned, but the crank shaft bearings and the timing gears

which are housed in front, and which, it may be mentioned, now are made of the spiral type, are drenched by a constant flow of oil which is supplied by an automatic gear pump drawing its supply from a sump in the bottom compartment of the case. By this device the level in the crank pits is held constant at all times, while the more vital portions of the motor are given a supply of lubricant in proportion to the speed of the engine and under conditions permitting of frequent inspection by the driver.

since all oil to the two principal feeding points is carried up to a sight feed glass mounted on the dash.

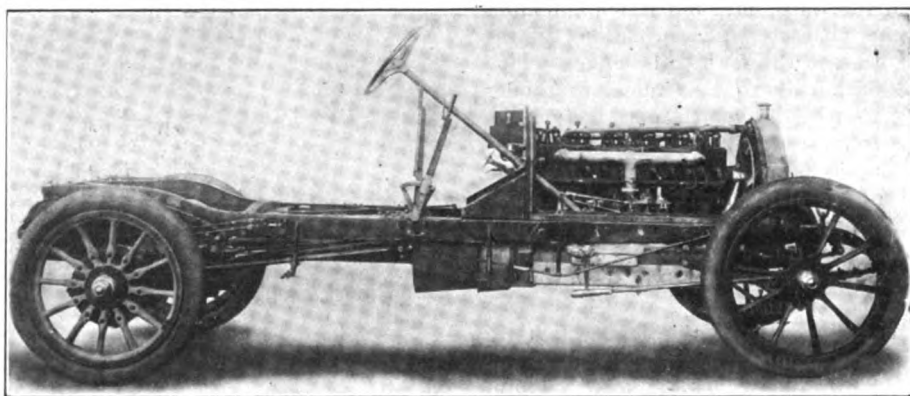
The crank shaft has been strengthened by increasing its diameter through the bearings from  $1\frac{3}{4}$  to 2 inches and from  $1\frac{3}{4}$  on the crank pins to  $1\frac{7}{8}$  inches; the crank webs being increased proportionately. A 3 inch plain bearing now is employed at the forward end of the crank shaft instead of the ball bearing formerly used. In the valve mechanism the gears, in addition to being made of the silent, spiral type, are

ing a vital bearing on the quietness of operation of the motor. The pistons are made  $\frac{3}{4}$  inch longer than before, while, in accordance with successful results previously attained, the practice of offsetting the crank shaft  $\frac{3}{4}$  inch has been continued.

Largely as a matter of convenience to the operator, the position of the magneto and water pump has been changed, both those auxiliaries being mounted further forward than before. Complete double ignition now is employed, with two sets of spark plugs and the Bosch magneto, together with batteries and Connecticut coil. The magneto is of the large three-pole type instead of the smaller two-pole pattern formerly carried.

The master clutch has hardened and ground discs, all of steel, 51 in number, which are fully housed and mounted directly in the flywheel. The release now is obtained through pressure on a ball thrust bearing, which also is fully enclosed and protected. The gearset is of the selective type, as before, the torsion tube being hung at the forward end in a ball and socket joint which encloses a universal joint of the trunnion block type. The bevel pinion and shaft of the gearset are made integral, closer adjustment for the mesh of the gears has been provided, the gears have been reinforced for strength and the main driving gear bearings have been increased in size. The gearset operation is of the selective type. Three speeds are provided, and the third speed affords the direct drive, which is used for all ordinary running conditions.

The rear wheels are shod with 36 by  $4\frac{1}{2}$  inch tires, instead of 36 by 4, as formerly, that size being retained for the front wheels, however. The wheel bearings, which are of



CHASSIS VIEW OF NEW MATHESON SIX CYLINDER MODEL

of  $\frac{1}{8}$  inch wider face, while the cam shaft has been increased from 1 inch to  $1\frac{1}{8}$  in diameter; its front bearing also having been lengthened somewhat. The cam faces are now  $\frac{1}{2}$  inch, instead of  $\frac{3}{8}$ , while the lifter rollers have been widened and also increased in diameter.

A more conspicuous change consists in the adoption of a sectional exhaust manifold which is made in three parts, with due provision for expansion; this member also hav-

the annular ball type, have been enlarged somewhat. The brakes, which are of the external contracting and internal expanding type, have been enlarged by increasing the width from 2 to  $2\frac{3}{4}$  inches. The adoption of full elliptic rear springs instead of the three-quarter elliptic arrangement is a new departure, as is the increase of 2 inches in the length of the front members, which are of the semi-elliptic order. The steering gear, which is of the worm and

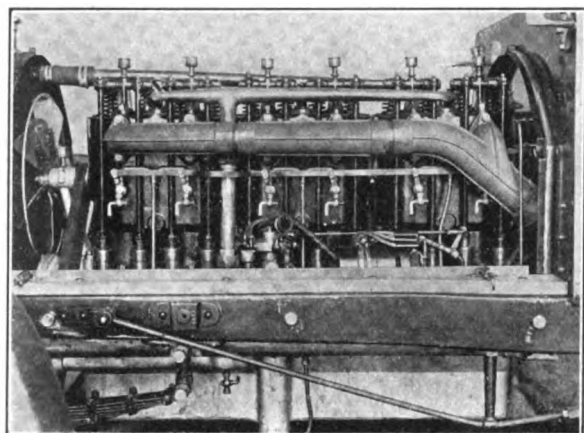
sector pattern, is of entirely new design, ball bearing mounted and constructed with a four-thread worm. The steering wheel is 18 inches in diameter and the gear is provided with stops to prevent the connections from being chafed by the tires through excessive deflection.

The generally rugged construction of the

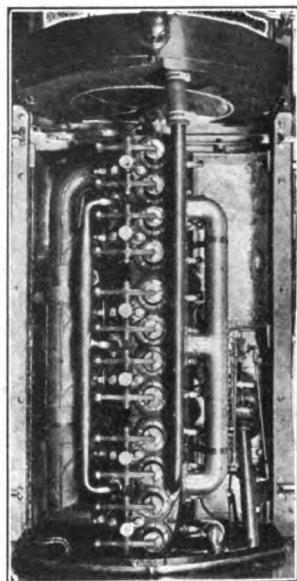
nected with the clutch but is left entirely free. The motor control levers are mounted on a ratchet segment above the steering wheel. As an auxiliary to the hand throttle, a pedal is provided on the right of the foot board, which is interconnected with the lever in governing the carburetter.

The brakes are applied by means of ten-

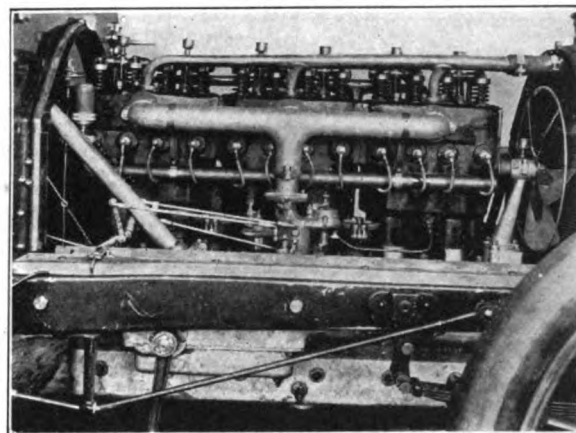
enough forward to gain some protection from the springs, while it also has ample clearance from the ground. The forward end of the machine is entirely protected on the under side by means of a housing which is joined to the crank case in front and extends back far enough to ensure protection for the flywheel and clutch. At the



LEFT SIDE OF NEW MATHESON SIX CYLINDER MOTOR



TOP VIEW



RIGHT SIDE, SHOWING VALVE GEAR AND CARBURETTER

chassis as a whole is plainly evident in the accompanying illustrations. Among noteworthy points in this connection, however, is the drop at the rear end of the frame which is provided in order to allow ample clearance for the axle without necessitating too great an elevation for the body. Another is the trussing of the forward portion of the chassis, which is braced forward of the waist line, and which combines with the characteristic formation of the motor base, with its broad flanges which extend outwardly to the frame, to render that portion of the vehicle extremely rigid. In the framework throughout unusual liberality in the adoption of wide flanges and liberal gusset plates is to be noticed, especially in point of the diagonal braces which reinforce the frame cross member which supports the forward end of the torsion tube. The traction load now is carried through radius rods at the side, which extend from a point at the waist line to the rear axle. By this means the universal joint of the propeller shaft and the torsion tube are relieved of a considerable portion of the stresses which otherwise they would be called upon to bear.

The control mechanism is of the usual order, save that all interlocking devices between the brakes and clutch are dispensed with. The left hand pedal, which controls the clutch, is entirely independent of the service brake actuating pedal, that member being placed on the other side of the steering column, while the outside lever, controlling the emergency brake is not con-

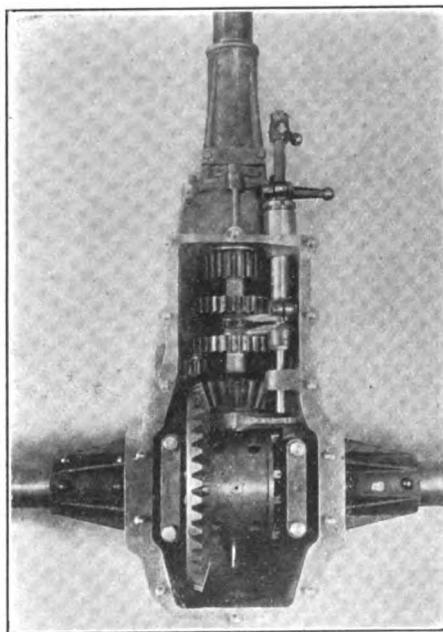
sion rods running down the center of the chassis to transverse balance beams. These are now placed in front of the intermediate cross frame member instead of behind it, as previously. The final brake motion is through tension rods on the outside of the

same time the housing is mounted high enough to give ample road clearance and to prevent any tendency to damage from protruding obstacles.

#### And Now the "Chauffeur-Maid."

Of course women as sales agents and demonstrators are not wholly novel, but housemaids as chauffeurs heretofore have not been in the limelight of publicity, and were the stories not borne out to some extent by a few bona-fide advertisements in London newspapers, one would be tempted to class them as "tall yarns." It seems that English ladies have found out how convenient it might be if a maid could be found to drive a runabout or touring car and at the end of the trip assist her mistress in "sprucing up" before entering the dining room of a hostelry. "Chauffeur-maids" have become a recognized profession, and automobile instruction schools in England have established additional classes in which to teach the maids the mysteries of the carburetter, spark plug, steering gear and magneto. So far the fair would-be chauffeurs have resolutely refused to bother with the intricacies of the motor or with the cleaning of the cars after a ride. Such mere "menial" labor they generously leave to the stable boys or hostlers.

Occasional attention should be paid to the small clips holding the outer leaves of elliptical springs. If they become loose they fail to check the rebound as they are intended to do.



MATHESON CHANGE GEAR

chassis. The gasoline tank is carried in the rear and is shaped in front to give ample clearance to the differential housing. This formation permits it to be carried far

## NEW YORK'S BILL IS AMENDED

**Non-Skid Restrictions Eliminated, but Fees are Unchanged—No Reciprocity Clause — Full Text of Bill.**

Although telegraph reports from Albany stated that the Callan automobile bill, which probably will become law in New York state on August 1st next, had been "cut to pieces" in the amending of it, most of the "150 amendments" prove to be trivial in character and are in the nature of improvement of verbiage more than anything else.

The registration fees and the fines and speed limits and most of the other essentials remain practically as outlined in the Motor World of March 17th. The clause restricting the use of non-skid devices, to the danger of which the Motor World was first to direct attention, has been wholly eliminated; the \$2 registration fee for vehicles operated wholly within the city limits has been stricken out also, but a new provision has been inserted permitting pleasure cars which have been in use and on which registration fees have been paid for four years to be registered thereafter at one-half the established rate. One of the other added provisions requires owners to report the sale of their cars. In the amending process, the license fee for chauffeurs was raised from \$2 to \$5 per year, and it is stipulated that the photographs they are required to file must not be more than 30 days old.

The telegraphed reports concerning the bill stated that a reciprocity provision had been included in the clause affecting non-residents, but this proves to have been a false alarm. The clause was not altered in any way, and unless a change is made later the roads of New York will remain free to the citizens of all other states.

By manifest unintention, three words have been dropped from the section respecting number plates, and as it now reads the letter "M" must appear on all such plates when the design is that it shall appear only on the plates used by makers' and dealers' cars. Mr. Callan's attention has been called to the omission, and undoubtedly it will be rectified.

After being amended the bill was restored to second reading. Its full text is as follows:

**Sec. 281. Definitions.** The term "motor vehicle" as used in this article, except where otherwise expressly provided, shall include all vehicles propelled by any power other than muscular power, except motor bicycles, motorcycles, traction engines, road rollers, fire wagons and engines, police patrol wagons, ambulances and such vehicles as run only upon rails or tracks. The term "local authorities" shall include all officers of counties, cities, boroughs, towns or villages, as well as all boards, committees and other public officials of such counties, cities, boroughs, towns or villages. The term "chauffeur" shall mean any person operating or driving a motor vehicle as an employee. The term "state" as used in this article, except where otherwise expressly provided, shall also include the territories and the federal districts of the United States. The term "owner" shall also include any person, firm, association or corporation renting a motor vehicle or having the exclusive greater than thirty days. The term "public highway"

shall include any highway, county road, state road, public streets, avenue, alley, park, parkway or public place in any county, city, borough, town or village, except any speedway which may have been or may be expressly set apart by law for the exclusive use of horses and light carriages.

**Sec. 282. Registration of motor vehicles; fees; renewals.** 1. Registration by owners. Every owner of a motor vehicle which shall be operated or driven upon the public highways of this state shall, except as herein otherwise expressly provided, cause to be used thereof, under a lease or otherwise, for a period filed, by mail or otherwise, in the office of the secretary of state a verified application for registration on a blank to be furnished by the secretary of state for that purpose, containing: (a) A brief description of the motor vehicle to be registered, including the name of the manufacturer and factory number of such vehicle, the character and amount of the motive power stated in figures of horsepower in accordance with the rating established by the Association of Licensed Automobile Manufacturers; (b) the name, residence, including county and business address, of the owner of such motor vehicle; (c) provided that, if such motor vehicle is used or to be used solely for commercial purposes, the applicant shall so certify.

2. Age of operator. No person shall operate or drive a motor vehicle who is under eighteen years of age, unless such person is accompanied by a duly licensed chauffeur or the owner of the motor vehicle being operated.

3. Registration book. Upon the receipt of an application for registration of a motor vehicle, as provided in this article, the secretary of state shall file such application in his office and register such motor vehicle or vehicles, with the name, residence and business address of the owner, manufacturer or dealer, as the case may be, together with the facts stated in such application, in a book or index to be kept for the purpose, under the distinctive number assigned to such motor vehicle by the secretary of state, which book or index shall be open to public inspection during reasonable business hours.

4. Certificate of registration. Upon the filing of such application and the payment of the fee hereinafter provided, the secretary of state shall assign to such motor vehicle a distinctive number and, without expense to the applicant, issue and deliver to the owner a certificate of registration, in such form as the secretary of state shall prescribe. In the event of the loss, mutilation or destruction of any certificate of registration, number plate license or badge, the owner or chauffeur, as the case may be, may obtain from the secretary of state a duplicate thereof upon filing in the office of the secretary of state an affidavit showing the fact and the payment of a fee of one dollar.

5. Times for registration and re-registration. Registration applied for on or before August first, nineteen hundred and ten, shall take effect on that date and certificates issued on such application or under any application made prior to January thirty-first, nineteen hundred and eleven, shall expire on the latter date. The fees for such registration shall be one-half of the annual fees provided herein. Registration thereafter shall be renewed annually in the same manner and upon payment of the same annual fee as provided in this section for registration, to take effect on the first day of February, in each year beginning with such date in the year nineteen hundred and eleven; and the certificates of registration issued thereunder or issued between any such dates shall expire on the succeeding thirty-first day of January.

6. Registration fees. The following fees shall be paid to the secretary of state upon the registration or re-registration of a motor vehicle in accordance with the provisions of this article: five dollars upon the registration of a motor vehicle having a rating of twenty-five horsepower or less; ten dollars upon the registration of a motor vehicle having a rating of more than twenty-five horsepower and less than thirty-five horsepower; fifteen dollars upon the registration of a motor vehicle having a rating of thirty-five horsepower and less than forty-five horsepower; twenty-five dollars upon the registration of a motor vehicle having a rating of forty-five horsepower or more; provided, that if a motor vehicle other than one used solely for commercial purposes shall have been licensed for four separate years hereunder and for which there shall have been paid the annual registration fees herein provided during said period, the annual registration fees thereafter shall be one-half the amount; and further provided that for motor vehicles which are used or to be used solely for commercial purposes, the fee for such registration shall be two dollars.

7. Fees in lieu of taxes. The registration fees imposed by this article upon motor vehicles, other than those of manufacturers and dealers and those used solely for commercial purposes, shall be in lieu of all taxes, general or local, to which motor vehicles may be subject.

8. Sale and registration by vendee. Upon the sale or transfer of a motor vehicle registered in accordance with this section, the vendor shall immediately give notice thereof with the name and residence of the vendee to the secretary of state, and the vendee shall, within ten days after the date of such sale or transfer, notify the secretary of state thereof upon a blank furnished by him for that purpose, stating the name and business address of the previous owner, if known, the number under which such motor vehicle is registered and the name, residence, including county and business address, of the vendee. Upon filing such statement vendee shall pay to the

secretary of state a fee of one dollar, and upon receipt of such statement and fee the secretary of state shall file such statement in his office and note upon the registration book or index such change in ownership.

**Sec. 283. Distinctive number; number plates.** 1. Distinctive number must be carried on motor vehicles. No person shall operate or drive a motor vehicle on the public highways of this state after the first day of August, nineteen hundred and ten, unless such vehicle shall have a distinctive number assigned to it by the secretary of state and a number plate with a number corresponding to that of the certificate of registration conspicuously displayed, one on the front and one on the rear of such vehicle, each securely fastened so as to prevent the same from swinging.

2. Number plates to be changed annually. Such number plates shall be of a distinctly different color each year, and there shall be at all times a marked contrast between the color of the number plates and that of the numerals or letters thereon.

3. Form of number plate. Such certificate of registration shall be of metal, at least six inches wide and not more than fifteen inches in length, on which there shall be the initials "N. Y." and there shall be the distinctive number assigned to the vehicle set forth in numerals four inches long, each stroke of which shall be at least five-eighths of an inch in width; provided that in the case of a motor vehicle registered under this article there shall be on such plate in addition to the foregoing the letter "M," each stroke of such letter to be at least four inches long and five-eighths of an inch in width. Such number plates shall be of a distinctly different color each year, and there shall be at all times a marked contrast between the color of the plates and that of the numerals thereon. No vehicle shall carry the numbers of more than one state at any time.

**Sec. 284. Registration by manufacturers and dealers; re-registration.** 1. Re-registration by manufacturers and dealers. Every person, firm, association or corporation manufacturing or dealing in motor vehicles may, instead of registering each motor vehicle so manufactured or dealt in, make a verified application upon a blank to be furnished by the secretary of state for a general distinctive number for all the motor vehicles owned or controlled by such manufacturer or dealer, such application to contain: (a) A brief description of each style or type of motor vehicle manufactured or dealt in by such manufacturer or dealer, including the character of the motive power stated in figures of horsepower in accordance with the rating established by the Association of Licensed Automobile Manufacturers; and (b) the name, residence, including county and business address, of such manufacturer or dealer. On the payment of the registration fee of fifteen dollars such application shall be filed and registered in the office of the secretary of state in the manner provided in section two hundred and eight-two of this article. There shall thereupon be assigned and issued to such manufacturer or dealer a general distinctive number and without expense to the applicant issued and delivered to such manufacturer or dealer a certificate of registration in such form as the secretary of state shall prescribe, and a number plate with a number corresponding to the number of such certificate of registration. Such number plate or a duplicate thereof shall be carried or displayed by every motor vehicle of such manufacturer or dealer when the same is operated or driven on the public highways. Such manufacturer or dealer may obtain as many duplicates of such number plate as may be desired upon payment to the secretary of state of one dollar for each duplicate. Nothing in this subdivision shall be construed to apply to a motor vehicle operated by a manufacturer or dealer for private use or for hire.

2. Re-registration annually. Such registration shall be renewed annually in the same manner and on the payment of the same fee as provided in this section for original registration, such renewal to take effect on the first day of February of each year. Provision of subdivision four of section two hundred and eighty-two, relating to first registrations made under this article and duration of renewals, shall apply to registration under this section.

**Sec. 285. Exemption of non-resident owners.** The provisions of the foregoing sections shall not apply to a motor vehicle owned by a non-resident of this state, provided that the owner thereof shall have complied with the provisions of the law of the state, territory or federal district of his residence, relative to motor vehicles and the operation thereof, and shall conspicuously display his state, territory or federal district number, and provided further that the provisions of the foregoing sections of this article are substantially in force in such state to the territory of federal district, provided that this exemption shall not apply to non-resident corporations doing business in this state.

**Sec. 286. Signaling and other devices; signals; rules of the road.** 1. Brakes, horns and lamps, signaling at crossings. Every motor vehicle, operated or driven upon the public highways of this state, shall be provided with adequate brakes in good working order and sufficient to control such vehicle at all times when the same is in use, and a suitable and adequate bell, horn or other device for signaling, and shall, during the period from one-half hour after sunset to one-half hour before sunrise, display at least two lighted lamps on the front and one on the rear of such vehicle, which shall also display a red light visible from the rear. The rays of such rear lamp shall shine upon the number plate carried on the rear of such vehicle in such manner as to render the numerals thereon visible for at least fifty feet in the direction from which the motor vehicle is pro-

ceeding. The light of the front lamps shall be visible at least two hundred feet in the direction in which the motor vehicle is proceeding. Every person operating or driving a motor vehicle on the public highways of this state shall also, when approaching a cross road outside the limits of a city or incorporated village, slow down the speed of the same and shall sound his bell, horn or other device for signaling in such a manner as to give notice and warning of his approach.

2. Stopping on signal, and other regulations. A person operating or driving a motor vehicle shall, on signal by raising the hand, from a person riding, leading or driving a horse or horses or other draft animals, bring such motor vehicle immediately to a stop, and, if traveling in the opposite direction, remain stationary so long as may be reasonable to allow such horse or animal to pass, and, if traveling in the same direction, use reasonable caution in thereafter passing such horse or animal; provided that, in case such horse or animal appears badly frightened or the person operating such motor vehicle is so signaled to do, such person shall cause the motor of such vehicle to cease running so long as shall be reasonably necessary to prevent accident and insure the safety of others. In approaching or passing a car of a street railway which has been stopped to allow passengers to alight or embark, the operator of every motor vehicle shall slow down and if it be necessary for the safety of the public he shall bring said vehicle to a full stop. Upon approaching a pedestrian who is upon the traveled part of any highway and not upon a sidewalk, and upon approaching an intersecting highway or a curve or a corner in a highway where the operator's view is obstructed, every person operating a motor vehicle shall slow down and give a timely signal with his bell, horn or other device for signaling.

3. Rules of the road. Whenever a person operating a motor vehicle shall meet on a public highway any other person riding or driving a horse or horses or other draft animals or any other vehicle, the person so operating such motor vehicle shall seasonably turn the same to the right of the center of such highway so as to pass without interference. Any such person so operating a motor vehicle shall, on overtaking any such horse, draft animal or other vehicle, pass on the left side thereof, and the rider or driver of such horse, draft animal or other vehicle shall, as soon as practicable, turn to the right so as to allow free passage on the left. Any such person so operating a motor vehicle shall, at the intersection of public highways, keep to the right of the intersection of the centers of such highways when turning to the right and pass to the right of such intersection when turning to the left.

Sec. 287. Speed permitted. Every person operating a motor vehicle on the public highway of this state shall drive the same in a careful and prudent manner and at a rate of speed so as not to endanger the property of another or the life or limb of any person; provided, that a rate of speed in excess of thirty miles an hour for a distance of one-fourth of a mile shall be presumptive evidence of driving at a rate of speed which is not careful and prudent.

Sec. 288. Local ordinances prohibited. Except as herein otherwise provided, local authorities shall have no power to pass, enforce or maintain any ordinance, rule or regulation requiring from any owner or chauffeur to whom this article is applicable any tax, fee, license or permit for the use of the public highways, or excluding any such owner or chauffeur from the free use of such public highways, excepting such driveway, speedway or road as has been or may be expressly set apart by law for the exclusive use of horses and light carriages or in any other way respecting motor vehicles or their speed upon or use of the public highways; and no ordinance, rule or regulation contrary to or in anywise inconsistent with the provisions of this article, now in force or hereafter enacted, shall have any effect; provided, however, that the power given to local authorities to regulate vehicles offered to the public for hire, and processions, assemblages or parades in the streets or public places, and all ordinances, rules and regulations which may have been or which may be enacted in pursuance of such powers shall remain in full force and effect; and provided, further, that local authorities may set aside for a given time a specified public highway for speed contests or races, to be conducted under proper restrictions for the safety of the public; and provided, further, that local authorities may exclude motor vehicles from any cemetery or grounds used for the burial of the dead, and may by general rule, ordinance or regulation exclude motor vehicles, used solely for commercial purposes, from any park or part of a park system where such general rule, ordinance or regulation is applicable equally and generally to all other vehicles used for the same purposes, and provided, further, that the powers given to local authorities in cities of the first and second class, to enact general rules and ordinances, establish traffic regulations regulating the speed of motor vehicles in such cities, and all ordinances, rules and regulations which may have been or which may be enacted in pursuance of such powers shall remain in full force and effect and be valid; provided, further, that the local authorities of cities of the third class and incorporated villages may limit by ordinance, rule or regulation hereafter adopted the speed of motor vehicles on the public highway, such speed limitation not to be in any case less than one mile in four minutes, and the maintenance of a greater rate of speed for one-eighth of a mile shall be presumptive evidence of driving at a rate of speed which is not careful and prudent, and on further condition that such city or village shall also have placed conspicuously on each

main public highway where the city or village line crosses the same and on every main highway where the rate of speed changes, signs of sufficient size to be easily readable by a person using the highway, bearing the words, "City of —" or "Incorporated village of —," "Slow down to — miles" (the rate being inserted), and also an arrow pointing in the direction where the speed is to be reduced or changed, and also on further condition that such ordinance, rule or regulation shall fix the penalties for violation thereof, which penalties shall, during the existence of the ordinance, rule or regulation, supersede those specified in subdivision two of section two hundred and ninety of this chapter, but shall not exceed the same.

Sec. 289. Registration of chauffeurs; renewals. 1. Registration of chauffeurs. Application to operate automobiles, as a chauffeur, may be made, by mail or otherwise, to the secretary of state or his duly authorized agent upon blanks prepared under his authority. The secretary of state shall appoint examiners and cause examinations to be held at convenient points throughout the state as often as may be necessary. Such applications shall be accompanied by a photograph of the applicant in such numbers and forms as the secretary of state shall prescribe, said photograph to be taken within thirty days prior to the filing of said application and to be accompanied by the fee provided herein. Before such a license is granted the applicant shall pass such examination as to his qualifications as the secretary of state shall require, and no license shall be issued until the secretary of state or his authorized agent is satisfied that the applicant is a proper person to receive it. No chauffeur's license shall be issued to any person under eighteen years of age. To each person shall be assigned some distinguishing number or mark, and the license issued shall be in such form as the secretary of state shall determine; it may contain special restrictions and limitations concerning the type of motor power, horsepower, design and other features of the automobiles which the licensee may operate; it shall contain the distinguishing number or mark assigned to the licensee, his name, place of residence and address, a brief description of the licensee for the purpose of identification and the photograph of the licensee. Such distinctive number or mark shall be of a distinctly different color each year and in any year shall be of the same color as that of the number plates issued for that year. The secretary of state shall furnish to every chauffeur so licensed a suitable metal badge with the distinguishing number or mark assigned to him thereon without extra charge therefor. This badge shall thereafter be worn by such chauffeur pinned upon his clothing in a conspicuous place, at all times while he is operating or driving a motor vehicle upon the public highways. Said badge shall be valid only during the term of the license of the chauffeur to whom it is issued as aforesaid. Every person licensed to operate automobiles as aforesaid shall indorse his usual signature on the margin of the license, in the space provided for the purpose, immediately upon receipt of said license, and such license shall not be valid until so indorsed. Every application filed under the provisions of this section shall be sworn to by the applicant before a justice of the peace or a notary public and shall be accompanied by a fee of five dollars.

2. Chauffeurs' registration book. Upon the receipt of such an application, the secretary of state shall thereupon file the same in his office, and register the applicant in a book or index which shall be kept in the same manner as the book or index for the registration of motor vehicles, and when the applicant shall have passed the examination provided for in the preceding section, the number or mark assigned to such applicant together with the fact that such applicant has passed such examination shall be noted in said book or index.

3. Unauthorized possession or use of license or badge. No chauffeur having registered as herein provided shall voluntarily permit any other person to possess or use his license or badge, nor shall any person while operating or driving a motor vehicle use or possess any license or badge belonging to another person, or a fictitious license or badge.

4. Unregistered chauffeurs cannot drive motor vehicle. No person shall operate or drive a motor vehicle as a chauffeur upon a public highway of this state after the first day of August, nineteen hundred and ten, unless such person shall have complied in all respects with the requirements of this section; provided, however, that a non-resident chauffeur, who has registered under provisions of law of the state, territory or federal district of his residence substantially equivalent to the provisions of this section, shall be exempt from registration under this section; and provided, further, he shall wear the badge assigned to him in the state, territory or federal district of his residence in the manner provided in this section.

5. Renewal. Such registration shall be renewed annually in the same manner and upon payment of the same fee as provided in this section for original registration, such renewal to take effect on the first day of February of each year. The provisions of subdivision four of section two hundred and eighty-two relative to first registration under this article and duration of renewals shall apply to registration under this section.

290. Penalties for violations. 1. The violation of any of the provisions of sections two hundred and eighty-two, two hundred and eighty-three and two hundred and eighty-four of this article shall constitute a misdemeanor punishable by a fine not exceeding fifty dollars.

2. The violation of any of the provisions of sec-

tion two hundred and eighty-seven of this article shall constitute a misdemeanor punishable by a fine not exceeding one hundred dollars for the first offense, by a fine not exceeding one hundred dollars or imprisonment for not exceeding thirty days, or both, for a second offense, and by a fine not exceeding two hundred and fifty dollars and imprisonment not exceeding thirty days for a third or subsequent offense; but nothing herein shall prevent the indictment of a person so violating.

3. Penalties for operating automobile while in an intoxicated condition; for going away without stopping after accident. Whoever upon any highway operates an automobile while in an intoxicated condition, or who after causing injury to any person or property and having knowledge thereof goes away without stopping or making himself known to such person injured or owner or possessor of the property injured or to any other person present on request, shall be punished by a fine of not more than five hundred dollars or by imprisonment for a term not exceeding two years, or by both such fine and imprisonment; and if any person be convicted a second time of either of the foregoing offenses, he shall be guilty of a felony punishable by imprisonment for a term of not less than one year and not more than five years. A conviction of a violation of this subdivision shall be reported forthwith by the clerk of the trial court to the secretary of state, who shall thereupon suspend the license of the person so convicted or if he be an owner the certificate of registration of his motor vehicle and upon final affirmation of such conviction and upon notice thereof by said clerk, the secretary of state shall revoke such license, or in case of an owner the certificate of registration of his motor vehicle, and shall order the license or certificate of registration delivered to the secretary of state, and shall not reissue to him said license or certificate of registration unless the secretary of state in his discretion, after an investigation or upon a hearing, decides to reissue or issue such license or certificate.

4. Upon a third or subsequent conviction of a chauffeur for a violation of section two hundred and eighty-seven, or an ordinance establishing traffic regulations or regulating speed of motor vehicles under section two hundred and eighty-eight, the secretary of state shall forthwith revoke the license of the person so convicted and no new license shall be issued to such person for at least six months after the date of such conviction nor thereafter except in the discretion of the said secretary of state.

5. The violation of any of the provisions of section two hundred and eighty-nine of this article shall constitute a misdemeanor punishable by a fine not exceeding fifty dollars.

6. Any person using, driving, injuring or tampering with a motor vehicle without the permission of the owner of such motor vehicle is guilty of a misdemeanor punishable by a fine not exceeding one hundred dollars or imprisonment of not more than six months.

7. Any person making a false statement in the verified application for registration mentioned in subdivision five of section two hundred and eighty-two shall be guilty of a misdemeanor punishable by a fine of not exceeding fifty dollars.

8. Any person violating any of the provisions of any section of this article for which violation no punishment has been specified, shall be guilty of a misdemeanor punishable by a fine of not exceeding twenty-five dollars.

9. Certifying conviction, to the secretary of state. Upon the conviction of any person for a violation of any of the provisions of this article by a magistrate, or when a court of record, such magistrate or the clerk of such court, as the case may be, shall immediately certify the facts of the case, including the name and address of the offender, the judgment of the court and the sentence imposed, to the secretary of state, who shall enter the same either in the book or index of registered chauffeurs, as the case may be, opposite the name of the person so convicted, and in the case of any other person, in a book or index of offenders to be kept for such purpose. If any such conviction shall be reversed upon appeal therefrom, the person whose conviction has been so reversed may serve on the secretary of state a certified copy of the order of reversal, whereupon the secretary of state shall enter the same in the proper book or index in connection with the record of such conviction.

10. Release from custody, bail, et cetera. In case any person shall be taken into custody charged with a violation of any of the provisions of this article, he shall forthwith be taken before the nearest magistrate, or before any accessible captain, sergeant of police or acting captain or sergeant of police, who has the power to accept bail, and be entitled to an immediate hearing or admission to bail unless charged with a felony, and if such hearing cannot then be had, he shall be released from custody on giving a bond or undertaking, executed by a fidelity or surety company authorized to do business in this state, or other bail in the form provided by section five hundred and sixty-eight of the code of criminal procedure, such bond or undertaking to be in an amount not exceeding one hundred dollars, for his appearance to answer for such violation at such time and place as shall be indicated, except that where a person is taken into custody on a charge of violating any of the provisions of subdivision three of section two hundred and ninety of this act, such bond or undertaking shall be in an amount not less than five hundred dollars and not exceeding one thousand dollars, or on giving his personal undertaking to appear to answer for such violation at such time and place as shall then be indicated, secured by the deposit of a



sum of money equal to the amount of such bond or undertaking, or in lieu thereof, in case the person taken into custody is the owner, by leaving the motor vehicle, or in case such person taken into custody is not the owner, by leaving the motor vehicle as herein provided with a written consent given at the time by the owner who must be present, with such officer; or in case such person is taken into custody because of a violation of any of the provisions of this article other than on a charge of violating any of the provisions of subdivision three of section two hundred and ninety of this act, and such officer is not accessible, be forthwith released from custody on giving his name and address to the person making the arrest and depositing with such arresting officer the sum of one hundred dollars, or in lieu thereof, in case the person taken into custody is the owner, by leaving the motor vehicle, or, in case such person taken into custody is not the owner, by leaving the motor vehicle with a written consent at the time by the owner who must be present; provided that, in such case, the officer making the arrest shall give a receipt in writing for such sum or vehicle deposited and notify such person to appear before the most accessible magistrate, naming him, and specifying the place and hour. In case such bond or undertaking shall not be given or deposit made by the owner or other person taken into custody, the provision of law in reference to bail, in cases of misdemeanor, shall apply, except that where the charge is a violation of subdivision three of section two hundred and ninety of this act, the provisions of law in reference to bail in cases of a felony shall apply.

11. Holding defendant to answer where magistrate has not jurisdiction to try offender; admitting to bail. In case the magistrate before whom any person shall be taken, charged with the violation of any provision of this article, shall not have jurisdiction to try the defendant, but shall hold the defendant to answer as provided by section two hundred and eight of the code of criminal procedure, he shall admit such defendant to bail upon his giving a surety company's bond or undertaking to appear to answer for such violation at such time and place as shall then be indicated, or upon his giving a written undertaking in the form provided in section five hundred and sixty-eight of the code of criminal procedure in a sum not exceeding one hundred dollars, except that in a case where the defendant is charged with a violation of any of the provisions of subdivision three of section two hundred and ninety of this act, such undertaking shall be in the sum of not less than five hundred dollars, or upon depositing such amount in cash or upon depositing the motor vehicle with such magistrate or clerk of the court who shall give a receipt in writing for such sum or such vehicle.

12. Disposition and return of bail. Such bail as may be deposited as herein provided shall be held by the officers accepting the same or the clerk of the court. Upon the person who has been taken into custody and given security or bail for his appearance presenting himself for trial, before the beginning of such trial, the property or money given as security or bail shall be returned to him by the officer having custody thereof.

Sec. 291. Disposition of registration fees; fines and penalties. 1. The registration fees provided herein shall be paid by the secretary of state into the state treasury.

2. Disposition of fines and penalties. On the first day of each month or within ten days thereafter all fines, penalties or forfeitures collected for violations of any of the provisions of this article or of any act in relation to the use of the public highways by motor vehicles now in force or hereafter enacted, under the sentence or judgment of any court, judge, magistrate or other judicial officer having jurisdiction in the premises, shall be paid over by such court, judge, magistrate or other judicial officer to the treasurer of the state, with a statement accompanying the same, setting forth the action or proceeding in which such moneys were collected, the name and residence of the defendant, the nature of the offense, and the fine, penalty, sentence or judgment imposed. On the first day of each month or within ten days thereafter, every judge, magistrate or clerk of a court having jurisdiction of the violation of any of the provisions of this article, shall make and forward to the treasurer of the state a verified report of all criminal actions or proceedings instituted or tried before him or it during the preceding calendar month for violation of any of the provisions of this article, which report shall set forth the name and address of the defendants, the nature of the offenses and the fines and penalties collected or imposed by such court, judge, magistrate or judicial officer, which report shall be open to inspection during reasonable business hours to any citizen of the state. On or before the first day of February of each year, the treasurer shall transmit to each branch of the legislature a statement showing the amount of the receipts under this article during the preceding fiscal year paid into the state treasury.

3. All moneys paid into the state treasury pursuant to this article shall be appropriated and used for the maintenance and repair of the improved roads of the state, under the direction of the state commissioner of highways.

Sec. 292. Rates of toll on motor vehicles. Where a different rate is not otherwise prescribed or permitted by law, any person or corporation maintaining a plankroad, turnpike road or bridge and authorized, or which shall be hereafter authorized, to receive tolls for the passage of vehicles over the same, may charge and receive for each and every motor vehicle

propelled by any power other than animal power, passing over the same, a toll rate not greater than the maximum rate allowed by law to be charged and received for the passage of a vehicle drawn over such road or bridge by two animals, provided that for such motor vehicles designed to carry only two persons the rate of toll charged or received shall not exceed the maximum rate allowed by law to be charged and received for the passage of a vehicle drawn over such road or bridge, without a load, by a single animal.

Sec. 293. Acts repealed. All acts or parts of acts inconsistent with this article or contrary thereto are hereby expressly repealed.

Sec. 2. This act shall take effect August first nineteen hundred and ten, excepting that applications for registration may be made, examinations held and registration certificates and badges issued, under the provisions of this article at any time within ninety days prior to such act.

### And This Is the United States of America!

The legislatures of Massachusetts and Rhode Island, which are neighboring states and not foreign countries, are more or less heated up by differences arising from the enforcement of the reciprocal provisions of their respective automobile laws. Rhode Island now allows "outlanders," that is, non-residents, 10 days free travel each year, and the Massachusetts folk claim that the Rhode Islanders are using a bell punch or in some way "keeping tabs" so closely that no Bay Stater can get away with more than the allotted pound of flesh, so to speak, while Massachusetts is more generous and permits installments of ten days. To "get even," a bill has been introduced in the Bay State which defines reciprocity as the same exact treatment meted out to Massachusetts residents by other states—in other words, an eye for an eye, a day for a day, etc., etc. Meanwhile Little Rhody has suffered an attack of liberality and is wrestling with an amendment to its reciprocity clause that would enlarge the 10 days to 20. But not all of its legislators favor it. It is believed, however, that civil war will be averted and that the use of Federal troops will be unnecessary!

### When Cheating is not a Crime.

Although the taxicab companies pay taxes and registration fees and fines to the state, the learned Supreme Court of Massachusetts last week ruled that no one need pay for a taxicab ride unless he felt disposed to do so. Although a generation ago the highest courts ruled that a bicycle is a carriage, the Massachusetts tribunal holds that a taxicab—and presumably all other automobiles—is not a carriage, simply because our great grandfathers never thought of such a vehicle. The court's logic is identical with that which frequently was brought to bear in the early days of the bicycle, its ruling being as follows:

"It is certain that when this statute was originally enacted, the legislature, in using the word 'carriage' had no thought of a vehicle made up in large part of complicated machinery, and propelled by a powerful engine whose operation is similar to that of a locomotive engine on railroads. While such vehicle may be called a carriage in the broad sense that it is used to carry persons and property, it is not commonly referred to as a carriage, but is distinguished from carriages by another name to design-

nate a vehicle of an entirely different character. We are of opinion that automobiles are not included in this statute."

The court says the defendant well contends that a criminal statute is always construed strictly in favor of the defendant, making it appear that in a civil suit, a taxicab may be held to be a carriage.

The case involved was that of one James C. Coleman, who on August 9th last hired a taxicab and who, for refusing to pay the established rate, \$8.50, was arrested under the law which provides that "whoever with intent to cheat or defraud the owner thereof, refuses to pay for the use of a horse or carriage, the lawful fare established therefor, shall be punished by a fine of not more than \$20, or by imprisonment for not more than two months, or by both fine and imprisonment."

Goldman was found guilty in the lower court, but appealed and won out. Following the decision the taxicab owners were thrown into a panic and have appealed to the legislature for a law that will afford them protection and right the ridiculous situation.

### Tudor Heads Hurtubis's Association.

The so-called National Automobile Association, which used to be the Automobile Owners Association of Boston, Mass., has elected the following officers for the ensuing year: Frederic Tudor, Needham, president; A. G. Bullock, Worcester, first vice-president; Andrew B. Cobb, Newton, second vice-president; Francis Hurtubis, Jr., Boston, secretary and counsel; John M. Graham, Boston, treasurer. Directors, Samuel Carr, Boston; Bayard Thayer, Lancaster; Harry L. Burrage, Newton; Charles L. Edgar, Boston; John M. Graham, Boston; P. W. Whittemore, Boston; R. H. Stearns, Jr., Boston; Andrew B. Cobb, Newton; A. G. Bullock, Worcester; John H. Child, Brookline; Francis Hurtubis, Jr., Boston; Frederic C. Hood, Brookline; R. E. Townsend, Roxbury; Samuel E. Winslow, Worcester; Spencer Borden, Fall River; Frederick Harris, Springfield; Allan Forbes, Westwood; B. L. Beal, Boston; Frederic Tudor, Needham.

### Why an ex-Chauffeur Wants \$50,000.

Although Daniel Rohrer swears he is suffering from enlargement of the heart, it evidently has not affected his nerve. Rohrer was a one-time chauffeur for John H. Tyson, a young high roller with more money than other essentials, who has been mixed up in a couple of high speed automobile tragedies, but who has managed to keep out of jail, and it is due to what he terms Tyson's recklessness that the ex-chauffeur says his heart expanded and his health was so shattered that he had to quit chauffeuring and become a watchman. He thinks \$50,000 of Tyson's money would help relieve his sad condition, and accordingly has filed suit for that amount in the New York Supreme Court.

## JERSEY SENATORS ARE ALARMED

**Make a Hasty Repentance and Prepare a  
"No Admission Fee" Bill of Their Own  
—Its Provisions.**

Having heard that the pending bill in New York was being so amended as to include a "reciprocity clause" and that thereby the marooning of New Jersey would be rendered complete, the more or less grave and reverend Senators of the New Jersey legislature have executed an about face.

Only two weeks ago, led by Would-be Governor Frelinghuysen, the Senate voted down the Edge bill, which had been passed by the Assembly and which would have abolished the registration fee imposed on non-residents, but the unexpected news from New York brought even Frelinghuysen to his senses and the Senators now have prepared a "no-admission fee" bill of their own. It was introduced by Senator Wilson, but despite the eleventh hour repentance, whether it becomes a law remains to be seen, as the legislature is due to adjourn today (Thursday).

The Wilson measure not only provides for the free entry of non-residents three times per year, but it scales the maximum fee for residents, proposed by Senator Brown, from \$25 to \$15. The New Jersey senators, possibly to save a part of their faces, could not, however, bring themselves to permit "foreigners" from other of the United States to enter without restrictions, the Wilson bill requiring them first to obtain a permit. The text of the bill is as follows:

"Hereafter no automobile except as hereinafter provided shall be registered by the Commissioner of Motor Vehicles or his agent until the applicant therefor shall have paid for such registration a fee of \$3 for automobiles of the first class, \$5 for automobiles of the second class, \$10 for automobiles of the third class, and \$15 for automobiles of the fourth class. Automobiles of less than 10 horsepower shall be of the first class. Automobiles of 10 to 24 horsepower, inclusive, shall be of the second class; automobiles of 25 to 39 horsepower, inclusive, shall be of the third class, and automobiles of 40 horsepower and above shall be of the fourth class.

"It is hereby provided that non-residents of this State shall be exempt from the provisions of this act, as well as the provisions of the act to which this is a supplement, so far as such act relates to matters pertaining to the registration of automobiles for any number of periods not exceeding three, which periods are not to be more than five days in duration; provided, that such non-residents shall have complied with the requirements of the state in which they reside, and display upon their motor vehicles number tags that indicate the state by which they are issued and their registry number; provided, further, that such non-residents shall, either before entering the state or at the nearest registry office where licenses can be obtained within the state,

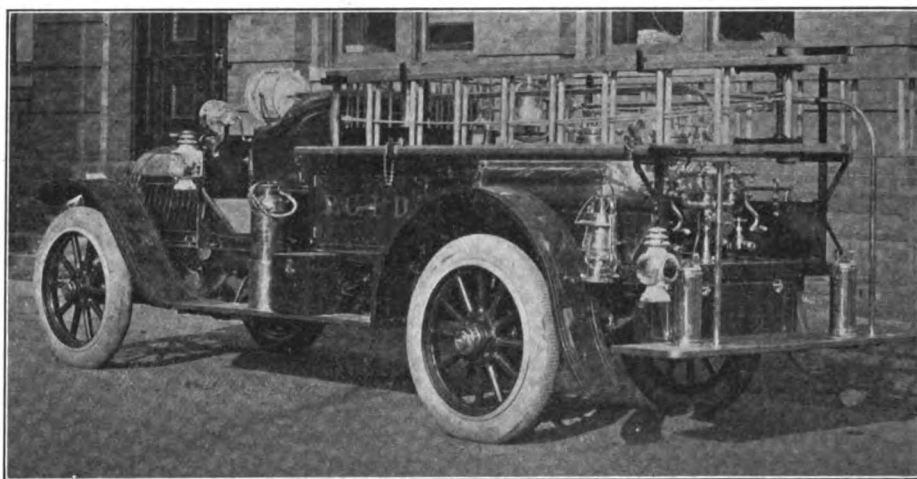
obtain an official permit, which permit shall be issued without charge.

"The Commissioner of Motor Vehicles is hereby authorized and directed to establish as many agencies within or without the state for issuing of such permits as may be necessary to conveniently and speedily accommodate all non-residents who may apply for the same, and the said Commissioner of Motor Vehicles is authorized to make such other rules and regulations as may be necessary for the carrying out of the spirit of this act.

"All acts and parts of acts inconsistent with this act are hereby repealed, and this act shall take effect immediately."

### Dogberry Entangles German Dealers.

It takes a pendantic German to read into laws meanings that were not intended. The highest court in the Fatherland just has



NEW POPE-HARTFORD FIRE ENGINE WHICH REVEALS NOVEL FEATURES.

sentenced an automobile dealer to 400 marks fine, because he gave a "demonstration" to an intending purchaser in a car having no license number. The peculiar phase of the matter is that the German law distinctly exempts "cars used on a demonstrating trip, when not rented out or otherwise paid for," but the Reichsgericht says that only brand new cars are meant by this, and if a dealer takes a glittering car out of the show room and gives a demonstration on it, he may do so "once, and once only" without paying a registration fee; but if he should use it a second time he must pay the fee first. This court claims that a car, similar in appearance and construction should not be used as a demonstration car, or if used must be registered. German dealers are up in arms over the decision, which is contrary to the order of the Chancellor of the Empire, which distinctly exempts all cars used only for demonstrating purposes, from registration.

### Altering Springs to Changed Bodies.

When a light summer body is substituted for the standard enclosed mounting of a town car or limousine, the suspension frequently may be improved by removing the outer leaves from the rear springs. Sometimes it is even better to substitute a new and more supple equipment.

## WAS BOUGHT BY SUBSCRIPTION

**Fire Fighting Automobile for Port Chester  
Purchased with Citizens' Contributions  
—Embodies Improved Equipment.**

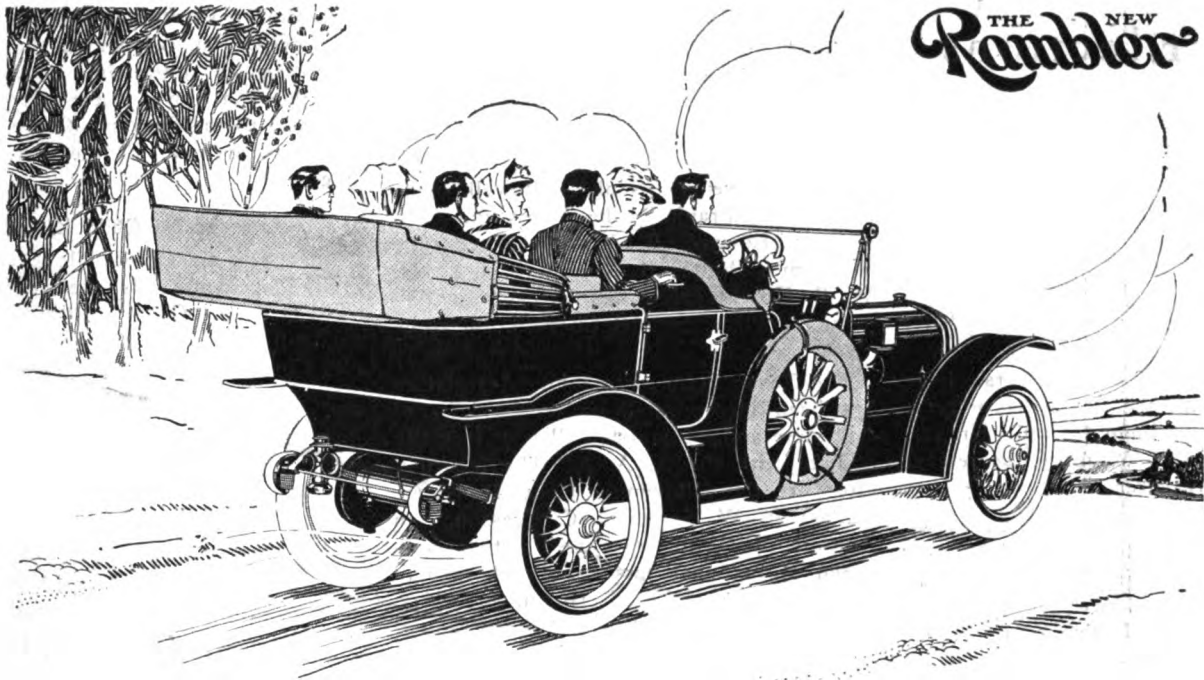
Although motor driven fire apparatus has ceased to be a novelty in the strict sense of the word, there are some distinctly novel features connected with the latest chemical engine manufactured by the Pope Mfg. Co., of Hartford, Conn., for the city of Chester, N. Y., which mark an improvement in construction as well as giving to the vehicle a more pleasing exterior.

Instead of the old style single tank for

chemicals, the new engine contains two tanks of 40 gallons capacity each, placed at the rear of the body, as shown in the accompanying photograph. The center of gravity of the machine is placed very low, giving to the vehicle a more business-like appearance and much greater stability. Besides the ordinary equipment of chemical engines, the machine carries two extra charges of chemicals in brass jars on the rear foot board, ladders hanging in brackets at both sides, and two 3-gallon hand extinguishers. The wheel base is 130 inches, wheels 36x5, and the horsepower is 40. The money for this engine was raised by subscription by the citizens of Port Chester.

### Boston Wants Its "Easy Money" Share.

The city of Boston wants some of that "easy money" which the state of Massachusetts is collecting from motorists, and his honor, the mayor, has intimated that if the city doesn't get its "bit," it may close its parks and parkways to the automobilists. The mayor dropped the intimation at a legislative hearing last week on a bill which provides that 25 per cent. of the state registration fees shall go to the city of Boston and another 25 per cent. to the metropolitan park commission. They "need it in their business," of keeping the parkways in repair.



**T**HE New Rambler Offset Crank-shaft enables you to throttle down on high gear no faster than a man usually walks. This means that in crowded traffic, much gear shifting is avoided. The straight-line drive takes the power direct from the engine to the rear axle without encountering the angle or corner, found in most other driving systems. Thirty-six inch wheels give high clearance and add to the appearance and riding qualities. The Spare Wheel eliminates tire worry because this wheel, with inflated tire, can so quickly and easily be substituted for the damaged tire. The efficiency of these features has been attained by the same painstaking methods which made Rambler quality possible.

Rambler Automobiles, \$1,800 to \$3,750

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## Club Elections

The annual election of officers of the Lancaster (Pa.) Automobile Club resulted as follows: H. C. Schock, president, and A. D. Rider, secretary.

The Cass County Automobile Club has been formed at Harrisonville, Mo., with the following officers: Dr. J. B. Douglass, president; Charles L. Harris, secretary.

Milwaukee (Wis.) motor drivers have formed a club with the following officers: Mark Werncke, president; Emil Kruger, vice-president; J. E. Maybruy, secretary; Michael Flynn, treasurer.

Automobile owners of Macon, Ga., have formed the Macon Automobile Club, with the following officers: Frank B. West, president; S. R. Jacques, Jr., vice-president; J. C. Wheeler, secretary; R. L. Sparks, treasurer.

Motorists of Wellsville, N. Y., have formed the Auto Good Roads Club of Wellsville, with the following officers: H. B. Stiffin, president; Dr. C. L. Gihls, vice-president; Thomas O'Connor, secretary; Edward C. Brown, treasurer.

New officers have been elected for the coming year by the Minneapolis (Minn.) Motor Drivers Club, as follows: O. E. Hall, president; J. H. Boldigh, first vice-president; M. M. Miles, second vice-president; Paul Eckland, secretary; George Gagne, treasurer.

Chauffeurs of San Antonio, Tex., have organized under the style of the Association of Automobile Engineers of San Antonio, and elected the following officers for the initial term: V. P. Kenney, president; D. W. McElroy, first vice-president; E. E. Ericson, second vice-president; Fred Wells, third vice-president; H. S. Ashford, secretary and treasurer.

With the enactment by the city fathers of Oklahoma City, Okla., of an ordinance regulating the fares of vehicles used for hire, drivers of motor livery vehicles have organized to fight the measure and elected the following officers: George W. Brandon, president; Chris Schwaebe, secretary, and N. N. Gatlin, treasurer.

The following officers have been elected for the ensuing term, at the annual meeting of the Chauffeurs and Auto Mechanics Club of Houston, Tex.: Van Curtis, president; W. J. Terry, vice-president; Mark Idelbach, secretary; B. F. Foster, treasurer; board of governors, George A. Ayers, Frank Bettis, Lundley Kent.

At the annual meeting of the Lancaster (Pa.) Automobile Club the following officers were elected for the ensuing year: H. S. Schrack, Mt. Joy, president; Dr. J. F. Trexler, Lancaster, vice-president; Jacob D.

Rider, Lancaster, secretary; Dr. W. H. Trout, Lancaster, treasurer; directors, W. H. Muth, Lititz; Howard Rohrer, Lancaster; George W. Kinzer, New Holland.

The board of governors of the Willimantic (Conn.) Automobile Club have appointed the following chairmen of committees for the coming year: Frank L. Powell, membership; E. Frank Bugbee, laws and ordinances; Edward F. Whitmore, contests and tours; Walter B. Knight, good roads; W. B. Knight grievances; George E. Hinman, executive; Samuel Chesbro, entertainment.

The Texas State Automobile Association has been incorporated under the laws of that state and, of course, will now formally affiliate with the A. A. A. The incorporators are the following: E. H. R. Green, Dallas; R. W. Scarr, C. C. Cresson, San Antonio. Following are the directors, composed of two members from each club in the association: E. H. R. Green, E. Corley, Dallas; J. W. Mann, M. O. Popterl, Galveston; R. E. McKie, J. T. Goforth, San Marcos; Drs. A. H. vans, Lee Hume, Eagle Pass; Henry Williams, W. N. Seeley, Waco; R. W. Scarr, C. C. Cresson, San Antonio.

### A. C. A. Bids for "Tourist Members."

The Bureau of Tours Committee of the Automobile Club of America, of which Gen. George Moore Smith is chairman, has greatly enlarged the scope of the organization's touring bureau, so that members now can secure detailed road information for tours in any state of the Union. A plan has also been perfected by which any automobilist can join the club as a "tourist member" and have the benefit of all facilities and advantages of the bureau of tours for a yearly membership fee of \$10. In addition to the facilities in connection with route cards, maps, guides, etc., the tourist members may enjoy the privileges of a chain of automobile clubs, where they may stop on their travels and receive the temporary privileges of each of the club houses.

Two route surveying automobiles are to be kept on the road during the entire coming season, the crews gathering information for tourists, mapping out new routes and investigating roads, hotels, garages, etc. The first survey car will leave New York during the coming week for the purpose of surveying the roads of South Carolina, Georgia, Florida, Alabama and Tennessee and doing some road posting with the club's yellow arrow signboards.

### Supreme Court Upholds Garage Owner.

Although it is admitted that garages do make a certain amount of noise, and that they also do emit certain offensive odors, they can not be put out of business for those reasons alone. The Appellate Division of the Supreme Court of New York just has decided the point in the case of Richard W. Sherman, brother of Vice-President Sherman, of Utica, N. Y., who obtained

from Supreme Court Justice Scripture an injunction a short time ago, against Harry M. Levingston, restraining the latter from operating an automobile garage next to the Sherman home. Levingston, however, appealed to the Supreme Court and the order was reversed, all the justices concurring.

### Revenge for Child Kills Five.

That not all automobile accidents are really "accidents," is the conclusion arrived at by the German authorities after investigating the tragic deaths of the Argentine Consul Geiger and four of his friends. The car in which these men drove not far from Munich, Bavaria, after nightfall, crashed into a tree deliberately felled across the road. A series of similar accidents has occurred in the suburbs, and the authorities began a most searching investigation with the result that they discovered evidence indicating that all these accidents had been planned by a peasant, who sought to avenge a child killed by a machine. Besides "punishing" automobile drivers, he expected to induce the government to adopt more stringent ordinances against fast driving.

### Chauffeurs Form "National Association."

Under the style The Professional Chauffeurs Association of America, William H. Walter, William H. Lescher, Jacob N. Harrison, Bruno G. Darre and Harry Chandler, of Providence, R. I., have incorporated under the laws of that state, what they call "a national organization for the co-operation of organized chauffeurs, who are interested in the welfare and progress of their profession." Its purposes are "to co-operate with other organizations in securing rational legislation governing chauffeurs and automobiles; to promote and encourage the construction of good roads; to dignify and elevate the profession of the chauffeur, and to defend and protect the chauffeur against claims of pretenders."

### When Learners Need no License.

In a test case brought before Justice Doull, in New York Special Sessions, by an automobile school, a decision has been handed down making it unnecessary for a student while learning to drive an automobile to have a license, when accompanied by a regularly licensed instructor. Heretofore city magistrates have differed in their opinion regarding this point, and one of the automobile schools of the city of New York brought the case to a higher court with the result given.

### Connecticut to Oil All Roads.

Highway Commissioner McDonald, of Connecticut announced his decision of treating all the roads in the state with an asphalt base oil, as best adapted for macadam roads. There will be a man in each county to personally supervise repairs, and another man will have charge of the oiling of the roads throughout the state.



## RECENT PATENTS.

946,780. Internal Combustion Engine. Philip D. Johnston, Cold Spring, N. Y., assignor to American Oil Engine Company, a Corporation of New York. Original application filed Aug. 17, 1906. Serial No. 330,971. Divided and this application filed May 17, 1907. Serial No. 374,266.

An internal combustion engine having a mixing chamber, means for introducing a stream of liquid fuel into the chamber, and means for introducing a stream of air into the chamber and against the stream of fuel, means for introducing a stream of water into the chamber and against the stream of fuel, the air inlet pipe and the water pipe passing through a portion of the exhaust passage of the engine so as to be heated by the products of combustion.

947,036. Lantern. William S. Mamm, Lakeside, Ill., assignor to The Adams & Westlake Company, Chicago, Ill., a Corporation of Illinois. Filed Dec. 29, 1906. Serial No. 350,022.

1. In combination, a lantern having a font, a reflector, and a support for the reflector comprising a standard rising from the font and having a channeled seat for receiving the edge of the reflector, and a spring arm having a fixed anchorage and engaging the reflector at its rim above its horizontal diameter.

947,167. Auxiliary Spring. Charles L. Thomas, Buffalo, N. Y. Filed March 17, 1909. Serial No. 483,889.

1. The combination with the main spring of a vehicle, of an auxiliary spring which is

lighter than the main spring and is rigidly secured at one end, a frame which is normally supported by the free end of said auxiliary spring, and a lost motion connection between the free end of said auxiliary spring and the free end of said main spring for causing the main spring to supplement the action of the auxiliary spring after the initial movement of the frame, substantially as set forth.

947,406. Clutch and Transmission Mechanism. John C. Carpenter, Houston, Tex. Filed March 16, 1909. Serial No. 483,695.

1. In a clutch and transmission mechanism, the combination of a chamber having a fluid port; a movable fluid displacing member acting within said chamber; driving and driven members operatively connected, one with said chamber and the other with said fluid displacing member; a sliding valve for said port; a valve seat; a guide for said valve, said guide being inclined toward said valve seat.

947,442. Tire. William D. Harris, Philadelphia, Pa., assignor to Harris Tire & Rubber Co., Philadelphia, Pa., a Corporation of Maine. Original application filed Feb. 2, 1907, Serial No. 355,472. Divided and this application filed April 26, 1907. Serial No. 370,429.

A tire consisting of a body of rubber, a mass composed of a series of long substantially parallel vegetable fibers embedded in said rubber in a relatively compact body, said fibers extending independently of each other and lying substantially perpendicular to the wearing surface of the tire.

947,477. Shock Absorber. Ernest C. Wilcox and Burton L. Lawton, Meriden, Conn. Filed Nov. 11, 1909. Serial No. 527,373.

1. A shock absorber, comprising two relatively rotatable parts, one part comprising a cam, the other part comprising a case surrounding and supporting said cam, a lever carried by each part and projecting laterally therefrom, said cam having a plurality of high points, a corresponding number of springs arranged and held within the case, each spring bearing against said cam between two of said high points and arranged to be operated by both of said high points.

# KOEHLER "40"

## \$1650 — Torpedo

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"The Easiest Riding Car In The World"

A Vanderbilt Winner.

Stock "Thirty-two," going 190 miles in 190 minutes without a stop. Price, \$2650. Licensed under Selden Patent. Write for catalog.

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# THE CLOCK THAT LOCKS

The owner of an ordinary clock is usually up against one or the other of two troubles.

Either the clock is stolen or if the lock prevents this, when he wants to remove the clock for any purpose, the key is lost.

The lock of this clock is the combination type and requires only a knowledge of the combination and a screw driver.

The movement is a 30-hour watch clock that is both reliable and accurate.

Mailed prepaid on receipt of \$3.50.

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Capacities: 1 to 18 oz. \$2.00 and up.  
Send for Booklet 70.

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Were used  
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**Blitzen Benz  
Record Maker**  
IN FLORIDA

FLYING KILOMETER..... 17.04  
FLYING START MILE..... 27.33  
STANDING START MILE.. 40.53  
FLYING START 2 MILES.. 55.38

**Brooklands  
Speedway Records**

November, 1909

FLYING START ½ MILE... 14.076  
STANDING START ½ MILE 25.566  
FLYING START MILE..... 31.055  
STANDING MILE..... 41.268  
FLYING KILOMETER..... 17.761  
STANDING KILOMETER.. 31.326

**J. S. BRETZ COMPANY**

Sole Importers

Times Building New York



Volume XXIII.

New York, U. S. A., Thursday, April 7, 1910.

No. 1

## PROMOTING AN INDEPENDENT SHOW

**Man from Troy Leases Grand Central Palace and is Busy Seeking Support—  
Dates Already Selected.**

After all, there will be an "independent" show in Grand Central Palace, New York, next winter.

The opportunity created by the dissolution of the American Motor Car Manufacturers' Association, which fathered the previous shows in that building, was too good to be resisted, and C. C. Conant of Troy, N. Y., is the man who has thrust himself into the breach. He is at present in the West engaged in seeking the support of and in "signing up" car manufacturers who are still outside the Selden ranks, and such accessory makers as he is able to enlist.

For his venture, Conant, who is connected with the Carriage Dealers' Monthly, and who has had a hand in the promotion of carriage shows, has leased Grand Central Palace for the week beginning January 31st next, which corresponds with the period of the American Motor Car Manufacturers Association's last show held there this year and which will be one week previous to the licensed show in Madison Square Garden. Conant, however, will not conduct the show under his own name, it being his intention to incorporate a company or "association" for the purpose.

When Alfred Reeves, general manager of the Association of Licensed Automobile Manufacturers, was asked whether that organization would take any action in the matter, he declined to commit himself, but he did remark that exhibiting at such a show would automatically serve to bar the exhibitor, whether of cars or accessories, from not only the Garden show but from those in Chicago and Boston as well.

### No Cut-tailment of Gasolene Supply.

Published reports that the Standard Oil Co. had issued notice that after April 15th

it would be unable to supply better than 64° gasolene except in the larger cities, are vigorously denied at the headquarters of the company, 26 Broadway, New York. When a Motor World man sought information there, J. I. C. Clarke, the Standard Oil publicity man, after consultation with the Industrial Department, denied that the company had done anything of the sort.

"The Standard Oil Co. has sent out no notice that it would make any change in the quality or grade of gasolene at any point its supply reaches," said Mr. Clarke. "It intends to furnish gasolene of proper quality to all users as it has done in the past."

### Ford Figuring on Eastern Warehouse.

Reports that the Ford Motor Co., of Detroit, was preparing to erect an eastern factory in Long Island City, N. Y., and had acquired a site for the purpose, are not wholly correct. What the Ford company is doing is negotiating for a site in Long Island City at the terminus of the Williamsburg bridge, which connects it with New York City. The land is owned by the Pennsylvania railroad, but the city has viaduct rights which must be waived before the Ford people can get a clear title to the property; this has delayed the consummation of the negotiations, the final papers not yet having been signed. When the knot is unraveled, and regardless of what the future may develop, it is the immediate intention of the Ford company to erect not a factory, but a big warehouse on the site.

### Brooks Buys into the Rothschilds.

Emerson Brooks, for 20 years vice-president of the body building house of J. N. Quinby & Co., Newark, N. J., has severed his connection with that firm and purchased a half interest in the Rothschild Co., of New York, of which he has become president and general manager. Brooks, who has been identified with automobiling since its very earliest day, states that the Rothschild business will be broadened and the connection with the body-building Rothschilds, of Paris, strengthened.

## NORWALK HAS A NEW "NEIGHBOR"

**It "Loves" the Dealer Like He "Loves" the Owner—Investigation Develops Interesting State of Affairs.**

What the cut-price automobile "leagues" and alleged "discount houses" profess to do for owners, now is to be done for the dealers, according to the general argumentative drift of an enterprise known as the Economy Distributing Co., of New York City, which is sending saffron tinted bargain sheets to dealers in various cities, and the real ownership of which is full of interest.

After reciting the cruelty of the jobbers toward the dealers, the Economy company sets forth that it "intends to sell as large a variety of standard automobile supplies as possible, direct from the factory to legitimate dealers at the same price as these supplies are being sold to the jobbers, and if this co-operative organization meets with the support from the dealers that it has the right to expect," it will be able to sell more lines of goods on this basis than is at present possible for it. "Remember," the exhortation concludes, "we sell only to dealers, not to automobile owners."

If the Economy Distributing Co., as such, does not sell to automobile owners, it nevertheless has a very near and apparently dear neighbor that does so—and at cut prices, too. The address of the Economy company is given as 99 Chambers street, while the fragrant 35 Per Cent. Automobile Supply Co., of which A. B. Norwalk is the moving spirit, is at 97 Chambers street, so close, in fact, that several New York tradesmen handling accessories in a wholesale way are not able to distinguish one company from the other. The Economy company also evinces a great leaning toward a number of knickknacks and specialties that heretofore have been more or less characteristic of Norwalk's activities.

When a representative of the Motor World called at the Economy company's ad-

dress, he was not quite sure whether he had gotten into a salesroom or a loft. It is located on the fourth floor, and there is little evidence tending to show that any considerable stock is carried. Two tables on which some small wares are displayed and some lamps and ignition appliances, are all there is to be seen. A tow-headed young man in charge, when asked to sell a box of cotter pins and a wrench, first somewhat cautiously inquired if the would-be purchaser was a dealer. Being assured that he was not, but merely an owner of a runabout, the Economy man remarked that as the "boss" was not present, he could not take the chance of making such a small sale, but that if the purchaser would leave an order for some \$50 or \$60 worth—why, then the company would be glad to furnish him the desired materials.

Then, as though a bright idea had struck the salesman, he inquired with some interest: "Have you been downstairs at the 35 Per Cent. place?" The Motor World man responded in the negative and received the information that the "35 Per Cent. place" would gladly sell him anything he wanted in the accessory line, in fact would sell some things cheaper at retail than the Economy company could sell them at wholesale. Getting somewhat mixed up in his prices, the young man added that cotter pins would only cost 10 cents a box downstairs, while he had to charge 70 cents a dozen boxes at wholesale. Obviously, he failed to see the humor of this remark.

He then proceeded to talk about the electric appliances exhibited, and offered to sell any and all of them to the inquirer at wholesale prices, stating that on electrical goods no arrangement existed between the Economy company and the manufacturers in regard to the selling to "dealers only." He also somewhat casually mentioned the fact of having exhibited at the Madison Square Garden Automobile Show, though the complete list of the automobile show exhibitors is silent about it.

Urged once more to "try the people downstairs," the Motor World man left and entered the 35 Per Cent. Automobile Supply Co.'s store, and asked for a "B. & S." wrench of a certain type. He was handed a rather poor imitation of this tool, stamped "B. & C.", for which he paid 40 cents. The similarity of the wrenches, except in quality, and the still more confusing letters stamped on the imitation, were so flagrantly unfair, that the buyer returned the wrench about ten minutes later as not being the kind he asked for. The salesman assured him that the B. & C. was "just as good," etc., but returned the purchase price when it was demanded.

#### Barkman Goes up Another Round.

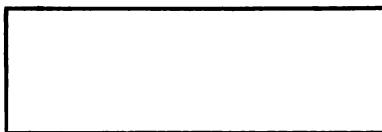
A. B. Barkman, who has been with the Maxwell-Briscoe Motor Co. since 1906, has been appointed the sales manager of that concern. Until his new appointment he was a district sales manager.

## MORE MERGER RUMORS REPUDIATED

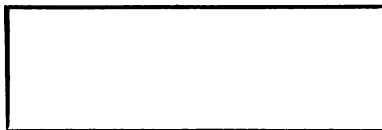
Winton and Briscoe Both Deny Alleged "Inside" Information—The Motor World Offers a Suggestion.

Having during the past three weeks connected the Chalmers and Ford companies with one or the other of the merger movements now in progress in the industry, the Detroit rumor mongers got busy last week and set afloat the story that the Winton company was about to link itself with the United States Motor Co. One of the automobile publications swallowed it hook, line and sinker, and even intimated that the information came from the inside of the Winton establishment. The Winton company itself, however, promptly repudiated the report and branded it as unfounded and when seen by a Motor World man President Briscoe, of the United States Motor Co., did likewise. He stated that while his company was negotiating with certain manufacturers, the Winton company was not one of them.

In order to save time, false reports and repeated inquiries and denials, all manufacturers desiring to record permanent denials of probable connection or pending connection with merger movements will please inscribe their names here:



All those who are engaged in negotiations or who are likely to, or desire or hope to enter mergers will sign here:



#### Norwalk Offers a New Bait.

A. B. Norwalk, who operates as the 35 Per Cent. Automobile Supply Co., and who in doing so has done not a few peculiar things, has grown generous. He intends to "give my customers an opportunity to share in the profits" of his business, to use his own words. In this guise of a Greek bearing gifts, he will gently swell the capital of his institution from \$100,000 to \$150,000, and then open his heart and "place the increase with 500 or more customers who are in harmony with this business." Norwalk tells his "harmonious customers" something about his profits, but he says nothing about how he made them. "I have succeeded in overcoming the prejudice of manufacturers against price-cutting," is not the least remarkable of the statements he

makes in his effort to induce his "harmonious customers" to walk into his stock-selling parlor. He does not, however, guarantee the truthfulness of his assertion and probably would not make affidavit to it.

#### Detroit Companies Extending Themselves.

Increases of capitalization are proving more or less epidemic among the Detroit makers, the Hupp Motor Car Co. having raised its capitalization from \$50,000 to \$250,000, and the Anhut Motor Car Co. from \$150,000 to \$300,000, while the Regal Motor Car Co. has increased from \$100,000 to \$1,000,000. The Hupp company has announced the institution of a selling campaign in Europe, and indicates that it will send C. H. Dunlap, assistant sales manager, to Brussels and Berlin to exhibit the Hupmobile at the expositions in those cities and to establish selling agencies in the principal European capitals. The Anhut company is to take over the plant of the Chatham Motor Co., of Chatham, Ont., and enter the Canadian manufacturing field.

#### Will Continue to Produce Petrels.

Disclosure has been made as to the real purchasers of the plant of the bankrupt Petrel Motor Car Co., of Milwaukee, Wis., which was sold by the referee on the 23d ult., the new owners being the Filer & Stowell Co., at Ziemer and Becher streets, Milwaukee. It is announced that the plant will continue to make cars, the business being carried on with such improvements and new features as seem desirable. Following the sale, the referee has declared a first dividend of 15 per cent. to the creditors.

#### Dowse Leaves Tires to Sell Cars.

Ralph P. Dowse, manager of the G & J Tire Co.'s Detroit branch, has resigned that position, and in conjunction with L. H. Christian has taken over the southwestern representation of the Car Makers Co. of Chicago, and will in the future handle the product of the factories producing the Anhut, De Tamble, and Cutting motor cars. The new company will operate from Kansas City as a base, and will have the distribution of these lines throughout the whole of the southwest.

#### New Home for Fisk's Boston Branch.

The Fisk Rubber Co., of Chicopee Falls, Mass., is to have a five-story building in Boston, Mass., on Boylston street, next the corner of Fairfield street. The property on which it is to stand has been bought by new owners, and the Fisk company has taken a 20-year lease on the structure which will be erected for it.

#### Nebraska Maker Erecting a Plant.

The Rogers Motor Car Co. has commenced the erection of a plant in Ralston, Neb., and expects to make such rapid progress as to have one hundred cars on the market by July 1st. The Rogers company will produce runabouts and surreys.



## EXPORTS UP TO BOOM PROPORTIONS

**February Shipments Attain a Value of Nearly \$900,000—Canada Biggest Buyer and Gains Made in All Directions.**

With Canada alone taking \$357,797 worth of cars in four weeks and all the other divisions on the geographic list without a single exception showing enormous gains, the month of February was one of the best ever known to the American export trade in automobiles. The shipments of cars and parts for the month aggregated \$883,323, as against \$391,806 in February a year ago, an increase of \$491,517, or 125 per cent. for the one month. The cars numbered 561, as against 208.

By reason of the heavy flow of American machines into British North America, that division has far outdistanced the United Kingdom as the heaviest outside buyer and has exceeded its own record of February, 1909, when it bought to the extent of \$105,993, by an increase amounting to \$251,804. The United Kingdom is second on the list, however, with \$150,457, as against \$89,026 last year, while Italy is third, with \$81,093 as against \$63,158 in the previous February.

Like the record for the month alone, the figures for the eight months ending with February reveal that every foreign market into which American cars are being sent has increased its purchases for the period. Here again British North America is in the lead, with \$1,985,601, as against \$773,895 for the same months of 1909, but it is more closely pressed by the United Kingdom, which has a total of \$1,210,921, as against \$771,350. Mexico stands third and France fourth in the summary, the West Indies taking fifth place.

The total for the eight months was \$5,374,884, as against \$2,663,355 for the eight months of the previous year; while the cars numbered 3,429 as against 1,249. Among the heaviest gains are those disclosed by the West Indies and Bermuda, British Australasia, Germany and by Other Asia and Oceania. The record in detail is as follows:

	February		Eight Months Ending February			
	1909	1910	1908	1909	1910	
Automobiles and parts of—						
Automobiles .....	\$346,967	\$770,322	\$2,692,700	\$2,297,110	\$4,566,274	
Parts of .....	44,839	113,001	369,123	366,245	808,610	
Exported to—						
United Kingdom .....	89,026	150,457	1,026,605	771,350	1,210,921	
France .....	21,144	31,145	312,595	157,521	349,415	
Germany .....	2,026	8,954	80,898	60,428	113,469	
Italy .....	63,158	81,093	107,234	103,325	106,854	
Other Europe .....	10,852	15,489	98,453	131,941	148,042	
British North America .....	105,993	357,797	513,693	773,895	1,985,601	
Mexico .....	33,156	74,668	287,661	219,634	366,681	
West Indies and Bermuda .....	43,451	66,476	196,677	190,440	315,408	
South America .....	12,390	34,379	173,599	77,082	205,358	
British East Indies .....	147	12,914	20,598	14,931	22,779	
British Australasia .....	3,856	22,882	140,792	72,739	282,508	
Other Asia and Oceania .....	2,853	10,342	76,355	61,502	169,453	
Africa .....	2,378	13,883	6,636	18,767	60,118	
Other countries .....	1,376	2,844	20,027	9,800	38,277	
<b>Totals .....</b>	<b>\$391,806</b>	<b>\$883,323</b>	<b>\$3,061,823</b>	<b>\$2,663,355</b>	<b>\$5,374,884</b>	

## Regal Starts Work on Huge Factory.

The Regal Motor Car Co., Detroit, which recently purchased a block of property at Piquette and Harper avenues in that city, has commenced the erection of a huge plant thereon. It will be built in two sections, the first of which, 582x167 feet, already is under way. It will be a concrete, brick and steel structure, a feature of which will be a circular driveway on both the first and second floors of the plant, which will be large enough to permit the use of a big power truck loaded with materials. A quarter mile testing track with banked curves also will be built; in fact, work on it already has been commenced.

## Still Adding to Goodyear Plant.

The Goodyear Tire & Rubber Co., which last year increased its floor space 50 per cent. has let contracts for the construction of additional buildings which will enlarge its Akron plant another 125 per cent., or more than 300,000 square feet. The plant then will cover 12 acres. All of the buildings are of steel and concrete fire proof construction. Among other things, the Goodyear company now has in course of erection, for the needs of its power plant, one of the largest smokestacks in the country; when completed it will be 250 feet high and 12 feet in diameter.

## To Make Radiators by New Process.

The Electrolytic Products Co., of Buffalo, which has been incorporated under the laws of New York with \$100,000 capital, has in view the manufacture of automobile radiators by an electric method which, it is asserted, is likely to revolutionize the manufacture of such articles. The directors of the company, which has not yet secured a plant, are Frank A. Abbott, Henry C. Struel and Joseph Prozel.

## Warner Opens Kansas City Branch.

The Warner Instrument Co. has opened still another branch house, this time in Kansas City, at 1613 Grand avenue. It is in charge of H. A. Reifenberg, who previously was connected with the Warner branch in Detroit.

## LUBRICATOR PATENT SUSTAINED

**McCord Wins Suit Against Lavigne and Prepares for a General Campaign—Feature Covered by Patent.**

Having obtained a decision sustaining their lubricator patent, No. 822,900, the McCord Mfg. Co., of Detroit, are making ready to wage legal warfare all along the line, the patent being claimed to be of a more or less basic nature.

The patent was upheld by the United States Circuit Court for the Northern District of Illinois in the suits for infringement brought by the McCord company against the Lavigne Mfg. Co., of Detroit, and Brandenburg & Co., of Chicago and New York, who handle the Lavigne lubricators. The court declared that the patent had been infringed and ordered an injunction to issue against both these defendants.

The patent involved applies to means of regulating and indicating the operation of the pump extending from the inside of the reservoir through the cover, a system which the McCord people assert is used in practically every force feed lubricator on the market. Fortified with the decision in the Lavigne case, they therefore announce that they shortly will institute actions against the other manufacturers who, they allege, are infringing their rights.

## Pioneer to Remove to Oklahoma City.

The Pioneer Car Co., of which W. R. Roberts is president, and which has produced a number of automobiles in a plant in El Reno, Okla., has succumbed to the blandishments of Oklahoma City and is preparing to pull up stakes and remove to the latter place. The present capital of the company, \$20,000, will be increased to \$50,000, one-half of which will be subscribed by residents of Oklahoma City. A plant, 125x156 feet, will be erected on a site which has not been definitely selected. According to the stories from Oklahoma, the Pioneer company has obtained a Selden license, although its name is not included in the list of official licensees, which most recently was issued.

## Lozier of Michigan Elects Officers.

The Lozier Motor Co. of Michigan has completed its organization by the election of the following officers: Henry A. Lozier, president; Gilbert W. Lee, Fred C. Chandler, vice-presidents; Cyrus E. Lothrop, secretary; Charles H. Hodges, treasurer. In addition to these officers the directors are Edwin R. Lozier, Lewis H. Jones, E. D. Stair, George G. Booth, Willis Buhl, Harry M. Jewett, Sherman Depew, Samuel Regar, John G. Perrin, Charles A. Emise, Arthur F. Way, Edward F. Flammer, John M. Wever, George F. Tuttle and Hugh Herndon.

**THE WEEK'S INCORPORATIONS.**

Caro, Mich.—Thumb Auto Co., under Michigan laws with \$12,000 capital.

Chicago, Ill.—George G. West Livery Co., changes name to West Motor Livery Co.

Kittaning, Pa.—Kittaning Automobile Co., under Pennsylvania laws, with \$5,000 capital.

Bayonne, N. J.—Goodman's Motor Express, Van and Storage Co., under New Jersey laws, with \$25,000 capital.

Athens, O.—Athens Automobile Co., under Ohio laws, with \$10,000 capital. Corporators—A. F. Larheard and others.

Jersey City, N. J.—Rubber Exploration Co., under New Jersey laws, with \$50,000 capital; to manufacture rubber goods, etc.

Jersey City, N. J.—Tate Gas-Electric Vehicle Co., under New Jersey laws, with \$100,000 capital; to manufacture motor trucks.

Aberdeen, S. D.—Union Implement & Transfer Co., under South Dakota laws, with \$10,000 capital; to deal in implements and automobiles.

Minneapolis, Minn.—Northwestern Overland Co., under Minnesota laws with \$10,000 capital. Corporators—W. J. Bowman, R. A. Creek and others.

Baltimore, Md.—Auto Trading & Garage Co., under Maryland laws. Corporators—Philip Wenchel, Jacob Bauman, W. H. Schweizer, F. W. Lilly.

Wilmington, Del.—Towanda Automobile & Novelty Mfg. Co., under Delaware laws with \$200,000 capital. Corporators—G. W. May, A. Smith, G. Turner.

Weatherford, Tex.—Texas Auto Co., under Texas laws with \$8,000 capital. Corporators—G. M. Bowie, C. A. Jones, B. F. Cherry and C. C. Littleton.

San Antonio, Tex.—Texas State Association, under Texas laws, no capital. Corporators—R. W. Carr, C. C. Cresson, San Antonio; E. H. R. Green, Dallas.

Brooklyn, N. Y.—Fulton Auto Garage Co., under New York laws, with \$5,000 capital. Corporators—Charles E. Van Sise, John T. Sullivan, Andrew M. Madigan.

Moline, Ill.—Plow City Garage, under Illinois laws with \$5,000 capital; general automobile business. Corporators—Fred R. Young, W. R. McClean, J. M. Johnston.

Indianapolis, Ind.—Star Starter Co., under Indiana laws with \$75,000 capital; to manufacture automobile parts. Corporators—C. R., G. A. Webber, G. G. F. Boswell.

Pittsburg, Pa.—Globe Garage & Auto School, under Pennsylvania laws with \$10,000 capital. Corporators—D. P. Reighard, A. J. Schmitz, Ralph R. Nowlen.

Brooklyn, N. Y.—S. & V. Motor Co., under New York laws, with \$10,000. Corporators—William H. Varley, James W. Saitta, Brooklyn; George A. Baker, New York City.

East Liverpool, O.—Auto Supply Co., under Ohio laws with \$10,000 capital. Corporators—W. B. Hill, G. C. Thompson, W. T. Tebbutt, L. C. Hedaleston, W. A. Hobbs.

Cambridge, Mass.—Taxacab Co. of Cambridge, under Massachusetts laws with \$25,000 capital; automobile business. Corporators—S. J. Moran, Allston; W. P. Barnhart, Cambridge.

Utica, N. Y.—Oneida Garage Co., under New York laws, with \$1,000 capital; general automobile business. Corporators—H. S. Powell, Frank Bowen, Hugh T. Foulks, William Hughes.

Greenwich, Conn.—Mutual Garage Co., under Connecticut laws with \$4,000 capital; general automobile business. Corporators—H. G. Williams, A. W. Klein, J. A. Clarke, T. J. Egan.

Windsor Locks, Conn.—Windsor Locks Auto Co., under Connecticut laws, with \$3,000 capital; general automobile business. Corporators—H. L. Cutler, H. R. Coffin, William Robertson.

Buffalo, N. Y.—Electrolitic Products Co., under New York laws, with \$100,000 capital; to manufacture automobile radiators, accessories, etc. Corporators—H. C. Steul, F. A. Abbott, J. Porzel.

Toledo, O.—Mutual Auto & Garage Co., under Ohio laws, with \$5,000 capital; general automobile business. Corporators—E. E. Sheppard, Charles A. Langdon, Charles E. Holt, Alvin C. Jones.

New York, N. Y.—Washington Garage Co., under New York laws with \$5,000 capital; to build, deal in and operate garages, etc. Corporators—Nicholas and Barbara Grunzfelder, August Welsing.

Racine, Wis.—Kelly-Racine Rubber Co., under Wisconsin laws with 3500,000 capital; to manufacture vehicle tires of all kinds. Corporators—Charles F. U. Kelly, William M. Lewis and James W. Gilson.

Rensselaer, Ind.—Rensselaer Garage, under Indiana laws, with \$2,000 capital; general automobile business. Corporators—Granville Moody, A. R. Kresler, E. C. English, R. A. Parkinson, John Marlatt.

Chicago, Ill.—Mercury Motor Co., under West Virginia laws, with \$200,000 capital. Corporators—Walter H. Jacobs, Arthur C. Marriott, Jesse B. Hawkes, Sydney A. Cryor, John C. Slade, all of Chicago.

Auburn, N. Y.—Auburn Ignition Mfg. Co., under New York Laws, with \$25,000 capital; to manufacture and deal in automobile appliances, etc. Corporators—T. J. and D. M. Winans, C. J. Knapp, all of Binghamton.

Muncie, Ind.—Muncie Gear Works, under Indiana laws with \$250,000 capital; to manufacture automobile parts, etc. Corporators—H. L. Warner, D. O. Skillen, G. H. Guthrie, John McPherson and F. F. McClellan.

New Orleans, La.—Fairchild Auto Co., under Louisiana laws, with \$1,000,000 cap-

ital; to manufacture and deal in automobiles, etc., and to operate garages. Corporators—L. H. and E. H. Fairchild, S. J. White, F. C. Bowlus.

New Brunswick, N. J.—Williamson Garage Co., under New Jersey laws, with \$50,000 capital; general automobile business. Corporators—W. M. Williamson, New Brunswick; N. H. Smith, J. B. Buckalew, Jersey City.

Trenton, N. J.—Harmer Rubber Reclaiming Works, under New Jersey laws, with \$125,000 capital; to reclaim rubber and manufacture rubber goods. Corporators—Joseph Gordon, Hyman A. Rosenthal, Thomas W. Harmer.

Jersey City, N. J.—Scherl Monorail Co., under New Jersey laws, with \$125,000 capital; to manufacture automobiles, monorail cars and other cars, etc. Corporators—A. L. O'Shea, J. W. Hertzler, New York City; T. Renwick, Greenville.

West Orange, N. J.—The Sauer Motor Trucks, under New Jersey laws, with \$1,000,000 capital; to manufacture and deal in motor vehicles. Corporators—William D. Sargeant, West Orange; George M. Judd, Edward H. Fallows, New York City.

New Rochelle, N. Y.—Bluebird Motor Cab Co., under New York laws, with \$40,000 capital; to manufacture, rent and deal in automobiles, motorcycles, etc. Corporators—J. K. Robinson, Jr., T. H. Bridgman, Pelham Manor, N. Y.; E. W. Wilson, New York City.

New York, N. Y.—American Taximeter Co., under New York laws with \$200,000 capital; to manufacture and deal in materials for electrical engineers, etc. Corporators—Vincent C. King, Junior A. Straussman, New York City; Agnes A. Meschutt, Ridgewood, N. J.

New York, N. Y.—Amateur Automobile Contest Association, under New York laws, to promote automobile contest sports. Corporators—Northrop Fowler, R. M. Jesup, H. H. Law, John Rutherford, J. D. Tooker, Clarence M. Chauncey, Charles A. Fowler, Jonathan Thompson, J. Tilbert Wilson.

**Increases in Capitalization.**

St. Louis, Mo.—St. Louis Taxicab Co., from \$17,000 to \$50,000.

Chicago, Ill.—Pfanstiehl Electrical Laboratory, from \$50,000 to \$75,000.

Springfield, O.—Oscar Auto Co., decreased from \$300,000 to \$100,000.

El Reno, Okla.—Pioneer Co., from \$20,000 to \$50,000 and removes plant to Oklahoma City.

Detroit, Mich.—Anhut Motor Car Co., from \$150,000 to \$300,000, and takes over the Chatham Motor Car Co., Chatham, Ont.

Detroit, Mich.—Regal Motor Car Co., from \$100,000 to \$1,000,000. American Automobile Trimming Co., from \$10,000 to \$30,000. Detroit-Dearborn Motor Car Co., from \$50,000 to \$100,000.

## IN THE RETAIL WORLD.

Grice & Volkman, Antioch, Ill., have opened a garage in that town.

The Glide Auto Co., Waterloo, Ia., is having plans drawn for a new garage.

Holoway & Buehler, Monroe, Wis., have sold their garage to Patterson & Keil.

Walters & Whittig, Hartford, Wis., are preparing to open a garage in that town.

The Maxwell-Briscoe Automobile Co., Sioux Falls, S. D., has "opened up" in that town.

E. D. Waterbury, Amity, N. Y., has raised the town's valuation by the erection of a garage.

Miami, Fla., is to have another new garage. Henry Wehs will build it near the Shannaban mansion.

Ohioville, N. Y., is all worked up over the erection of its first garage; Murlin Abrams is the proprietor.

F. B. Stumpf, Eureka, Ill., has swelled the local tax list by the erection of a garage. He will feature renting.

Carl Lewis, Ainsworth, Neb., has acquired a half interest in W. F. Smith's garage. The firm name will be Lewis & Smith.

F. A. Crecelius, Waterloo, Ia., has disposed of his interest in the Waterloo Auto & Supply Co. to Albert Farrand.

The Peters-Rockwell Motor Co., Waterloo, Ia., has dissolved partnership, and A. H. Peters will continue the business.

C. H. Minchin, Port Chester, N. Y., has a new garage "in the works" on Mason street. It is a two story brick structure.

Memphis, Tenn., is to be honored with a Buick branch which will be located at 59 South Second street. Louis Woods will be manager.

Work will be begun at once on a brick garage for J. A. Ford, Bridgeport, Conn., on Stratford avenue. It will be one story, 46x89 feet.

Fike & Groat, Lewiston, Ill., have embarked in the automobile business in that place; they are erecting a garage near the Fair store.

Trenton, N. J., is to have another new garage, to be erected by John H. Ashton, at 227 North Broad street. It will be a three story affair.

James Napier, Franklinville, N. Y., has purchased the Deibler lot on Church street and will erect a garage on it. It will be a two story building, 80x120 feet.

The Auto Trading & Garage Co., Baltimore, Md., has opened an establishment at North avenue and Oak street. It will act as distributor for Washington cars.

The Philadelphia Reconstruction Co., Scranton, Pa., has entered the local automobile field with quarters at 227-29 Raymond court. It will exploit Velie cars among others.

Cullen-Butler Auto Co., Memphis, Tenn., have joined the rapidly growing motor col-

ony on Monroe avenue, the local "row." Their new home is 75x150, and is built of concrete.

The Tanberg Auto Co., Eau Claire, Wis., has opened a branch at Chippewa Falls, at 203 Bridge street. It has an extensive line, among them being the Peerless, Winton and Waverley.

L. G. de Escandon, Trenton, N. J., has leased the repair shops at the Leader garage, which have been vacant for some time, and is prepared to prescribe for all ills to which motor cars are heir.

Twist & Driscoll, Trenton, N. J., have removed to their new and modern garage on South Clinton street. They are the Mercer County agents for the Mitchell, American and Hupmobile lines.

The Scranton (Pa.) Motor Car Co., is the title of a new firm which has begun business in that city on North Washington avenue. In addition to an agency business they also will specialize on repairing.

H. B. Smith, Caro, Mich., who handles the Ford, has acquired an interest in the Thumb Auto Co., and has merged his business with it. He will be manager of the concern, which is building a new garage.

Lundvall & Olsen, Mount Vernon, N. Y., have taken over on a ten years lease, the Mount Vernon Auto Station formerly operated by C. A. Stephenson. Both of the new proprietors have had ripe experiences.

The Wilcox-Clemens Auto Co., Indianapolis, Ind., has opened showrooms at 309 North Pennsylvania street, where Speedwell and Clarke cars will be handled. R. A. Wilcox and Jap Clemens constitute the firm.

Fire caused by the explosion of gasoline made merry in the Lozier Motor Co., Boston, Mass., garage, on the 1st, causing a loss of \$100,000. Twenty-five cars were destroyed, several of which belonged to private owners.

The automobile colony of Hartford, Conn., has been swelled by the entrance in the local field of the New England Garage Co., with show rooms at 232 Main street. It has undertaken to introduce the Cutting to Hartfordites.

The Dyersville (Ia.) Automobile Co. has commenced its business career in a new garage just completed for it. It is a one story brick building, 44x115. Jacob Friedman, formerly of Marshalltown, is manager of the concern.

The Buffalo (N. Y.) Republic Tire branch will be located at 908 Main street after May 1. Contrary to the impression which the name conveys, the establishment is not devoted to tires exclusively, but Jackson and Whitney cars also are marketed.

Work soon will be begun on the new garage to be erected for the Fawkes Auto Co., Minneapolis, Minn., at Hennepin avenue and Erie street. A novel feature of the establishment will be the fitting up of the basement as a warehouse.

The Fort Wayne Vulcanizing Works, Fort Wayne, Ind., and the Burwell-Smith Auto Supply Co., Oklahoma City, Okla., have been designated general distributing agencies by the Firestone Tire & Rubber Co. They will carry complete stocks of all Firestone tires and rims.

Work has been commenced on the new home of the Ford Atlanta (Ga.) branch at 311-313 Peachtree street, the premises having been leased by Ford for a long term. It will be one of the handsomest automobile sales rooms in the South, being built of white brick, and will cost \$25,000.

The Toledo-Regal Sales Co., Toledo, O., has been formed to take over the agency business of W. S. McMurray, on Jefferson avenue, and will exploit the Regal throughout northwestern Ohio. McMurray heads the new concern and associated with him are H. J. Chittenden and A. L. Trautwein.

The Abbott-Detroit Motor Car Co. of Pennsylvania, Philadelphia, Pa., is the corporate title of a new concern which has "opened up" at 441 North Broad street, where Abbott-Detroit cars will be exploited. V. P. Padula, the "mainspring" of the new enterprise, is a well known figure in the local trade.

On May 1 the New York branch of the G & J Tire Co., for many years located at 10 West Sixtieth street, will remove to 1924 Broadway, near 64th street. In addition to being more conveniently situated, the new quarters, which now are occupied by the Atlas Motor Car Co., will afford much more "elbow room."

Supplying a long felt need in local circles, the Oklahoma Motor Equipment Co., Oklahoma City, Okla., has commenced business at 310 North Broadway. L. E. Allmon and J. A. Carlson are the powers that be in the new enterprise, which will do a wholesale and retail business, and is preparing to establish a chain of agencies throughout the state.

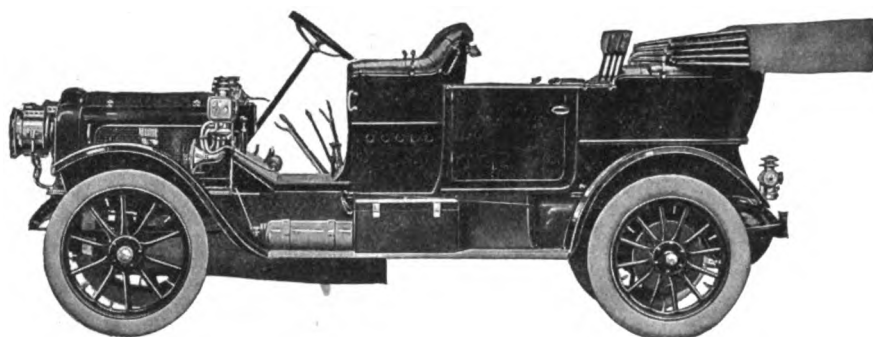
The Utah Motor Co., and L. J. Gilmer Co., Salt Lake City, have been merged under the title of the Utah Motor Car Co. For the present the Gilmer quarters at 225 South West Temple street, will be maintained, but new show rooms at 127-29 South State street, will be occupied early in April. The same lines as heretofore, will be carried, consisting of the Cadillac, Packard, American and the Detroit electric.

Fire gutted the establishment of the Capital City Auto Co., 176-186 Allyn street, Hartford, Conn., on the 2d inst., destroying twelve machines and badly scorching several others, and causing a loss of about \$25,000. Carelessness in filling the gasoline tank of a car without extinguishing the lamps, caused the ignition of the vapor, and the interior of the building was a mass of flame in an instant. The building, a one story frame structure, was badly damaged. Most of the machines burned were Mitchells, which make the Capital City concern represents.

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The development of the White Steam Car—the perfection of details, simplification of parts, etc.—has gone on steadily from year to year. As a result, the 1910 White Steamer represents as great an advance over the steam car of a few years ago, as does the 1910 White Gasoline Car compared with gasoline cars designed several years ago.

During the last nine months—from July 1st to date—more White Steamers have been made and delivered to customers than in the corresponding period of any previous year.

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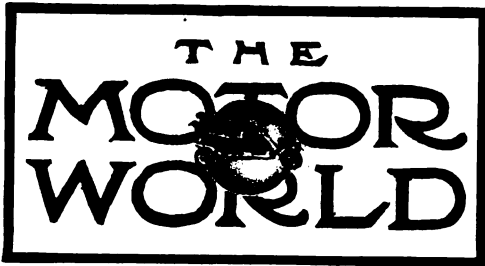
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**Possibilities of Fuel Injection.**

Air may be looked upon as the true working fluid upon which the performance of the internal combustion engine depends. The air is energized in consequence of the process generically known as combustion but ordinarily termed explosion, which results in raising it to a high temperature. The essentials to this process are, first, a charge of air; second, a combustible gas, and, third, a means of ignition. Regarded in this way, there is no apparent reason why it should be necessary to go through the elaborate and difficult process of carburetting the air prior to its introduction into the cylinder. Were the air and the fuel vapor of more nearly equivalent properties such might not be the case; they are not, however, and the fact remains that the single word carburation, which may be spoken very glibly indeed, in its ordinary acceptance includes the triple process of atomizing the fuel, vaporizing it, and subsequently mixing it with a suitable proportion of

air. Furthermore, it is a process the complexities of which are rendered doubly irreconcilable—or so it seems—by the widely varying conditions under which the engine is called upon to perform.

Just at this stage of the analysis the advantages of the fuel injection plan loom pretty large. Since heat is essential to the vaporizing process, since there is a superabundance of heat inside the cylinder during the idle strokes of the common cycle, and since there is no inherent reason for completing the carburetting process before the instant of ignition, it is possible to look upon the average carburetter as a somewhat crude and unnecessarily complex device for accomplishing a perfectly natural process. Nor is its cause materially strengthened when it is considered that despite the prodigious amount of effort which has been expended in perfecting it, the best examples of its class yet produced are open to recognized shortcomings and the performance of engines equipped with carburetters is by no means as satisfactory from the standpoint of efficiency as that which has been attained with those from which the carburetter has been eliminated.

But lest this be construed into a brief for fuel injection, either as a principle or as the basis of any one method of construction, it is to be observed that while there may be 300,000 or more cars in use to-day which are equipped with carburetters, none have been put upon the market as yet which are equipped with fuel injection systems. In other words, fuel injection as a principle has much to recommend it in a theoretical way, and judging by laboratory tests and the performance of the Diesel engine in large units, certain important practical advantages; but it remains to be put to the test of public usage. It contains many points of promise; its cause, as briefly reviewed, is alluring. But it involves such a novel interpretation of the principles of thermo-dynamics as compared with the standard product that it must be considered more as a hopeful prospect than as a substantial rival of the engine using carburetted gas. It should be given thorough investigation, even while the struggle with the carburetter problem is in progress.

**Danger that Lurks in Fly Wheels.**

Hitherto the annals of the automobile industry have been remarkably free from accidents caused by bursting fly wheels. But

it is by no means wise to ignore the existence of an agent possessing such tremendous potentiality for injury to life and limb, even though sheer good fortune or remarkable skill in design may have prevented a series of mishaps in the past. In reconstructing their motors in order to adapt them for succeeding models manufacturers have a habit of allowing one element or another to remain undisturbed, provided its original calculation called for strength considerably in excess of the requirements. The desire to accomplish manufacturing economies in this way furnishes the basis for stirring controversies between the engineering and producing departments sometimes, and occasionally results in expensive mistakes. Thus, increasing the power of the motor by a small amount has been known to result in repeated crank shaft breakdowns, bearings rapidly worn away or cut, or transmission gears and shafts stripped or bent, respectively, merely because proper allowance was not made for the added increment of power.

But in the case of the fly wheel it is not so much the result of slight increases in power which is to be feared as the growing demand for slow car speeds on direct drive. This requirement, coming as it does directly from the public, is being met as generously as possible, and whatever it implies in other respects, the tendency to develop engines producing high torque at low speeds throws an ever increasing amount of work upon the fly wheel. To steady the engine when running under load at low speed, considerably greater inertia effect is required of the fly wheel than when carrying the same load at higher speeds; the less frequent succession of impulses accounts for the difference. This implies the necessity of increasing the moving mass of the wheel either by increasing its effective diameter or by adding to the weight of the rim. But unless proper precautions are taken the limits of safety may be exceeded. Another factor, which is of weight in certain quarters, is the requirement for economy, which may tempt the designer to resort to low-grade castings for the purpose, or the assembler to set up his engines without thoroughly testing the fly wheel for flaws; even so, the risk of hidden flaws remains a more or less ominous cause of possible accident.

Already it has become known that one manufacturer has taken alarm from a series of accidents resulting to engines in the care

of his own employees. What might be the result were motors of the same class to be placed in the hands of the public, can only be imagined. But it is a fact to be deplored in this connection that there is nothing to prevent the ordinary operator from racing his engine to his heart's content; and it must be borne in mind that the centrifugal force which tends to rupture the fly wheel increases with the square of the linear velocity of the wheel. Therefore it is well to sound a note of warning just at this time, when the makers' effort is to increase the speed range of the engine. The balance wheel, which is sufficiently effective when the motor is pulling the car at three miles an hour on high gear, may become a positive menace at 60 miles an hour, unless it is of adequate strength.

### The Sad State of "Me and My Car."

Excepting the gentleman who occasionally masquerades under the alias Motor Contest Association, and whose sight is so bad that he cannot distinguish a genuine association from the other sort—and who really doesn't count—only one person has grown angry at the Motor World during the past week. He is Barney—Barney Oldfield; and Barney grew real mad, too.

En route from Florida to California, Barney dropped off at New Orleans long enough to get into print his opinion that the "Wright brothers are old ladies and Glenn Curtiss not much better," after which he boarded the train again and apparently went into the club car, where they sell hard stuff, and soft stuff, and there he dashed off another "hot one," and signed it with his real name—just like that! He struck off several copies and mailed one to each of those manufacturers whose cars, or tires, or magnetos, or ball bearings, or oil he condescends to use. He also mailed a copy to the Motor World, for the "hot one" relates to this publication. In it Barney modestly declares that he is "at the top of the ladder in my profession."

Barney tells the manufacturers to whom he mailed his missive that it is inconsistent for them to advertise "the performances of me and my car as the greatest in the history of the world" in the Motor World when the Motor World doesn't take Me as seriously as I take Myself. Therefore the Greatest in the World wants his name kept out of advertisements appearing in the Motor World, which would be, indeed, a tearful loss to the advertisers and to the Motor

World. And then, on the very heels of Barney's "hot one," there came a letter from one of the advertisers saying: "We also appreciate the fair manner in which you refer to our friend Barney Oldfield."

Barney's wrath appears to be due chiefly to the fact that the Motor World commended Chairman Butler, of the A. A. A. for blighting the crop of "made for newspaper consumption" "records" which he harvested previous to the Florida beach meet and there also has been a rankling in the Oldfield bosom because the Motor World on several occasions had timorously referred to his excursions into the woods with a troupe of his own selection as "barnstorming." He says it was racing, and as his car always overmatched those used by his compatriots, if not employees, that it was racing—of a sort—there can be no doubt.

Of course, if Barney were not the Greatest in the World and "at the top of the ladder," he would not be deserving of all this good editorial space. It is only truly great men who receive it and their idiosyncrasies are entitled to such notice. The public is interested in them.

Meanwhile if "Bill" Pickens can find time, he should take his illustrious charge to the brink of the Pacific and apply wet compresses to his brow for the better part of a day. It will prove good for what ails him and enable him to wear his hat without chafing. For his Florida exploits evidently caused a "rush" to the Oldfield head and he sadly is in need of attention. "Bill" also might call Barney's attention to the fact that his name does not appear in the A. A. A. official list of registered drivers—a lapse or neglect which in some sports might nullify records and lay even "me and my car" on the shelf for a more or less extended period, and cause manufacturers paying him stipends to write the Greatest Ever a few "hot ones" on their own account.

Buttons bearing the inscription "Revise the Wheel Tax" constitute one of the weapons which the Chicago Motor Club is using in its fight against the obnoxious and extortionate system of taxation which prevails in that city. From all accounts the buttons have not thrown much of a scare into the aldermen. The weapon that hits them hardest is the ballot, and if the Chicago club selects a couple of the gentry and marks them for defeat at the polls, it will save time, money and buttons and do good for all time.

## COMING EVENTS

April 6-9, Duluth, Minn.—Duluth and Superior Automobile Club's first annual automobile show in state armory.

April 7-9, Logansport, Ind.—Second annual automobile show in Broadway garage.

April 8-17, Los Angeles, Cal.—Inaugural meet on the new Los Angeles Motordrome.

April 9-16, Elmira, N. Y.—Elmira Chamber of Commerce's first annual automobile show.

April 11-16, Harrisburg, Pa.—First automobile show.

April 11-18, Springfield, Mo.—Springfield Chamber of Commerce's first automobile show.

April 18-23, Bangor, Me.—Second annual automobile show in Auditorium.

April 30, Philadelphia, Pa.—Quaker City Motor Club's third annual roadability run to Atlantic City.

April 30, Kansas City, Mo.—Automobile Club of Kansas City's hill-climb on Dodson hill.

May 2, Denver, Colo.—Start of Flag-to-Flag endurance and reliability contest to City of Mexico for Wahlgreen trophy.

May 3, Trenton, N. J.—Trenton Automobile Dealers' second annual 300 miles endurance run.

May 5-7, Richmond, Va.—Richmond Times-Dispatch endurance run.

May 5-7, Atlanta, Ga.—Opening spring race meeting on Atlanta motordrome.

May 9-11, Harrisburg, Pa.—Motor Club of Harrisburg's fourth annual reliability contest.

May 10-11, New York City—Motor Contest Association's reliability contest to Atlantic City and return.

May 13-14, New York City—Motor Racing Association's 24 hours race at Brighton Beach track.

May 18-19, Norristown, Pa.—Norristown Automobile Club's third annual endurance run to Scranton and return.

May 19-21, Hartford, Conn.—Automobile Club of Hartford's All-Connecticut reliability contest; 600 miles.

May 21-22, Brooklyn, N. Y.—Crescent Athletic Club-Long Island Automobile Club amateur touring contest on Long Island for Pardington trophy.

May 28, White Plains, N. Y.—Amateur Automobile Contest Association's hillclimb.

May 28-30, Indianapolis, Ind.—Grand Circuit meeting and national championship races on Motor Speedway.

May 30, Briarcliff Manor, N. Y.—Amateur Automobile Contest Association's hillclimb.

May 30, Bridgeport, Conn.—Automobile Club of Bridgeport's fifth annual hillclimb on Sport Hill, Easton.

## T. B. JEFFERY EXPIRES IN ITALY

Death Came Suddenly While on Pleasure Tour—His Remarkable Career as an Inventor and Manufacturer.

With startling suddenness, the cable on Sunday last flashed the news of the death in Grand Hotel, Pompeii, Italy, of Thomas B. Jeffery, the head of Thomas B. Jeffery & Co., Kenosha, Wis., and one of the most conspicuous figures in the American automobile industry. He died at midnight on Saturday, and as he had been in good health when he left New York in January, with Mrs. Jeffery, for a recreative tour of Europe, and as no intimation had been received that he had suffered illness of any sort, the announcement of his death was in the nature of a profound shock.

Thomas Buckland Jeffery was born at Stoke, Devonshire, England, on February 5, 1845. He came to this country at the age of 18 years and settled in Chicago.

Mr. Jeffery was married in 1874 to Miss Kate E. Wray, of Chicago. He also leaves two married daughters and two sons. He was a member of the Chicago Union League, Chicago Athletic and Chicago Automobile clubs, and a director of the Art Institute.

While the prominence of his firm and its product, the Rambler car, in itself made Mr. Jeffery a figure in the industry, his position was rendered more clear-cut by his attitude toward the Selden patent. He was one of the two "big" manufacturers who refused to recognize its validity and was the only one who held aloof from the "independent" association. He stood on such diplomatic middle-ground that there always existed hope that he would be "won over," and as a result he escaped being embroiled in the litigation that has followed in the wake of the patent, which, however, he followed with the keenest interest. When the testimony in the Ford case was being heard in New York, Mr. Jeffery was one of the most attentive listeners in the courtroom.

Shortly after the organization of the Association of Licensed Automobile Manufacturers, Mr. Jeffery, during the course of one of his occasional visits to the Motor World office, expressed his opinion of the situation. He considered that recognition of the Selden patent was good business insurance, but that the contract which licensees were required to sign was an almost impossible one and too greatly hampered freedom of action.

"It is easier to fight a patent than to break a contract," was the substance of his crystalizing conclusion.

After the decision adverse to Ford and in favor of the Selden patent was rendered, it for a time appeared likely that Jeffery & Co. would join the licensed ranks. There

is no doubt that Mr. Jeffery had serious debate with himself on the subject, but finally he told a Motor World man that the amount of royalty he would be required to pay could be as well used to pay for a good long lawsuit.

Despite his prominence in the industry, Mr. Jeffery was known personally to comparatively few of his fellow manufacturers. His firm was a member of none of the several associations and he himself was naturally quiet and reserved and self-contained. He was one of the finest listeners that ever lived. He had such remarkable control of his tongue that it is doubtful if anything he ever said got him into serious trouble. He always was well guarded in



THOMAS BUCKLAND JEFFERY

any opinion that might be drawn from him and used no unnecessary words in expressing it. Listening was his "specialty," and many a caller who prided himself on his ability as a talker has been reduced to such nervousness that he has backed out as gracefully as he knew how, simply because Mr. Jeffery let him talk himself to a standstill.

Before entering the automobile industry in 1900, Mr. Jeffery had made his fortune in the manufacture of bicycles, in which he was one of the real pioneers and a most conspicuous figure. In the late '70's he was a struggling inventor in Chicago, and in a small way was occupied with a railroad velocipede and similar appliances. In 1878 he visited England and, becoming interested in bicycles, he contracted for the necessary parts to assemble a number of the machines in this country. They did not arrive until the following year, and meanwhile Col. Albert A. Pope and the Pope Mfg. Co. had produced the first Columbia bicycle and soon thereafter acquired the Lallement patent covering the crank and pedal action. It was the Selden patent of that day and was but one of many of

which Col. Pope early became possessed. He promptly instituted suit against an alleged infringer and secured a verdict which required the infringer to obtain a Pope license in order to continue business. In 1881 Mr. Jeffery was engaged in the sale of cycle parts and soon afterward he and R. Philip Gormully, an English schoolmate of Mr. Jeffery who long had resided in this country, came together, and they began the production of boys' bicycles, which first were advertised in Gormully's name, Gormully defying the Lallement patent and in print declaring it to be worthless, while later Jeffery himself advertised for sale copies of the testimony in the infringement suit and offered to supply information to prove that the Lallement patent was public property. The formation of the firm of Gormully & Jeffery followed this procedure and peace with Pope was arranged and for a while Gormully & Jeffery operated under a Pope license, which restricted them to the production of youths' bicycles. In 1886, however, "war" broke out afresh. The Chicago firm issued a "declaration of independence" and Pope promptly responded by filing eight suits against them and by spreading "warnings" broadcast. Gormully & Jeffery fought back, and a year later the Pope interests were staggered by an adverse verdict—the first they ever had received. They carried the case higher and higher, but were beaten in every court. The doors thus were thrown wide open to all, and Gormully & Jeffery, who later became the Gormully & Jeffery Mfg. Co., swept on to fame and fortune.

Mr. Gormully was the financial and business man of the institution; Mr. Jeffery the inventor and producer. And if ever a man loved his factory it was Thomas B. Jeffery. He fairly lived in it. Even after he had attained affluence and during these later years when there was still less need for it, he constantly was roaming through his great plant, his eye taking in men and machinery alike and always seeking room for betterment. Mr. Jeffery was a fruitful inventor, but despite scores of patents issued to him both for bicycle and automobile devices, and notwithstanding the combative and tenacious nature of himself and his partner—who died in 1900—they rarely were the aggressors in patent litigation. The most conspicuous instance to the contrary concerned the patent on the clincher tire issued to Mr. Jeffery and of which the G & J tire of today is the lineal descendent, bearing the initials of the firm. The Jeffery patent was sustained in this country and imported clincher tires were driven off the market, but the Chicagoans were not content and carried the fight across the sea to their native land. There they were repeatedly beaten, but so tenacious were their natures that they took the case to the very House of Lords, the court of extreme resort, where they met final defeat, so far as Great Britain was concerned.

## THE MOTOR WORLD

In 1899 the Gormully & Jeffery Mfg. Co. was purchased for a princely sum by the American Bicycle Co.—the ill fated and so-called Bicycle Trust—and while Mr. Gormully remained a strong factor in the trust's affairs until the time of his death, Mr. Jeffery kept in the background—but not for long. The automobile had interested him and, to occupy his mind and, as he said, to provide for his two sons, then attaining to manhood, in 1900 he purchased at Kenosha, Wis., one of the many idle and abandoned plants of the Bicycle Trust, which had collapsed abjectly, and in which one of its finest bicycles had been produced. The firm of Thomas B. Jeffery & Co. then was organized and the Rambler car soon followed, the name Rambler being the same which had been borne by Mr. Jeffery's most famous bicycle. It did not take long for the man and his product to make an impress on the industry. His elder son, Charles, was trained to take care of the commercial affairs of the business, and for several years past the burden of the work has fallen on his shoulders. The younger son, Harold, was schooled in the factory itself, and thus the mantle of the father in large part has covered both sons. Although he never entirely removed his hand from the throttle, during recent years Mr. Jeffery himself has been given much to such travel as that which he was enjoying when death so suddenly overtook him.

### Original Air Tire to be Preserved.

J. B. Dunlop, inventor of the pneumatic tire, has presented the front wheel of the first pneumatic-tired bicycle to the Royal Scottish Museum of Edinburgh, where it has been allotted a conspicuous position. This interesting relic, the forerunner of a vast industry, was formally presented with considerable ceremony, during the course of which the suggestion of a monument to Mr. Dunlop was advanced. The tire, which is still in good condition, was made in 1888. The other, which has been lost, was sent to Paris in connection with legal proceedings, and there disappeared. The bicycle to which these original tires were fitted was used almost daily for twelve months, and the tire given to the Scottish Museum had never been punctured.

### De Lisser Banquetted by Former Staff.

Horace De Lisser, vice-president and general sales manager of the United States Motor Co., the selling organization for the Maxwell and Columbia interests, was the guest of honor on Saturday night last at a dinner tendered him by branch managers, salesmen and officials of the Ajax-Grieb Rubber Co., at Delmonico's, in New York. Sharing the honors with Mr. De Lisser was William G. Grieb, who has succeeded the former as president of the Ajax concern. Former President De Lisser always was popular with the rank and file of the Ajax organization, and the banquet was in the nature of tangible proof.

## HANSHUE FASTEST ON 'FRISCO HILL

**Takes the Honors in Free-for-All Event in Record Time—Other Awards are Well Distributed.**

Breaking the previous record for the course by  $5\frac{1}{2}$  seconds. Harris Hanshue, driving an Apperson Jackrabbit, won the free-for-all class at the second annual hill climb of the San Francisco Motor Club, held on the Nineteenth avenue boulevard course, Wednesday, March 30th. Hanshue's time for the distance of 1 1-20 miles was 1:07, the best previous time for the course having been established last year by a White steam car, which was not represented in this year's climb.

Although Hanshue won the free-for-all automobile race in record-breaking time his was not the fastest time of the afternoon. As usually is the case when automobiles and motorcycles mix, a motorcycle scored the speed honors of the occasion, W. G. Collins, on an Indian, soaring to the summit in  $57\frac{1}{2}$  seconds, by far the fastest time ever made over the course. This event brought the only mishap of the day. Herman Kohl, riding a Peugeot, was thrown while crossing the tracks, but escaped unhurt.

The day was ideal for the climb as the course was in good condition, while sunny skies made the atmosphere just right for comfort. The officials worked with clock-like precision so that there were no annoying delays, and as a result the crowd of 2,000 spectators, a majority of whom came in automobiles, went home well satisfied with the afternoon's sport.

The ball was started rolling at 2.30 o'clock, when Starter Edward Martin dispatched Frank Murray, in the little Buick. Murray could not seem to get any speed out of his car and required 1 minute  $32\frac{3}{4}$  seconds to reach the top. Ruddle in a Ford, followed in 1:18, but Cousins, in a Mitchell—the last one to start, beat the former's time by 3 seconds and took first prize for cars between \$850 and \$1,250.

The class for cars between \$1,251 and \$2,000 was well filled, six drivers taking the starter's count. In this event Murray drove a larger car and got to the summit in 1:12 $\frac{3}{4}$ , within  $\frac{1}{4}$  of a second of the record in last year's climb. C. O. King ran a very close second to Murray, the watches giving him 1:13 $\frac{3}{4}$ . The remaining cars took much longer to cover the distance. Because of the withdrawal of the Dorris car there were only two contestants in the class for cars between \$2,000 and \$3,000, but it resulted in the closest race of the day—both performances being a credit to the drivers and their cars. McDonald, in a Winton, was the first to make the ascent and the watches gave him 1:14 $\frac{3}{4}$ . Loughhead, in a Corbin, followed and managed to win the event by a margin of two-fifths of a second, his time

being 1:14 $\frac{3}{4}$ . The Palmer-Singer car was scratched in the event for cars between \$3,000 and \$4,000, allowing the Reliance Auto Co.'s Knox a walkover in 1:39 $\frac{3}{4}$ .

The spectators got their first glimpse of the big cars in action in the event for any cars costing \$4,000 or more. Charles Allen, in a Thomas, was the first man up in 1:11 $\frac{3}{4}$ , and when Charles Soules made his getaway in a Stearns a few moments later, the crowd expected to see the record wiped from the slate. Soules, however, disappointed his admirers, for his performance was one-fifth of a second slower than Allen's. The winner turned up in Hanshue, driving his Apperson, for his was the fastest time so far, the watches registering 1:07 $\frac{1}{4}$ . W. H. Hanson, in a Stearns, was another starter; his time was 1:21.

As in all hill climbing contests the greatest interest centered around the free-for-all event, as Hanshue had let it be known that he expected to better his time in the other event. Hanshue made good, as he sliced four-fifths of a second from his previous endeavor thereby breaking the automobile record for the course. The free-for-all attracted the greatest number of entries, 14 cars being represented. Second honors were divided between Earl Cooper, in a Pennsylvania, and O. C. Joslen, in a Stanley steamer, each reaching the summit in 1:09 $\frac{3}{4}$  seconds. Allen, in a Thomas, was third in 1:10 $\frac{3}{4}$ , and Soules, in a Stearns, was caught in 1:12 $\frac{3}{4}$ . The summaries:

#### Cars Costing \$850 to \$1,250.

- 1 H. R. Cousins, Mitchell ..... 1:15
- 2 A. Ruddle, Ford ..... 1:18
- 3 Frank Murray, Buick ..... 1:32 $\frac{3}{4}$

#### Cars Costing \$1,251 to \$2,000.

- 1 Frank Murray, Buick ..... 1:12 $\frac{3}{4}$
- 2 C. O. King, Maxwell ..... 1:13 $\frac{3}{4}$
- 3 Walter Morris, Autocar ..... 1:18
- 4 J. Lardher, Buick ..... 1:25
- 5 D. Longwell, Auburn ..... 1:28 $\frac{3}{4}$
- 6 W. R. Shadburne, Crawford ..... 1:52 $\frac{3}{4}$

#### Cars Costing \$2,001 to \$3,000.

- 1 A. Loughhead, Corbin ..... 1:14 $\frac{3}{4}$
- 2 A. McDonald, Winton ..... 1:14 $\frac{3}{4}$

#### Cars Costing \$3,001 to \$4,000.

- 1 Reliance Auto Co., Knox ..... 1:39 $\frac{3}{4}$

#### Cars Costing Above \$4,000.

- 1 Harris Hanshue, Apperson ..... 1:07 $\frac{1}{4}$
- 2 Charles Allen, Thomas ..... 1:11 $\frac{3}{4}$
- 3 Charles Soules, Stearns ..... 1:11 $\frac{3}{4}$
- 4 W. H. Hanson, Stearns ..... 1:21

#### Free-for-All.

- 1 Harris Hanshue, Apperson ..... 1:07
- 2 Earl Cooper, Pennsylvania ..... 1:09 $\frac{3}{4}$
- O. C. Joslen, Stanley ..... 1:09 $\frac{3}{4}$
- 3 Charles Allen, Thomas ..... 1:10 $\frac{3}{4}$
- 4 Charles Soules, Stearns ..... 1:12 $\frac{3}{4}$
- 5 A. Loughhead, Corbin ..... 1:14 $\frac{3}{4}$
- 6 C. O. King, Maxwell ..... 1:15
- 7 H. R. Cousins, Mitchell ..... 1:17
- 8 Walter C. Morris, Autocar ..... 1:18 $\frac{3}{4}$
- W. H. Hanson, Stearns ..... 1:18 $\frac{3}{4}$
- 9 A. Ruddle, Ford ..... 1:19 $\frac{3}{4}$
- 10 Frank Murray, Buick ..... 1:20 $\frac{3}{4}$
- 11 D. Longwell, Auburn ..... 1:27 $\frac{3}{4}$
- 12 W. R. Shadburne, Crawford ..... 1:40 $\frac{3}{4}$

#### Motorcycles.

- 1 W. G. Collins, Indian ..... 0:57 $\frac{1}{2}$
- 2 Charles Balke, Thor ..... 1:12 $\frac{3}{4}$

**LEWIS TO BLAZE GLIDDEN ROUTE**

**Pathfinder Leaves Cincinnati on Monday  
to Mark the Way—Chicago to Offer  
Trophy for Contest.**

The Glidden Tour ball will be started rolling on Monday next, 11th inst., when the Chalmers pathfinding car, in charge of Dai H. Lewis, of the Buffalo Automobile Club, who acted as pathfinder last year, will begin the work of blazing the trail for this year's Glidden tour and contest for roadsters. Because of a financial misunderstanding it had been rumored that Lewis would not have charge of the preliminary arrangements this year, but this week it was learned that Lewis had arrived at an understanding and would be in charge of the Morgan & Wright shod Chalmers car when it leaves Cincinnati on Monday next. Joseph Gardham will be at the wheel, and Nathan Lazarnick will go along as official photographer.

The first day's run from Cincinnati will be through Lexington, Ky., to Louisville, a distance of 88 miles. The second day the trail blazer will make Nashville, Tenn., 205 miles; the third, Florence, Ala., 128 miles; the fourth, Memphis, Tenn., 165 miles; the fifth, Little Rock, Ark., 209 miles; the sixth, Texarkana, by way of Hot Springs, 172 miles; the seventh, Dallas, Tex., through Paris, 230 miles; the eighth, Oklahoma City, 204 miles; the ninth, through Wichita, Kan., to St. Joseph, Mo., 207 miles; the tenth, to Des Moines or Colfax, 195 miles; the eleventh, to Davenport, Ia., via Cedar Rapids, 200 miles, and the twelfth, from Davenport to Chicago, 200 miles.

This will make the tour approximately 2,500 miles in length and fully as long as last year's test, which started from Detroit and took in Chicago, Milwaukee, Minneapolis and Denver, and finished at Kansas City. The Sunday stops will be at Memphis and St. Joseph.

There still is some doubt as to whether the tourists will be asked to make the leg from Dallas to Oklahoma City in one or two days. That is a stretch of 204 miles and the going isn't any too good. Therefore, it has been left to the discretion of the pathfinders.

The only change from the route first announced by the A. A. A. is that the tour will go from Nashville to Memphis by way of Florence instead of going over the mountains. It is definitely settled that the tour shall start from Cincinnati and end in Chicago.

Not the least important announcement this week in connection with the arrangements for the Glidden tour was the statement that the Chicago Motor Club has offered to donate the trophy to be competed for by the roadsters, and that it will be known as the "Chicago Trophy." This gift

is a departure from the precedent as the previous awards have consisted of shields presented by the chairmen of the contest board, one having been given by Paul Deming and three by Frank B. Hower. The details of the trophy have been left to a committee of the Chicago Motor Club consisting of Harry T. Clinton, Henry Paulman and John Maus. As the conditions this year will permit not only two and three, but four passengers as well, to compete in the roadster division, there are those who will not be surprised were the entries in this division more numerous than in the Glidden tour class proper, which essentially is for touring cars.

**Hurled Wrench Kills a Motorist.**

Throwing things at motorists has always been a rather favorite pastime of the ubiquitous small boy, but when full grown men take to throwing iron wrenches at passing automobiles, just because the latter happen to frighten a balky pair of mules, what may otherwise be regarded as a nuisance becomes a crime of the most serious sort. Sylvanus Johnson, a wealthy citizen of Roswell, N. M., is dead from the effects of a blow from a wrench hurled at Johnson's head a few days ago by an unknown farmer. While speeding along the road near Roswell, Johnson's automobile frightened a team of mules driven by a young farmer, and the latter threw his wrench at the chauffeur. The wrench struck Johnson, who sank back in his seat unconscious and with a crushed skull. The farmer escaped, and no clue to his identity so far has been found.

**Rochester Reelects All Officials.**

Before sitting down to their annual banquet at the Hotel Seneca last week, members of the Automobile Club of Rochester, N. Y., held their annual election and unanimously re-elected all of the present incumbents for another term as follows: Henry G. Strong, president; William C. Barry, Jr., first vice-president; W. W. Hibbard, second vice-president; Bert Van Tuyle, secretary; W. W. Dake, treasurer. Directors, three years, William C. Likly, C. J. Brown, Robert C. Shumway, N. R. Potter; two years, R. M. Searle, C. F. Wray, S. H. Mora, George Dietrich; one year, J. E. Morey, Rudolph Schmidt, J. E. Gleason, G. C. Gordon.

**Here's a Genuine E-M-F. Infant.**

Children have been named after almost everything under the sun, from presidents and kings down to prize fighters and baseball players, but the distinction of being the first man to have his boy christened after an automobile belongs to Howard Carpenter, of Ellisville, Ill. The latter some time ago bought an E-M-F. "30," and became so enthusiastic over it that when a little Carpenter arrived in the home of the "Newly-weds," they christened him E-M-F. Carpenter.

**DATE FIXED FOR VANDERBILT RACE**

**Will be Run Earlier Than Ever and Awards  
Will be Larger—Minor Events  
Also Carded.**

Scheduled earlier than ever before in its history, and under improved conditions which should make the finishes in all classes closer together and more exciting than heretofore, that premier American classic, the Vanderbilt Cup race, will be run for the sixth time, on Saturday, October 1, over the Long Island Motor Parkway and the adjacent highways of Nassau county, under the auspices of the Motor Cups Holding Co., of Mineola, L. I. Starting at 9 a. m. the race will be run over the same course and distance as last year, comprising the Parkway, Massapequa and Old Country roads, a 12.64 miles circuit which will be covered 22 times, making a total of 278.08 miles for the big race.

This year the emoluments which will go to the winner will be more valuable than ever before, and doubtless will serve to attract noted drivers who refrained from competing last year because of the, in their opinion, inadequate compensation offered. The victor, in addition to the honor of having his name inscribed on the trophy will receive \$2,000 in cash and a bronze plaque which will be his permanent property. The contest will be open to all cars owned in this country, whether of domestic or foreign manufacture, which have a piston displacement between 301-600 cubic inches, and of which make at least 50 cars of various models have been built during the year preceding the race. No other restrictions are imposed on cars which may be entered. While, under the 1910 contest rules of the American Automobile Association, which will govern the event, the piston displacement classification for the race, includes two classes in the A. A. A. category, the cars which may be in either division in the latter classification will compete as one class for the Vanderbilt Cup. However, there will be two plaques awarded, one to the driver making the fastest time in each class, while the pilot scoring the best time in either class also takes the cash and cup.

Retaining the features which lend to the function a merry-go-round resemblance, there also will be run at the same time and over the same course, as the big race, the two minor events, the Massapequa and Wheatley Hills Sweepstakes. These events will start at 10 o'clock, one hour after the Vanderbilt pilots are sent away, it being planned to have the drivers in these classes finish at or about the same time as the contestants in the major race. In the Massapequa race, which is open to cars having a piston displacement between 161 and 230 cubic inches, the circuit will be covered ten times, making a total mileage of 126.40, and



## THE MOTOR WORLD

### GRAND PRIZE RACE IS REVIVED

**Will Follow Vanderbilt Cup Event on Long Island Parkway—Gold Cup and \$4,000 Chief Award.**

Entry blanks for the second international road race for the Grand Prize of the Automobile Club of America, which will be held on the Long Island Motor Parkway, Saturday, October 15th, made their appearance this week, and if sufficient entries can be secured between now and August 1st, the time of closing, the race should assume the importance of the former international Vanderbilt cup races, and prove fully as interesting as the first Grand Prize race two years ago.

According to the announcement made this week the Motor Cups Holding Co., of which W. K. Vanderbilt, Jr., is president, will conduct the race, sanction having been granted by the Automobile Club of America.

The distance will be 278.08 miles, covering the course of 12.64 miles 22 times. As the International Association of Recognized Automobile Club has no formula for international racing this year, no restrictions as to weight, cylinders, dimensions, etc., will be made, but all cars taking part in the race must carry two persons seated side by side, of a minimum average weight of 134 pounds, and the cars must have a reverse gear driven by the motor, an exhaust that is not directed toward the ground, and the overall width of the car must not exceed 68.89 inches.

The entrance fee for each car is \$1,000 before August 1st., with an additional premium of \$250 for each car entered between August 1st and September 1st, the final date of closing. A deposit of \$300 per car must accompany the entries, which are to be made through the recognized automobile club in the country in which the car is manufactured. American entries are to be made through the Automobile Club of America. Should one manufacturer desire to enter two cars of the same make the fee will be \$1,500, and \$1,750 for three cars.

The first prize will be the gold cup which was first raced for in 1908, and which is said to have cost the Automobile Club of America \$5,000. In addition to the gold cup, cash prizes will be provided for the drivers, the first prize being \$4,000, the second prize, \$2,000 and the third prize \$1,000.

The first Grand Prize race was held at Savannah, Ga., November 26th, 1908, and as now is a matter of ancient history, was promoted by the Automobile Club of America, when it seceded from the American Automobile Association, primarily to "kill" the Vanderbilt Cup race that year. Four countries were represented—Italy, Germany, France and America—and the race was won by Wagner of Italy in a Fiat, who covered

the 402 miles at an average speed of 65.1 miles per hour. Hemery, of Germany, in a Benz, was second, the difference in time between them being only 56½ seconds. Since that time, the hatchet has been buried and the forthcoming race will be a harmonious one all around.

### Heaping Blame on Motor Cars.

First they blamed motoring for the prevalence of nervosity, then came "speed-mania" as a new disease, still later followed "nasomotor-rhinitis," and now comes the president of the American Boot and Shoe Manufacturers Association, J. H. Hanna, and blames the automobiles for the high price of boots and shoes. He explains that, on the one hand, owing to the increased demand for leather in connection with the upholstery of motor cars, and on the other, owing to the spread of vegetarianism, there is a shrinkage in the number of cattle being killed, the number of hides available for the manufacture of boots and shoes is decreasing. Manufacturers of raincoats, rubber boots and rubber tubing also are calling down the vengeance of heaven upon the motor car, which swallows all the rubber in sight and leaves them only the scraps.

### Motor Car "Unhors" a Trolley.

Hitherto, in collisions with trolley cars, the automobile usually came off second best, but at last it seems as if the big touring car has become tired of playing second fiddle and is going to do a little bumping on its own account. In Louisville, Ky., a six cylinder automobile so unceremoniously bumped into a trolley car, that it knocked the latter clear off the tracks, and pitched the motorman out into the street. The motorman has sued the automobile owner, and considers \$5,000 to be the proper sum due him for his hurt feelings.

### Tire Inflation that Lasted 14,000 Miles.

The extensive use to which the physician can put a motor car is well exemplified by Dr. J. G. Sheldon, of Kansas City, who reports having driven a Franklin 22,000 miles since May, 1908, an average of more than 33 miles a day. Even more remarkable than his mileage is Dr. Sheldon's tire record. He declares that three of the four tires on the car were not inflated until they had traveled 14,000 miles, and that the only attention the engine has required has been the cleaning of the auxiliary exhaust ports.

### Motor Wagons to Replace 1,000 Horses.

In order to make room for the new motor driven express wagons, the Southern Transfer & Express Co., of Rockford, Ill., offers its 1,000 horses for sale. For the purpose of preventing a sudden slump in the price of equines, should such a quantity be thrown into the market all at once, the company has announced its intention of disposing of only fifty head each week, until the whole thousand are sold.

the winner will receive \$1,000 in cash, in addition to possession of the trophy until it again is contested. Cars equipped with engines between 231 and 300 cubic inches will be eligible for the Wheatley Hills race, and will be required to make 15 circuits of the course, 189.60 miles. The winner will receive the same award as in the Massapequa event. All cars entered for any event must pass examination by a technical committee of the A. A. A. contest board prior to October 1. Entrants in the Vanderbilt will be assessed \$500 per car, and in the Massapequa and Wheatley Hills classes \$250 for each nomination, and prospective or intending entrants of machines are prohibited from making such announcement or practicing on the course until the entry is duly made and the fee paid.

### Regal to Start on Another Circuit.

The Regal Motor Car Co., which last year caused its first 1910 Regal "30" to be driven from New York to San Francisco in 30 days, and afterwards sent the car on a 15,000 miles demonstrating tour of the country, will, on the 11th inst., start the same car, now dubbed the Regal Plugger, on another circuit of the country. This itinerary will include all the larger cities in the eastern and central section of the country. The first section of the run lies between Detroit and New York, via Toledo, Cleveland, Buffalo, Syracuse, Boston, etc. The second section will lie toward Kansas City. The third section has a course to Omaha and the last section will be a return to Detroit via Chicago. The Regal people declare the car is absolutely the same, as it was when it reached San Francisco last year.

### Where Black Skin Has Advantages.

Although Paris, France, has enough stirring events to keep it busy, and has also enough woman taxi-chauffeurs without getting excited over one more or less, the latest addition to the "taxi-chauffeuses" is creating a veritable furore in the French capital, where negroes are comparatively few and far between. She is a mulatto, and her appearance on the boulevards furnished a sensation to the habitués of the streets, who it is said, used her cabs in preference to all others. According to the tall tale wafted from Paris, the dusky driver is never without a fare, and the gendarmes are called upon frequently to decide which one of the waiting customers is entitled to a ride in her cab.

### Ross Heads the Superior Club.

At the annual meeting of the Superior (Wis.) Automobile Club, officers for the coming year were elected as follows: Wilbur Ross, president; Dr. George Saunders, vice-president; A. T. Roth, secretary; Dr. H. J. O'Brien, treasurer; board of directors, the president, vice-president, Samuel Anderson, Dr. J. A. Rene and W. S. Wingate.

## DYNAMOS USED FOR RAMBLER TESTS

**Convertibility Feature of Laboratory and Bench Equipments—Unique Arrangement for Final Tryout.**

While the electric method for accurate and efficient testing of motors and complete machines, utilizing the dynamo both as a driving and driven agent, is not new, it is doubtful if ever it was employed on

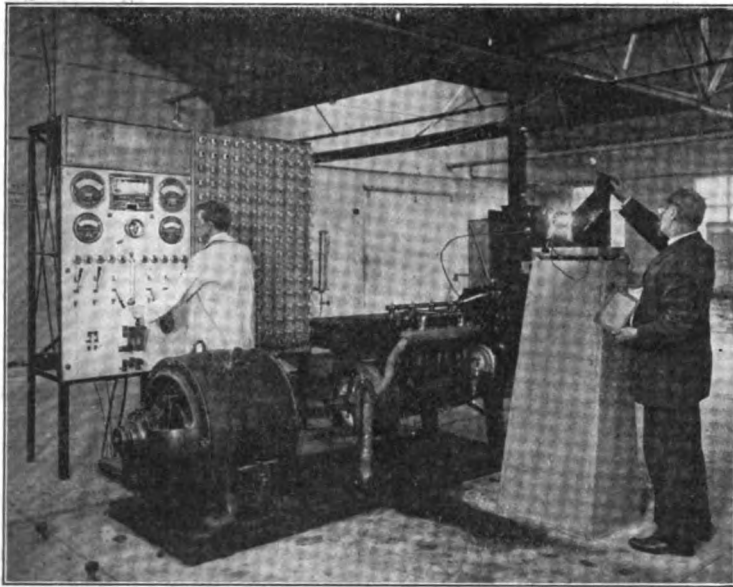
power. Needless to add, the trial is made to include the full speed range.

During this test the engine is closely watched and if trouble of any kind, such as knocking bearings, noisy gears or valves, becomes apparent, the difficulty is immediately remedied. No engine is permitted to leave this stand, if it does not run noiselessly and without vibration.

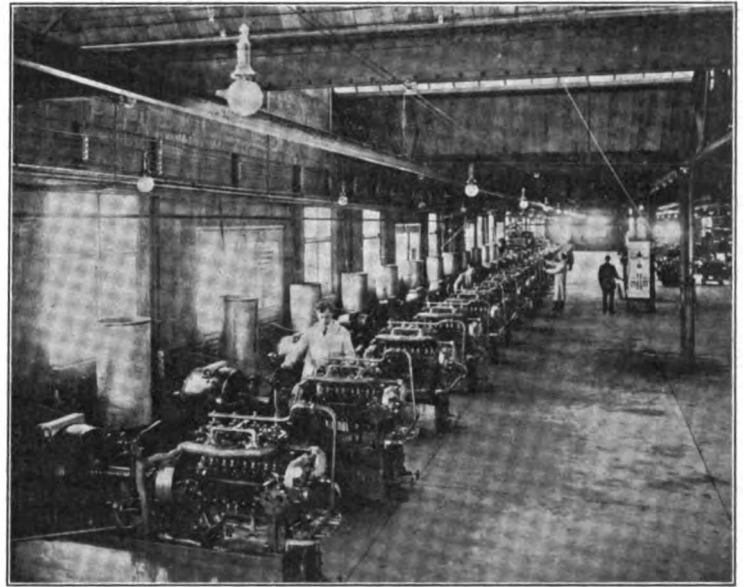
These seventeen stands are constantly busy, while in addition, there is one reserve stand for experimental purposes.

is shown on an indicator, and serves to detect leaks of power, due to a possible error in assembling or to difficulties in transmission or axle.

The unique arrangement of this testing stand particularly deserves attention. As will be clearly seen from the accompanying photographs, the seat of the operator, indicator and rheostat are carried on a separate bridge-like structure completely independent of the chassis. By shifting the lever on the rheostat the tester can vary



MOTOR TESTING IN NEW RAMBLER LABORATORY



TEST BLOCKS IN NEW RAMBLER FACTORY

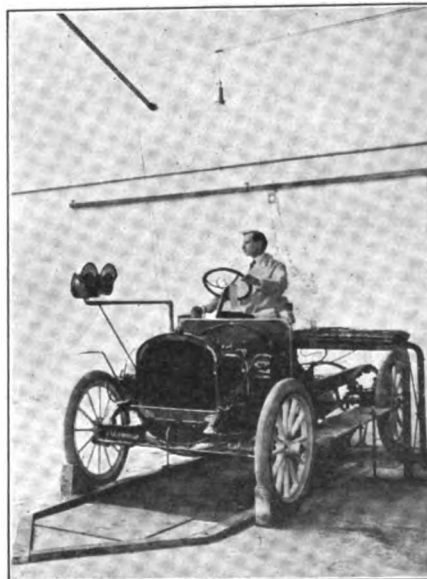
such an extensive scale as is the case in the factory of Thomas B. Jeffery & Co., Kenosha, Wis.

Because it is more difficult to detect flaws in a complete engine and a completed chassis, than to discover weaknesses in separate parts, one entire building—covering floor space equivalent to one-half the floor space of the original Rambler factory—is devoted to motor and chassis testing alone.

Seventeen dynamos are arranged on seventeen concrete stands, each stand making a complete unit, with necessary cooling apparatus and means to carry off the exhaust gases.

When a motor is completed in the engine assembly department, it is picked up by a traveling crane and carried to the testing department. Here it is deposited upon one of these stands, for the purpose of being tested before being mounted in the chassis, both in regard to its horsepower efficiency and in order to detect its most insignificant faults. Connections with the dynamo being established, the latter turns the engine while the new parts are thoroughly limbered. Then the operation is reversed. The engine is started and drives the dynamo, registering on the indicators the amount of power given. This operation continues for many hours, until the engine is thoroughly worked in, and scientific tests show that it is delivering its rated horse-

power. After an engine has successfully undergone this test, it is assembled in a chassis, and then returned to another part of this department, for the rear-wheel test.



"ROAD-TRYOUT" ON ROLLERS

The front wheels are securely blocked, while the rear wheels rest upon rollers sunk below the floor. These rollers are connected with a dynamo by means of chains. The power thus delivered to the dynamo

the resistance of the dynamo, increasing or decreasing the load which the motor has to overcome, and thereby giving the effect of hill climbing or running on level roads. Watching the indicator every instant during these tests the operator can easily determine exactly the amount of work done by the motor under varying loads and under diverse conditions.

As is but natural under such careful management, the materials going into the make-up of the new Rambler cars are subjected to the most rigid and careful tests before being cast or forged into cylinders and frames, valves and pistons. The tests are both mechanical and chemical, and are carried out in the elaborately equipped laboratories of the Rambler factory, where the facilities are such as to permit thorough and accurate tests of all kinds.

### New Jersey Dealers Choose Officers.

At the annual meeting of the New Jersey Automobile Trade Association in Newark last week, the following officers were elected: George E. Blakesley, president; J. W. Mason, vice-president; R. A. Greene, treasurer, and G. H. Smith, secretary. George Paddock, the retiring president, and Inglis M. Uppercu, were chosen directors for two years, and W. H. Ellis, the retiring secretary, director for one year. All of the officials, save President Blakesley, who hails from Jersey City, reside in Newark.

## TRAVELED UNFREQUENTED ROADS

**The Hansons, Man and Wife, Cross the Continent by Unusual Route—Experiences that Befell Them.**

From Saratoga Springs, N. Y., to San Francisco on a pleasure jaunt, through the bottomless mud of Louisiana, plowing through the swamps which no other car had ever been able to cross; lost in the Arizona and New Mexico deserts, into old Mexico and up the coast, that's the remarkable trip just completed by Walter H. Hanson and his wife in his 30-60 horsepower Stearns touring car.

When Hanson started out many tried to dissuade him from attempting the journey, telling him that it would be impossible to cross Louisiana, but Hanson was confident that his big and powerful Stearns would pull him through successfully, and he was not to be turned from his plans. At New Orleans the same story was told him—that it would be impossible for him to cross the state in the direction of Texas, a route that had never been traversed by an automobile. The roads were hub-deep in mire, and the rain was falling in torrents. For many a hundred miles the big Stearns pushed its way through the mud, most of the time on the low gear. At times the car was forced to run through lakes of water, and the engine was covered to prevent the flooding of the mechanism. This swamp land, Hanson says, is the worst that he had ever tackled in an automobile, and after reaching El Paso the party remained for a week of rest.

In New Mexico roads that never before had been traversed by a motor car were taken by the Stearns. The big machine proved a curiosity to the Indians, and at every stop was surrounded by natives, who had never seen an automobile before.

At Phoenix, Hanson was warned not to attempt to cross the desert at this season of the year. But he had braved hardships in the rice land of Louisiana, had faced highwaymen, and had traveled more than 5,000 miles without serious mishap, and the desert had no terrors for him. On the first day out both Mr. and Mrs. Hanson were charmed with the desert. They fared well until reaching Ehrenburg, on the Colorado River. Here some delay was occasioned by the Indians who were not prepared to ferry the motorists over the river. Luckily for the Hansons the car was well stocked with provisions, for there is only enough at Ehrenburg for the few Indians who spend the winter there.

Then came along a big sand storm, and for a day and a night the party were lost on the desert somewhere between Ehrenburg and Chuchawalla. Roads, which are at best mere trails through the wilderness were completely obliterated during the

storm, and the motorists were appalled to find before them nothing but a wild waste of sand, with the wind blowing hard across the plain. The wind tore the flaps from the side of the machine and sand penetrated every part of the mechanism. Using the big car as a wind break, the party went into camp without knowing where they were. It was impossible to see further.

On the following morning the storm had abated sufficiently to allow the party to go on. The car, however, was driven far out of the regular track and it was not until dark that Mecca was reached, with less than half a gallon of gasoline in the tank.

These were only some of the experiences of the party on the long journey. At present the Hansons are touring in California before leaving for the East. Mrs. Hanson is a niece of Leland Stanford and she expects to spend some time visiting the famous university of the same name.

### Seeks National Aid for Road Work.

Although President Taft has declared that road improvement is essentially a function of the several states and thereby cast dampened hope of national aid, it has not deterred Senator Bankhead from introducing and having favorably reported to the Senate a bill which seeks to make the Federal government a party to such far-reaching work.

The measure provides an appropriation of \$500,000 for the beginning of the highway construction. It is said in the report that this amount is purely for an experimental trial of the plan.

The Bankhead bill stipulates that the \$500,000 shall be spent in building better roads for the rural free mail delivery service. This feature of the bill makes it an act to extend a governmental function. The requirement is incorporated, however, that for every dollar the government spends in road building, the state or county where it is expended must spend another dollar on the same road. This means \$1,000,000 worth of good roads out of the first appropriation.

It is declared in the report that there is a country-wide sentiment in favor of better public highways. The automobile has done much to encourage this sentiment. Various states have made appropriations, and these have been supplemented by the counties, the report further states.

It is set forth that there is now an annual appropriation of \$35,673,000 for the rural free delivery service. This service is seriously hampered by the bad roads. To build better roads on the rural routes would therefore serve a double purpose, the report says. It would facilitate the mail service, and give the country people better highway accommodations.

Senator Bankhead also refers to the fact that France has expended \$612,775,000 on its system of highways. It is therefore possible in that country for a single horse to haul on an average 3,306 pounds at a load.

## NOMENCLATURE OF TIRES AND RIMS

**Definitions that Will Assist Understanding of Common but Confusing Terms—"Q. D.'s" and Demountables.**

While the average motorist usually is familiar with the nomenclature of the rims and other parts of the chassis, he sometimes is in a quandary when it comes to the correct terms to use when ordering his tires. To assist understanding in this regard, the Firestone Tire & Rubber Co. has issued an explanation which shows clearly the difference between the various kinds of tires and rims manufactured and marketed at present.

The regular clincher tire has a pliable base or "bead" and fits the one-piece clincher rim. All tires larger than 3-inch require staybolts (otherwise known as lugs) to anchor the tire safely in the rim.

The Quick Detachable clincher tire has a stiff base and is fitted with flap to protect inner tube and prevent tire from creeping. This tire is used on quick detachable rims having removable clincher sile-locking rings. No staybolts are required.

The Quick Detachable Cable Base tire, variously known as the straight-side or straight-bead, has wire cables embedded in its base, making the bead rigid and non-elastic. This tire fits quick detachable rims using side-locking rings, whose inner edges are either straight or curved outwardly, instead of being clincher shape. No staybolts are required.

The clincher demountable rim carries one-piece clincher rims and regular clincher tires. It requires a series of special short-stem staybolts.

The quick detachable demountable rim carries quick detachable clincher rims and tires. It combines the already inflated tire feature with the facilities for quick replacement of tires on the loose rims afforded by the quick detachable rim. No staybolts are used.

### How Mirror Would Help Wagons.

Motorists who value the appearance of the rear panels of their expensive limousine cars have made it a fixed custom to equip each new car with a mirror which will afford the driver an indication of the nature and probable movements of following traffic. The principle of self-preservation has induced the practice, though it is in no wise compulsory. Some day, it may be, owners of commercial vehicles which carry bulky loads or obtrusive bodies may be induced to adopt the same practice. It would materially assist the drivers of such machines and also would tend to make their evolutions less of a menace. Indeed, the city of Los Angeles already has taken the unpleasant initiative of requiring the use of such devices on all covered vehicles.

## HOW NEWCOMB INJECTS THE FUEL

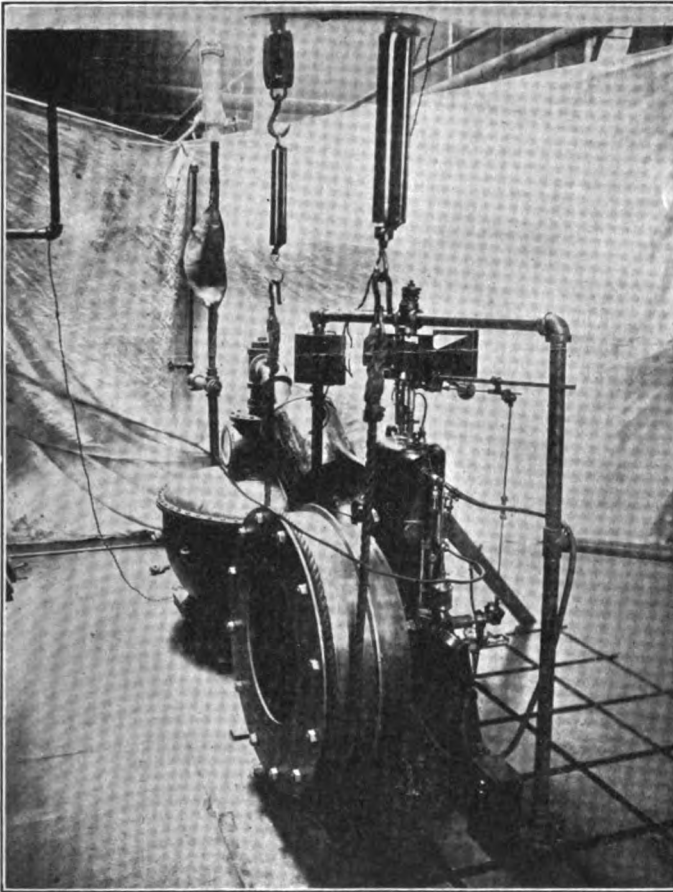
Simple Pump Replaces Carburetter and May be Adapted to Two-Cycle or Four-Cycle Engines.

Among the numerous and widely varying projects for the development of the internal combustion motor none has more uniform support from the theoretical point of view than that of fuel injection. Several different types of engine have been built which operated with more or less success on this plan, the latest and most interesting enter-

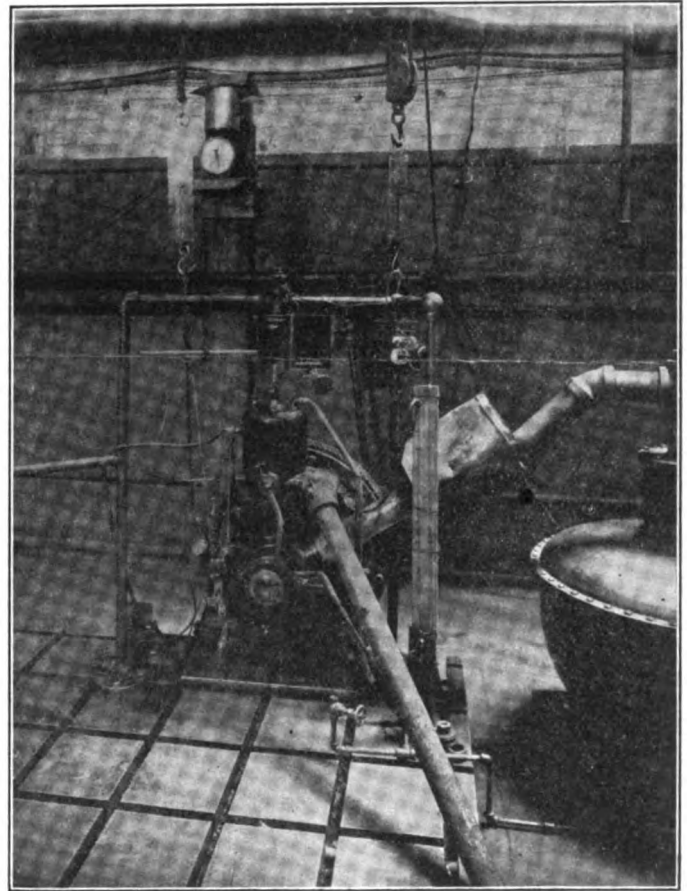
is to license other manufacturers to use the Newcomb patents, which, in a broad way, are held to cover the use of the fuel injection plan under certain conditions. Though the engine has not come before the public hitherto, one prominent New England automobile manufacturer has been developing it with a view to its adoption in commercial vehicle haulage and was known to be at work upon it even before the formal organization of the Newcomb Engine Co.

Generally, the Newcomb plan, as it may be termed, is merely that of eliminating the ordinary carburetter and substituting for it a fuel pump capable of feeding the liquid

Whereas in the ordinary two or four cycle motor, governing commonly is accomplished by throttling the charge without altering substantially the proportions of the gas, in the Newcomb engine, the quantity of fuel is the only variable encountered. This means that at slow speeds and light loads the gas is burned in an excess of air, and the result is that theoretically perfect combustion is secured. As a certain amount of waste gas always remains in the combustion chamber at the conclusion of the exhaust stroke, it follows that with the conventional form of engine, throttling besides reducing the quantity of gas inducted also has the effect of increasing the proportion



NEWCOMB ENGINE SHOWING FUEL PUMP



END VIEW SHOWING TEST EQUIPMENT

prise of the sort being the Newcomb engine. Although this motor is not absolutely new, its invention dating back several years, in fact, it was given its first extensive public demonstration recently when Joseph H. Freeman, a Wall street engineering expert, explained its principles and pointed out the mechanical features of a working model which was exhibited to the members of the Automobile Club of America at its Fifty-fourth street club house.

Following several years of experimentation on the part of its inventor, Edward C. Newcomb, the Newcomb Engine Co. was organized about one year ago, "to manufacture engines and automobiles." The chief purpose of the company, however, as the Motor World explained at the time,

fuel directly into the combustion chamber at the end of the compression stroke. As a result of this apparently slight change in the mechanical construction of the engine, the cycle is altered to the extent that instead of inducting a supposedly homogeneous mixture of gasoline vapor and air, only pure air is drawn into the cylinder during the suction stroke. This is compressed during the following stroke and is energized by the usual ignition or explosion process during the working stroke, in the regular way. The most evident advantage of the Newcomb system results from the fact that the fuel is injected into the charge of compressed air in variable amounts conditioned on the load requirement of the motor.

of combustible gas to non-combustible residue. With the arrangement contemplated in the Newcomb engine, however, the proportion of air to residue remains fixed, so that with small fuel charges there always is an abundance of air to support combustion.

Ensuring perfect combustion at low speeds and loads has the effect of increasing the mean effective pressure and so the power of the engine, and so of augmenting both its torque at low speeds and its thermal efficiency. At full loads, of course, complete impregnation of the air with fuel vapor, forming a thoroughly carburetted charge, is possible, but obvious advantages result from retaining a slight surplus of air even under full load conditions, since



theoretically it ensures perfect combustion. As a matter of fact it is claimed that about 90 per cent. of the maximum possible mean effective pressure is obtainable with about 75 per cent. of the fuel necessary to form the most explosive homogenous mixture with the entire charge.

The breadth of the Newcomb plan may be understood when it is explained that it is equally applicable to both two-cycle and four-cycle motors; in fact, its scope is so broad that it almost might be inferred that a license to use it would convey upon manufacturers the privilege of merely employing a fuel pump instead of a carburetter, but otherwise to follow their own inclinations in regard to design and construction. The real distinction between this and other fuel injection projects, however, lies in the fact that with the Newcomb engine, injection takes place after the completion of what is currently understood as a normal degree of compression. Like them, however, the exact instant of injection and the quantity of oil delivered may be varied to suit the load requirements.

This is an important distinction, because of the numerous other fuel injection systems which have been invented, by far most conspicuous is the Diesel, wherein an abnormal degree of compression is essential. In this system, pure air is compressed to such a degree that its temperature rises above that required to ignite the mixture. Injection takes place during the working stroke, the fuel being ignited instantaneously as it is forced into the cylinder. Because of the extremely high rate of thermal efficiency achieved with this motor it has come to be considered as more or less a classical example of its type, although it has not been reduced to small sizes and is not generally considered directly applicable to use in motor cars at the present time.

In still another fuel injection system, which only recently has been patented in this country, high compression also is employed, the scheme being to compress pure air to a point above the temperature at which the fuel will vaporize, and to inject the fuel when that point is reached, but before compression is complete, subsequently carrying out the functions of ignition and expansion in the normal way.

Although the Newcomb principle already has been applied in a variety of ways, preference is expressed for the two-cycle type of engine because, as Mr. Freeman explains, "it may be made to develop about as high a mean effective pressure in the two-cycle as is possible in the four-cycle, and at the same time operate as efficiently through as wide a range of speed." The first engine built was of this type, and it is this motor which is here illustrated as mounted for testing purposes in the laboratories of Columbia University. Its cylinder dimensions are  $5\frac{1}{2}$  by  $5\frac{1}{2}$  inches, bore and stroke, with  $4\frac{3}{4}$  inches effective length of stroke. In construction it is not unlike

other two-cycle motors of conventional pattern save for the fuel pump, which is plainly shown in one of the pictures, from the top of which a very fine tube is seen to lead to the cylinder head.

With this motor it has been found possible to run under various loads with mixtures ranging from  $15\frac{1}{2}$  to 1 gasoline and air—which is about the best for a homogenous mixture—down to a minimum of 76 to 1. The high consumption was obtained under conditions of maximum speed and load.

With an improved form of pump which since has been developed, it is claimed that an even smaller content of fuel can be used in the cylinder. Under laboratory test at Columbia the small engine developed a maximum brake efficiency of about 26 per cent.; at half load, its efficiency was on a par with that of many automobile motors of the standard type in current use, amounting to full 21 per cent., while at one-quarter its full load, the brake efficiency developed reached the extraordinary ratio of 16 per cent.

A Diesel motor having twice the power and more than five times the degree of compression has developed a maximum brake efficiency at full load of from 25.6 to 28.6 per cent. A four-cylinder English automobile motor of conventional pattern, but of slightly less displacement per cylinder, is credited with a maximum performance of 20.7 per cent. efficiency while developing 41.5 horsepower; while the best performance of one standard American automobile manufacturer's product was 20.8 per cent., while developing its maximum power under test conditions, both these results being from recent and authentic independent sources. The working conditions under which the average engine labors in automobile service render the results commercially obtainable, admittedly even less efficient than this.

A series of 18 tests from about 4 to 14 brake horsepower, gave a mean consumption of 0.7 pound of fuel per brake horsepower hour for the average figure. The best performance was 0.545 pound per brake horsepower hour. The mean consumption per indicated horsepower hour was 0.48 pound of fuel, and the maximum consumption was 0.33 pound per indicated horsepower hour. The mechanical efficiency of the motor averaged 66 per cent., and the maximum was 84 per cent.

Tests with motor vehicles equipped with Newcomb engines have shown encouraging results also. A 4,500 pounds car, driven by a  $5\frac{1}{2}$  by  $5\frac{1}{2}$  inch four-cylinder motor, developed 15 miles on a gallon of gasoline. A commercial vehicle equipped with solid tires and weighing with load about 3,500 pounds, gave 25 miles per gallon over ordinary roads.

The advantages of the engine are thus summarized by its sponsors:

"(a) It shows high efficiency under light as well as under heavy loads. The normal

load may be below the maximum, thereby enabling the engine to take a heavy overload like a steam engine.

"(b) High mean effective pressures and frequent impulses give great power and uniform torque in proportion to speed and weight.

"(c) It will develop its maximum turning effort or torque at much lower speeds than existing types of automobile engines. This renders unnecessary the frequent use of much gears. An automobile equipped with this engine can climb a steep grade at low speed as well as at high speed. The automobile equipped with the four-cylinder engine geared 1.6 to 1 on high speed, and yet the automobile can be driven at high speed as low as nine or ten miles an hour. The engine operates more like a steam engine than the ordinary carburetter engine, whether of the two-cycle or the four-cycle type.

"(d) The engine will accelerate rapidly. Full load can be applied instantly when the engine is running at low speed.

"(e) Low heat losses to cylinder walls and at the exhaust. The four-cylinder 60 horsepower engine is sufficiently cooled with a radiator of the size usually employed with a 40 horsepower engine. The engine is well adapted for air cooling. The exhaust temperatures are so low as not to burn out ordinary paint on the exhaust pipe.

"(f) There is no carburetter, and consequently carburetter troubles are removed—a particularly important advantage in two-cycle engines."

#### To Sound Horn with the Elbow.

A rather ingenious device for permitting the driver to sound his horn without removing his hands from the steering wheel has been developed in the form of a spun brass holder of concave form and exactly the same shape as one-half the regular rubber bulb. This is combined with the usual attachment for the bulb and tube and mounted in such a way that the driver's elbow naturally comes to rest on the arm of the seat just inside the bulb. From that position it is a simple matter to press down upon the bulb much as a Scottish musician works the "pipes."

#### To Geep Grit from Cylinders.

Priming cups, which are used for the double purpose of relieving compression in the cylinders and injecting gasoline or kerosene, always should be wiped out before being used. Unless they are protected by covers, as some of them are, they are certain to pick up and retain a not inconsiderable amount of grit from the dust which constantly is being drawn through the bonnet space by the fan. There is apt to be just enough grit in such an accumulation to mar the surface of the cylinder seriously unless care is taken to prevent it from finding its way into the combustion chamber.



### FOR FARM WORK OR CITY USE

**Avery Tractor a Remarkable Example of Vehicular "Versatility"—Almost Countless Uses to Which It May be Put.**

Although the automobile in its application to farm and industrial work still is in its infancy, remarkable efficiency appears to have been attained already, and indications point to a still greater usage. The

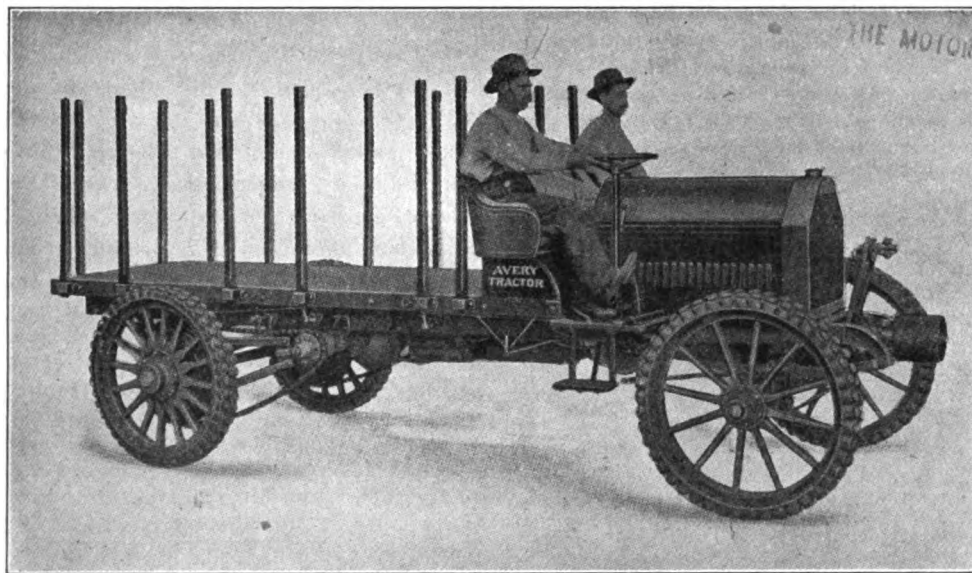
the tractor has been designed to run.

It is in its great adaptability to various purposes that the Avery tractor is most remarkable. With very little trouble a series of widely differing bodies can be attached to the regular chassis, making it useful as a truck, a cattle carrier, grain transporter and log hauler. In addition to freighting, the tractor will pull loaded wagons, road graders, plows, manure spreaders, reapers, binders, seeders and other agricultural machinery, and when not engaged

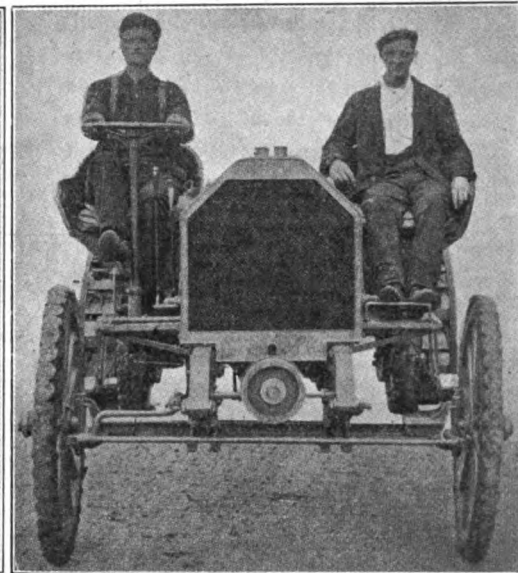
6-inch steel tires, with 2-inch hardwood plugs, 140-inch wheel base, three tons carrying capacity, a weight of 5,400 pounds, and a gasolene tank capacity of 24 gallons.

#### Pittsburg Has a "Prize" Car.

Pittsburg, which grows millionaires as well as grafters, has an automobile which it believes is entitled to more than passing notice. It belongs to the city government and in the short space of seven months the cost for repairs, gasolene, etc., amounted



AVERY TRACTOR IN USE AS STAKE TRUCK



SHOWING ODD SEATING ARRANGEMENT

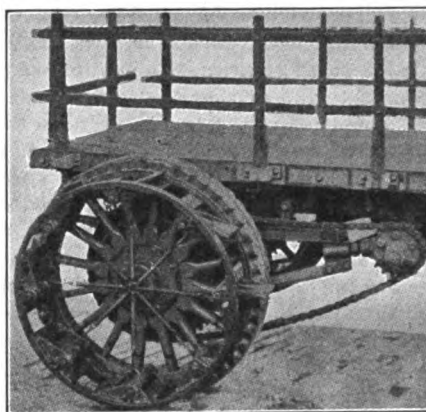
Avery tractor, one of the vehicles designed for such employment, presents some very unique ideas in construction, and stands as a good example of general adaptability.

The most conspicuous departure from the conventional is in the construction of the wheels. The regular equipment consists of cast steel rims, perforated and filled with 2-inch plugs, suited to the purposes of a farm tractor and yet noiseless enough to meet every requirement regarding hauling on paved city streets. As shown in the accompanying illustration, the rear wheels may be fitted with an auxiliary attachment, consisting of an extension bolted to the outside of the rim and containing a series of blades set at angles, which automatically go into action the moment the wheel strikes soft ground and begins to slip back. The blades then catch and throw back, penetrating the earth to a depth of  $\frac{3}{4}$  inches. In the field or on soft land, they may be thrown out and locked with pin in permanent working position; passing onto hard roads, or for continued hauling to and from the city, they may be detached entirely by removing a few bolts.

Another rather unique arrangement in the Avery tractor, which is made by the Avery Co., Peoria, Ill., is the placing of the two seats to the right and left of the engine, instead of behind. In the very center below the radiator will be seen a pulley for all kinds of belt driven machinery, which

in either hauling or pulling will patiently turn mills, saws, threshers, feed grinders, corn shellers, ensilage cutters and similar machinery in field or on the farm.

When used in its slightly altered form in the city, it will, in addition to hauling freight of all kinds and pulling trailers and street sweepers, rollers, graders, sprinklers



MUD PADDLES ON REAR WHEEL

and garbage wagons, drive concrete mixers, contractors' hoists and similar rotating machinery.

Mechanically, the tractor is of four cylinders, twelve normal horsepower,  $4\frac{3}{4} \times 5$  bore and stroke, water cooled, with dual ignition, internal expanding brakes,  $41\frac{1}{2}$ -inch wheels,

to \$1,166.54, or about \$5.60 per day. Automobile owners who saw the bill, suggested that the car must have passed through some exciting adventures in the shape of collisions and smashups, otherwise it is difficult to understand items such as these: two rear hubs \$28, two axle sleeves \$47.60, two rear hub caps \$7.40, two brace rods to strengthen frame \$25, axle housings \$35, repairing rear mud guards \$26, front mud guards \$11.25, repairing radiator \$21.50, and three gears \$2. In one month 220 gallons of gasolene were charged, while on some days as much as 16 gallons are claimed to have been used.

#### Ambulance the Deadliest of Vehicles.

The generally accepted opinion that motor cars are responsible for most of the traffic accidents, receives a rather severe jolt from Judge Warren W. Foster of General Sessions, New York City. The judge, after reading the report of the board of coroners of the borough of Manhattan, said that automobiles were much safer than other vehicles, for despite the great number of automobiles used in this city only 43 people were killed by them during the year 1909, while horse driven wagons were responsible for 79 deaths during the same time. Of all the vehicles in the great city, the ambulance, whose mission is to save lives, is the most deadly of all, while the police patrol is second as an executioner.

## SPEAKS PLAINLY ABOUT PATENTS

Head of Patent Office Declares 60 Per Cent. are Worthless—Criticizes American System.

Because of their vital relationship with the motor car industry and their importance to the manufacturers of both cars and accessories, the matter of United States patents is one of more than academic interest to the trade as a whole, and the startling criticisms which Commissioner of Patents Moore has to offer on the American patent system, as indicated by his statements before the House Committee on Patents, are of a kind that may prove something of a shock not only to inventors and mechanical men but also to those who deal with patents only on the business side. He not only supports the contention that has been made to the effect that a patent is merely "a license to sue," but also indicates that the Patent Office constantly is subject to pressure and attempted tampering by big interests.

"We are handing out to-day, in 60 per cent. of the cases, patents that are almost worthless, in whole or in part," the Commissioner declared at the committee hearing. "Germany has a vastly superior system to ours. So has Great Britain. I have been over there three times to investigate conditions in Europe. German patents are better, because their applications are more thoroughly searched before patents are granted, owing, of course, to the better facilities afforded by the German Patent Office. The government makes guaranty of the patent, throwing the burden of proof on the infringer.

"In this country the Board of Examiners in Chief is a judicial body and passes upon a great quantity of cases where large monetary interests are at work. I could cite you many cases where influences are brought to bear. I have been approached. There is hardly a day passes that some sort of influence is not brought to bear upon some one in our office, and I suppose every Commissioner has felt the same thing."

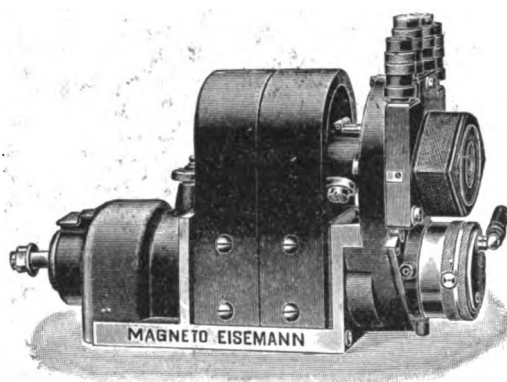
### Strainer that Must be Kept Clean.

With the method of engine lubrication by means of constant flow through the crank shaft and drainage to a well in the lower part of the engine base, eminently satisfactory results are obtainable, so long as two simple conditions are fulfilled. It is necessary to use a proper grade of oil, such as is recommended by the manufacturer, in order to ensure the feeding of a proper quantity by the pump. It also is necessary to keep the filter, through which the oil must pass before being recirculated, absolutely free from obstructing particles of metal, carbonized oil or waste. In particular, attention should be paid to the

strainer within a short time after the engine has been overhauled for any reason, as there is every likelihood in the world that careless mechanics may have left a few shreds of cotton thread in the case.

### Magneto with Automatic Timing.

In order to solve the problem of automatic ignition timing, Ernst Eisemann & Co., Ltd., as early as 1905, secured control of certain foreign patents which, though not pertaining to the automatic part of ignition timing, obstructed the path from the standpoint of design. An early Eisemann magneto had a longitudinal spark timing motion in which the separation of the armature from the pole pieces could be varied at the will of the operator to 60 degrees, so that the spark was of uniform strength in every position, even for maximum retard. A new



design, based upon this original construction, is now disclosed by the Eisemann Magneto Co. in a magneto with automatic timing device.

In the former magneto it was necessary to change the relative position of the armature to the pole pieces, by means of a lever at the driver's seat. This required connections from the magneto to the lever on the steering wheel. The advance or retard of the spark is adjusted in the new Eisemann magneto, shown in the illustration, by a small centrifugal governor which is secured to the driving shaft of the magneto. The armature of the magneto, which is connected to the governor, is shifted to an advanced position whenever the speed of the motor increases, and as soon as the fuel supply is reduced it automatically returns to the retard position. The advance or retard of the spark is always exactly proportional to the speed of the motor, consequently ignition always occurs at the most propitious time.

### Adapting Lamps to Electricity.

In adapting gas and oil lamps to the use of electricity, care should be taken to see that the wiring is so arranged as to prevent any possibility of chafing. Particularly if the lights are supplied with current from the ignition battery, there is danger that a ground or short-circuit produced in this way may result in running down the battery without apparent cause.

## TO DISPLAY DETROIT PRODUCTS

Will Constitute "Automobile Group" in that City's Industrial Exposition—The Manufacturers Assigned Space.

One section of the Industrial Exposition, to be held in Detroit June 20th to July 6th, will be devoted to the automobiles and accessories manufactured in that city. This group of exhibits will compare in size with many of the local automobile shows, as the city's motor car manufacturers wish to impress upon the world Detroit's eminence in the industry. The ground floor of the Wayne Pavilion has been set aside as the transportation department of the exposition and by a unique arrangement, the aisles of the temporary adjoining buildings will extend through the automobile group and thus assist in leading visitors to the latter display.

The automobile manufacturers to whom spaces have been assigned are: Anderson Carriage Co., Briscoe Mfg. Co., Cadillac Motor Car Co., Chalmers Motor Co., E-M-F. Co., Ford Motor Co., Grabowsky Power Wagon Co., Frank D. Hovey, Hudson Motor Car Co., Hupp Motor Car Co., Packard Motor Car Co., Stuart Commercial Car Co., Warren Motor Car Co., and Welch Company of Detroit. The manufacturers of automobile accessories are: Anderson Forge & Machine Co., Belknap & Schwartz, Briscoe Mfg. Co., Detroit Lubricator Co., Detroit Motor Casting Co., Detroit Steering Wheel & Wind Shield Co., Edmund & Jones Mfg. Co., Hayes Mfg. Co., Hoskins Mfg. Co., McCord Mfg. Co., Roberts Brass Mfg. Co., Russell Motor Axle Co., Timken-Detroit Axle Co., and C. R. Wilson Body Co.

### Cramping the Gear Shifting Lever.

Cramping of the gear shifting lever occasionally may result if the bolts which attach the segment to the frame become loosened. Particularly if the control be of the sort in which the rocker shaft is made to slide transversely of the car in making the selections, it is important to have the system work freely and without undue resistance. To avoid difficulty of this order the segment fastenings should be inspected occasionally.

### Detroit Seeking Support in Tennessee.

A. A. House, of Detroit, who is described as having a two-cycle engine embodying novel features, is in Chattanooga, Tenn., seeking to interest capital. Ten residents of that city already have advanced \$250 each in order to enable Mr. House to give a practical demonstration of his motor and otherwise to make good his claims. If they are borne out by these tests, Chattanooga expects that another factory will be located "in its midst."

## VARIATION OF THE DOUBLE PISTON

Old Idea Applied in New Form and Combined with Sliding Valve—The Advantages Claimed.

It is a remarkable fact that the effect of the stir which the introduction of the slide valve engine into England has created has been manifest in numerous instances in designs which at first might seem to have

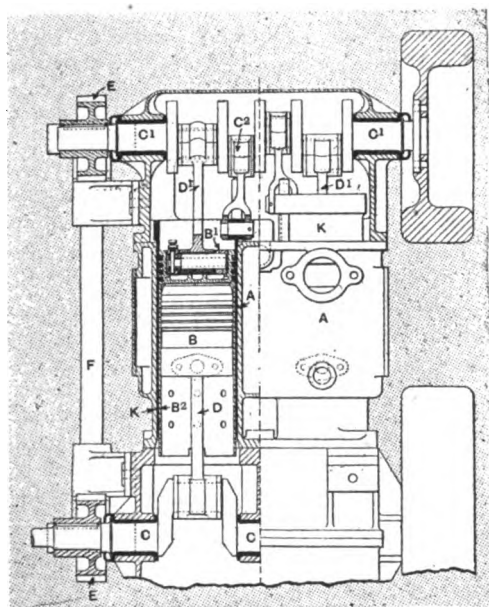
tons almost meet and once they approach and again separate, leaving a much greater clearance volume between their respective surfaces. The result is that at the end of the exhaust stroke the cylinder practically is emptied of all gas, while at the end of compression a normal amount of space remains for the imprisoned combustible. Furthermore, such is the arrangement that the cylinder volume utilized for the induction stroke is less than that into which the heated gases are permitted to expand. The

Above the main piston is an auxiliary piston B1, driving the crankshaft C1 through the connecting rod D1.

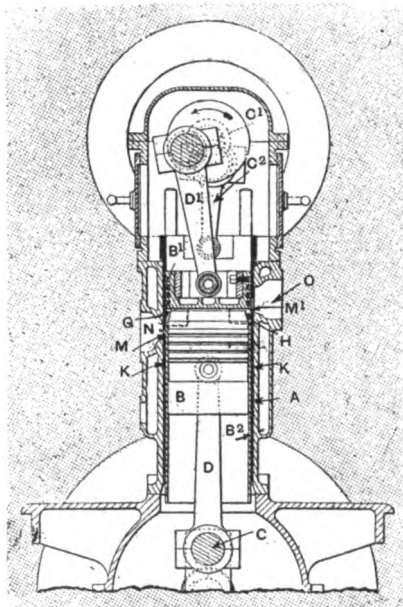
"In the design shown the two crankshafts are geared together through the medium of suitable skew gears E, and the vertical shaft F. The gears are so proportioned as to give the shaft C1, a speed rotation equal to half that of the main crankshaft C.

The auxiliary piston is extended downwards, the extension forming a sleeve B2 inside which the main piston works. In this sleeve, just below the auxiliary piston proper, the ports G and H (shown in dotted lines in the second illustration). These two ports are by the motion of the auxiliary piston brought opposite the ports N and O in the cylinder twice during every complete cycle, but they are only in communication therewith once during every cycle, for between the auxiliary piston and the walls of the cylinder is a sleeve K. This sleeve is given a reciprocating motion by the connecting rod C2 to the auxiliary crankshaft. It thus makes the same number of strokes as the auxiliary piston, but is timed differently.

In the sleeve K are suitably placed ports M-M1, which communicate from time to time with the inlet port N and exhaust ports O, respectively. Thus, for example, gases can only enter the cylinder when the port M is in communication with N and at the same time is registering with the port G in the auxiliary piston. These two requirements are only satisfied once in every cycle, namely, during the induction stroke of



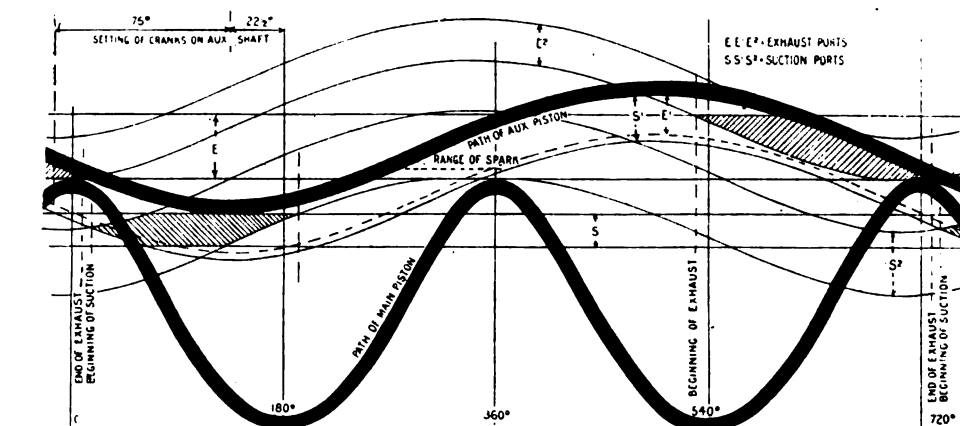
SEARS DOUBLE PISTON ENGINE



END VIEW SHOWING PORTS

small relation to the sliding sleeve itself. Indeed, it would appear that the success of a single radical design has lent courage to many inventors to launch projects which long had been germinating. One of the most remarkable examples of the slide valve school, and one which embodies so much real originality that it seems almost a pity to include it among the followers of the Knight engine which furnished the real impetus to the slide valve movement, is the invention of J. E. Sears. In this motor the sliding sleeve feature plays rather an inconspicuous part, as a matter of fact, the most important departure from current practice being in the use of double pistons. In reviving the double piston idea and combining it with the sleeve valve principle, however, Mr. Sears has gone a step further than any of his predecessors, in producing a scavenging cycle not unlike that of the more or less classical Atkinson engine, of early and short lived attainments.

The basic idea is that of employing two pistons in each cylinder, but instead of causing them to move synchronously in opposite directions, to interconnect the crankshafts which they impel in such a way as to cause the upper piston to move at half the speed of the lower one. The result is that at a certain period in its movement the upper piston overlaps the travel of the lower one, while once during each cycle the pis-



LAYOUT OF SEARS PISTON AND VALVE MOTION

result is a closer approximation to the ideal which Atkinson sought than has since been achieved, together with a promise of practical working results which that engine never accomplished.

The mechanical method by which this extraordinary result has been accomplished is shown by the accompanying illustrations. The operation of the mechanism is thus described by the Autocar, to which is due the credit of having "discovered" the Sears engine:

"The main piston B works in the cylinder in the ordinary manner, being connected to the crankshaft C by the connecting rod D.

the main piston. Similar requirements are met and satisfied on the exhaust side."

Ignition is brought about through the agency of the usual jump spark system, the plug being placed in a cup-like depression or counter bore in the cylinder wall, "the plug being so placed," continues the above authority, "as to be in communication with the cylinder, owing to the ports M and G registering with one another when the main piston approaches the top of the compression stroke, at which time the port M is not, of course, in communication with N."

A clearer idea of the results obtained may be gained from the functional diagram, in

which the relative movements of the main and auxiliary pistons are indicated by the heavy lines, the layout representing one complete cycle of 720 degrees of crank shaft revolution. The vertical rulings are spaced 180 degrees apart and indicate the four respective strokes of the main piston and the two strokes of the auxiliary one, which are necessary to complete the cycle. It will be observed that the auxiliary member reaches the lower end of its travel just before the main piston is at the end of its first down stroke, and that the auxiliary is at the upward limit of its travel and just commencing to descend at the instant when the main piston is at the end of its second down stroke. Thus the cylinder volumes at the end of the induction and working strokes, respectively, are shown to differ in proportion to the difference in lengths of the 180 and 360 degree ordinates.

Similarly it is evident that while the two pistons almost meet at the end of exhaust, thus expelling practically all gases from the cylinder, at the end of the first 360 degrees of crank motion, they are separated for the reason that the auxiliary piston is moving upward and is at about mid-stroke. This leaves the requisite cylinder volume for the compression of the charge prior to ignition. As a matter of fact, in the engine here illustrated, the ratio of compression is something like 4:1, while the ratio of expansion is 6:1.

The method of distribution is no less plainly indicated on the diagram, though somewhat more difficult to follow. The wall ports in the cylinder being stationary with respect to the piston movements, are indicated on the diagram by horizontal lines, the intake port being measured by the space enclosed between the lines marked S, and the exhaust similarly at E. The ports in the apron or sleeve of the auxiliary piston naturally follow the movements of that organ, and hence are indicated by the lines S1 and E1, respectively, which, with the line of auxiliary piston movement measure the extent of their area. Obviously the intersection of the bands S-S1 and E-E1, respectively, in any case indicates the amount and duration of intake or exhaust port opening in any case. In the same way, the bands S2 and E2 indicate the relative area and travel of the intake and exhaust ports which are carried by the valve sleeve K. Likewise, it is only when the three bands, S-S1-S2, or E-E1-E2 intersect, that the transfer of the live or waste gases can take place to and from the cylinder.

Thus the two shaded areas of the diagram indicate, respectively, the intake and exhaust periods, the relative rates of opening and closing the ports and the timing being plainly apparent. It also is evident that toward the end of compression the intake ports in the auxiliary piston and valve sleeve coincide although the entire group of moving parts has passed out of range of the intake port in the cylinder wall, that

opening being masked by the working piston. It is during this period that ignition may occur, and the range permitted for varying the timing of the spark is indicated by the horizontal dotted line.

With the arrangement and relative cylinder volumes shown, the inventor claims to attain a theoretical efficiency  $18\frac{1}{2}$  per cent. greater than that obtainable with the standard type of engine having the same compression ratio, namely, 4:1. In other words, the theoretical gain resulting from completely exhausting the cylinder and affording a greater ration of expansion than of compression is represented by a gain of nearly one-fifth in efficiency, according to the inventor. Allowing a maximum of 20 per cent. efficiency for the standard type of engine, the total efficiency of the Sears engine would then be somewhere about 24 per cent. Admitting the added complexity, weight, engine friction and possible errors in performance resulting therefrom, the inventor nevertheless hopes in this way to improve upon the performance of the average motor in a thoroughly practical way.

In engines of more than two cylinders, it is said the extra fly wheel on the auxiliary crank shaft can be dispensed with, while other manufacturing economies can be brought about. It may be added also that by adopting a compression ratio of  $5\frac{1}{4}$ :1 and an expansion of  $8\frac{1}{2}$ :1 it is hoped to bring about an increase in efficiency of  $26\frac{1}{2}$  per cent.

#### The Female Flimflammer Visits New York.

It is perhaps on account of the scarcity of motor cars for sale—as indicated by interviews with one or two leading members of the trade—that the light-fingered gentry have taken to appropriating cars without the formality of paying for them. At any rate, they are showing more and more ingenuity in the manner of appropriation.

An entirely new development which has proven only too successful in a number of cases seems to have been invented by a young woman, variously known as Mrs. Morton, Spalding, Ortego, and a few other aliases, who is said to have operated her flimflam game in San Francisco, Denver and Chicago, among other cities.

The trick which she played on Frank J. Homan, of the Homan & Shultz garage on Fifty-ninth street, may be considered a fair example of the way in which the scheme is worked, with such small alterations as seem necessary under slightly different circumstances and in different localities. Homan advertised a Peerless 7-passenger touring car for sale for \$3,000, and a woman calling herself Mrs. Morton, with apartments at the Hotel Manhattan, called him up on the 'phone and asked him to bring the car to the hotel, so she might test it with him.

When Homan got to the hotel, he met the woman, who was accompanied by a young man in automobile togs, whom she introduced as her chauffeur. Homan took

the two on a trip through Central Park, driving them around for about two hours, and then took them back to the hotel. At the entrance to the latter the young woman asked Homan to accompany her to the writing room, where they could "talk business." The chauffeur remained outside to watch the car.

They talked for some time, and finally the woman left Homan, saying she would look for her husband to arrange for the purchasing of the car. While the woman was gone Homan went to the telephone booth to call up the garage. When he came out his car and the "chauffeur" were nowhere in sight. Thinking, however, that he had merely moved the machine further down the street upon orders from the traffic police, he thought nothing wrong about it and returned to the writing room, there to wait for the re-appearance of the young woman. He waited for more than an hour.

When finally he became worried, it was too late. His car, the young woman, the chauffeur—all had disappeared. The room in the hotel had only been engaged for two days, ostensibly in order to form an appropriate setting for the trick to be played.

The question "What became of the many cars stolen by the couple in their trip across the continent?" is puzzling the police of the various cities. Some indication as to what happened to the Peerless stolen from Homan, or the Packard stolen a few days before from John J. Burgess by a similar ruse, is furnished by the discovery of a couple of upholstered seats, a tire, cape top and windshield alleged to have been part of these cars in the store of a dealer in second hand accessories and furniture. The dealer proved to have bought them in good faith. Some of the cars were sold out West.

#### Ponderous Machinery for Automobile Work

Three pieces of machinery which in the aggregate will weigh many tons, are to be added to the equipment of the Franklin automobile factory, at Syracuse, N. Y. They are two large presses and a pair of squaring shears. On account of their weight they will be housed in a special building, for which concrete foundations are being laid.

The larger of the presses is 11 feet 5 inches high and 14 feet 6 inches long, and weighs about 25 tons. The other is 9 feet 2 inches high and 8 feet 2 inches long. Both will be used for pressing out such body stampings as doors, underbodies, seat sides and the like. The squaring shears will prepare the metal for the presses.

#### Danger in Using Detachable Rear Seats.

Considerable peril attaches to the use of detachable rear seats unless they are properly attached to the body of the car. The same applies to lazy-backs such as not infrequently are applied to rumble seats. Careless attachment or misplaced fittings may be the cause of a shocking accident.



## COOLING SYSTEMS FOR SMALL CARS

### Why One Designer Favors Use of Gravity Although not Opposed to the Thermo- Syphon Principle.

Because of the apparent economy of the thermo-syphon system of cooling, some little surprise occasionally is expressed that the plan has not been adopted to a wider extent, especially by those makers who are catering to the demand for low priced cars and who, therefore, might be expected to seek every means for reducing the cost of their products. Although the use of gravity circulation is increasing rapidly, its principle involves extreme care in design, so that it might be supposed that makers who have refrained from employing it hitherto have done so out of caution. Quite another reason is given by one designer who is noted for his success in the field of the small car, and who naively explains that he continues to adhere to the method of forced circulation for the very good reason that radiators cost more than pumps.

"The basis of the successful thermo-syphon cooling arrangement is to allow a maximum area for the flow of water, or, in other words, to use very large piping and big radiator capacity, together with a form of radiator such that it will not impede the circulation," he explains. "This implies larger piping and a larger radiator than are necessary where some form of pump is employed. But it is a curious fact, and one not generally recognized outside the draughting room, that radiators cost more to produce than do pumps. Hence, I consider it better economy to use a little less radiator than the gravity system would require; thereby also ensuring a good flow of water even when the system is partially clogged with sediment, as it is apt to be in the cheap car which has seen considerable service.

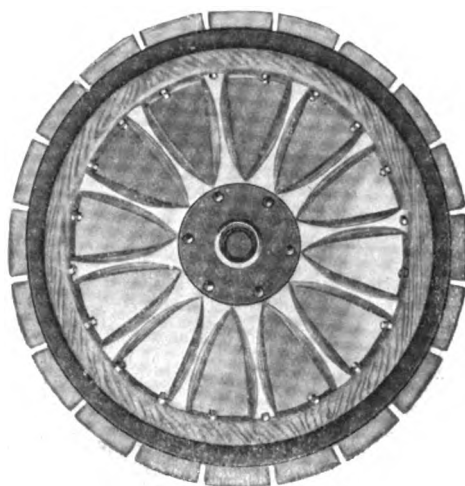
"At the same time, the gravity system involves a number of good points which the pump system cannot begin to secure. Among them is the acceleration in the rate of flow in proportion to the heating of the engine, with the consequent tendency to equalize the wall temperatures under all conditions of service to a better degree than is possible where the flow of water is regulated by the pump and so by the speed of the engine. What I prefer is really a compromise between the two systems, as a matter of fact.

"By using a fairly large radiator and piping of ample dimensions, and then introducing an impeller pump which really tends to accelerate the natural circulation of the water, I believe the proper effect is secured for the low priced car. You see," he concluded, "by that means, the water is given a certain amount of freedom to accelerate or retard, according to the mo-

mentary requirement of the cylinders, while at the same time its flow is rapid enough to effect a certain valuable economy in the amount of radiator which must be carried on the car, or the amount of radiator which the manufacturer must pay for out of his own pocket—so to speak."

### Unusual Features of Segment Tire.

Rubber blocks or segments arranged in a single row around the periphery of the wheel constitute the unusual feature of a new "Kelly-Springfield" tire, which has been brought out by the Consolidated Rubber Tire Co., of New York City and Akron, O., and which is just being placed actively on the market after a long period of experi-



mentation and test. Early types of sectional tires had their blocks rectangular in form, with the top and the bottom surfaces of the rubber pieces approximately the same size. In the new tire, however, the tread portion of each block is longer than the part which sets against the wheel, with the result that the slots separating the blocks have parallel sides and are no wider at the tread than at the wheel itself, eliminating all "V" effect. The truly radial effect of the blocks and slots is disclosed in the accompanying illustration, and the form of the tire permits the use of a single row of segments without a bumping or jarring effect, where previously it has been necessary to use two or more rows staggered to provide the effect of a continuous tread. Under the weight of load the sections meet at the outside edges, forming a continuous tread in actuality so far as the road is concerned, but providing a resiliency that would not be present were the tire itself continuous all the way around.

### When Door Hinges Should be Watched.

Where a touring car is habitually used by elderly persons or others who are inclined to use the tonneau doors as a balustrade to support them in entering and leaving, it is well to see that the hinges are of ample strength and well secured. Otherwise they may pull away sometime, with annoying, if not disastrous consequences.

## [SPLASH VS. FORCED LUBRICATION

### English Expert Criticizes Some of the Methods in Use and Points Out Ad- vantages of Splash.

It is not so very long since there were makers of automobiles who referred to a drip feed system where the oil was forced up to the drips by exhaust pressure, as forced lubrication; and there still are many hundreds of drivers and owners who appear to think that forced lubrication consists of pouring oil into the machine at stated intervals, and letting the engine do the rest. The main difficulty with them is the careless and indiscriminate use of the words "forced" and "pressure." Both these terms, of course, mean that lubrication is automatic, but the real pressure feed lubrication system is the one in which the oil is actually pumped at a pressure through a hollow crankshaft to the main bearings.

In a very able paper read by the English expert, G. H. Bailie, before the Royal Automobile Club recently, he discussed the much discussed subject of engine lubrication, and in doing so divided all oiling systems into two broad classes: (1) without splash, and (2) with splash.

"The object to be attained in lubricating a bearing," says Mr. Bailie, "is to prevent the two surfaces ever coming into contact by ensuring that there is always a film of oil between them. Take the case of a shaft, with a heavy flywheel, resting in its bearings. If the shaft is at rest and the bearings have a film of oil to start with, this film will remain if the pressure per square inch is below a certain limit. Above this limit the oil will be squeezed out, and the shaft and bearings will come in contact. If the shaft is rotating, the pressure per square inch of bearing may be largely increased without squeezing out the oil. So long as the shaft rotates this film of oil persists, and it makes no difference to the lubrication whether the further supply of oil is under pressure or not. Without the initial film of oil forced by pressure between shaft and bearing, the oil can not get between the surfaces in metallic contact, even though the shaft is rotating, before the bearing has been damaged.

"The case of the big ends of connecting rods of gasoline engines is, however, somewhat different. Here the surfaces are not permanently in contact, since the alternating pressure puts the opposite sides of the bearing under pressure at the end of the exhaust stroke and at the end of the suction stroke. The play in the bearing then leaves a space into which the oil can creep under capillary pressure. In big ends, therefore, no attention need be paid to getting an initial film of oil into the bearings."

Speaking of the necessity for an abundance of oil in the main bearings of gaso-



lene engines, Mr. Bailie states that this depends almost entirely upon the pressure per square inch between surfaces. Apart from any question of convenience and reliability, he thinks the advantages of forced lubrication somewhat overrated, mainly consisting in the facility of cutting down the bearing surface.

Comparing the advantages and disadvantages of forced lubrication in detail, Mr. Bailie classes as disadvantages:

"(1) The amount of oil getting to the big ends depends on the condition of the main bearings, and to ensure there being enough when the main bearings are slack, the pressure must be sufficient to give more than enough when the main bearings are tight, and this leads to too much being thrown off into the cylinders and their sooting up.

"(2) The viscosity of the oil varies so much when cold and when hot that the gauge indications mean nothing at all, and more often than not the gauge shows no pressure at all when the oil is hot and bearings are slack. This defect could be remedied by putting the relief valve, not where it generally is, on the pump, but as near as possible to the bearings. Then, however, the pump has to deliver under very high pressure when starting cold, and squirts oil out of its glands, or may strain its drive.

"(3) The pressure system may break down. Although indicators are fitted, no one looks at them frequently enough to prevent damage, for when a pressure system breaks down, lubrication ceases immediately. When the supply to an ordinary splash system breaks down, it is a long time before the oil level falls enough entirely to stop lubrication."

Somewhat counterbalancing these serious drawbacks, the English engineer names as advantages the smaller bearing surfaces which may be used, and the fact that oilways do not choke up.

He criticizes severely the system of lubrication employed by some makers, who have gone the length of forcing the oil through crankshaft, up the connecting rod, into the gudgeon pin, and through it to the cylinder walls. The difficulty, in his opinion, has not been to get the oil to the cylinders, but to keep it away from them. The throw-off from the connecting rods is always enough to lubricate the gudgeon pin, especially if a drip point is arranged on the top of the piston.

"The only other system without splash is the squirt feed," Mr. Bailie continues. "It is not common, and has no advantages that I can see. It does not give any pressure in the bearings and sends a lot of oil on the outside surface of the big end which gets thrown off into the cylinder. On a breakdown the lubrication ceases at once."

Taking up the splash lubrication devices, he divides them into splash in a large quantity of oil in the crank chamber and splash in small troughs.

"The trough system is really one for keeping the level right. Oil is pumped into

the troughs and overflows into the sump, so that the troughs are always full. I first heard of this system on the Siddeley cars, but it rapidly came into common use. It does away with the safety of the splash system, because the supply of oil in the troughs is not enough to continue lubrication for long if the pump fail. In the

#### Taxicab Call Boxes in Copenhagen.

In Denmark they have less trouble in calling taxicabs than do some people not a hundred miles from New York City, Copenhagen having recently installed a sys-



tem of call boxes, as shown in the accompanying photograph, and which are somewhat similar to the fire boxes used on this side of the big ditch. All the prospective patron has to do is to press a button and give the address where the cab is wanted. All the company's cabs have to report themselves by the same method on returning to the stand after each trip. The booking clerk in the main office consequently knows exactly how many cabs are standing idle and where they are.

present Wolseley cars the oil is pumped into reservoirs above the main bearings and also into the troughs. I think it would be better if the oil pipes were led into the main bearings so as to feed them under pressure, the pipes to the troughs being restricted sufficiently to give some pressure.

"Except that the lubrication depends on the pressure supply, this is, to my mind, the most perfect system. The pressure-feed is where it is most wanted, and where the throw-off can be kept out of the cylinders so that any quantity of oil can be

forced through the bearings, and the splash level is always right for each big end and under all conditions of running. When the splash level is in the crank chamber itself, this has to be divided up into two or four compartments, otherwise when going up or down hill the cylinder at one end smokes while that at the other runs out of its bearings. This entails providing two or four means of ascertaining the levels, unless, as is sometimes done, small holes are made connecting the compartments; this merely increases the length of hill a car can go up.

"Another objection to the splash system with the oil in the crank chamber is that the amount of splash varies so much with the speed of the engine. The splashed oil covers all the inside surface of the crank chamber and runs back into the pool at the bottom. When the engine is running continuously at a high speed, it is capable of splashing the oil up quicker than it can run back, so that the oil is kept at a level at which the bottom of the big end just touches it. When the engine runs slow, the level is considerably higher. The level, therefore, cannot always be right; in fact, I have been told by one manufacturer that he arranged for a higher level to be maintained in cars that were required to run in France, where high-speed runs can be kept up for a long time.

"The supply to the crank chamber to keep up the splash level is sometimes taken to the main bearings and sometimes straight to the crank chamber. In one case it is taken to the main bearings and passes through the crank chamber to the big ends. Such an arrangement is, I think, bad. The oilways in the crank chamber are necessarily small and are easily blocked up by dirt or congealed oil. Such oilways should be supplied only under pressure. The same applies, though to a lesser degree, to the supply to the main bearings. Where, as is common, a single drip feed supplies all the bearings, one branch may get blocked up, and no indication of blocking will appear so long as the others remain open.

"In regard to the regulation of the supply of oil, a pump forcing direct to the bearings supplies approximately a given quantity per revolution. Splash systems with the oil in the crank chamber probably supply less per revolution as the engine speed increases. Those with the oil in troughs probably supply more per revolution as the speed increases."

Summing up his argument for and against force lubrication, Mr. Bailie concludes that the only two systems which are really good are: "(1) The force feed into main bearings and through the crankshaft to the big ends, arranged with a relief valve near the bearings and large pipes, so that there is always a good pressure in the crankshaft and no fear of the ways blocking up. (2) A splash system with automatic means of keeping the level constant (not a constant supply), and preferably with force feed to the main bearings."

**"OPEN HOUSE" INSTEAD OF SHOWS**

**Dealers in Indianapolis and Toledo Depart  
from Usual Practice—But Rockford  
Hires a Hall.**

Quite different from the usual and accepted form of motor car show were the annual functions held last week by the dealers' associations of Indianapolis, Ind., and Toledo, O., both prominent trade centers. Instead of gathering their wares under one roof, where "elbow room" probably would be at a premium, with the likelihood that some would be shut out, the dealers decided to hold individual exhibitions in their salesrooms where all would have ample room to show their full lines. Sales rooms and garages were dressed in brilliant fashion for the occasion, while the main automobile thoroughfares also were decorated. During the week floral parades, gymkhana contests and attractions were held on an elaborate scale, with the sole object of interesting the public in motor cars. Show rooms were thronged with visitors who wandered among the numerous establishments inspecting the cars and all received a cordial welcome.

At Indianapolis, the spring opening was under the general direction and management of the Indianapolis Automobile Trade Association to which practically every car and accessory firm in the city belongs, so that all the establishments kept open house for the reception of the visitors, and there were multitudes of them, hundreds coming from all sections of the state. Much rivalry was manifest in the decorating of the various show rooms and this general and widely distributed effort produced some very handsome displays. Forty-five dealers staged cars from 80 factories, including some of the models first uncovered at the national shows, while the extensive accessory exhibits included practically everything in that category.

The real festivities did not commence until Wednesday, the two preceding days being given up to afford the public opportunity to visit the sales rooms and view the exhibits without being distracted by other attractions. On Wednesday the floral parade—the first ever held in the Hoosier capital—took place, some 40 machines participating. Some very handsomely decorated cars were in line and the judges had considerable difficulty in selecting the prize winners in the various sections. There were three divisions, and in the private owners' class, Louis G. Deschler's Chalmers car was unanimously awarded first prize. It was clothed in a solid mass of white Easter lilies, with wide strips of white ribbons hung along the sides and fastened to the hood in large bows, the whole arrangement being conceived to represent Springtime. Second prize in this division

went to a home product—a Marmon belonging to Edward G. Sourbier, which was adorned with American Beauty roses and carnations, and was, perhaps, the most expensively decorated machine in line.

W. A. Wildhack in an Oldsmobile carried off the dealers' prize, his machine being decorated with yellow chrysanthemums. In the "unique" class the big Packard truck of the Willis-Holcomb Co., was an easy winner. The car was rigged up to represent a gunboat, the details being faithfully adhered to and it made a most striking appearance. The prize winners received cut glass flower bowls, presented by the association, while in addition, the Waverley Co. offered a prize of \$50 for the best decorated Waverley machine in line.

On Thursday the Motor Speedway was the center of attraction, a series of gymkhana trials being held, to which the public was admitted free—in fact every function during the week was gratis to all who cared to enjoy it. There were six events, in which over 25 cars took part, and much interesting sport was served up to the spectators. Friday was given over to a huge industrial parade in which over 100 vehicles participated and the week's festivities closed on Saturday with an elaborate banquet at the Hotel Denison, at which over 300 prominent tradesmen were present, the speakers being well-known statesmen and motorists of national renown.

Among the cars which were unveiled for the first time this year were the Onlycar, Continental and McFarlan. The first named is a Long Island product of a type distinctly European, and has a single cylinder engine  $5\frac{1}{2} \times 10$ , rated at 12 horsepower. Natural water circulation, magneto ignition, cone or multiple disc clutch, selective sliding transmission and shaft drive are some of its distinguishing features. It is made in one style—racing runabout—and lists at \$700. The Continental is a Hoosier product hailing from Franklin, Ind., and comes in the form of a 4 cylinder, 35 horsepower vehicle, priced at \$1,400. Aside from its block motor, it embodies no radical departures from standard practice. Also a "native son" is the McFarlan car, a six cylinder machine with a 35-40 horsepower engine, and made in Connersville. Valves-in-the-head are the distinctive feature of its engine, but otherwise it does not depart radically from the ordinary. Although made in but one chassis it comes with several types of body.

The exhibitors and their wares were as follows:

Gasolene cars—Maxwell-Briscoe-Indianapolis Co., Maxwell; Fisher Auto Co., National, Stoddard-Dayton, Overland, Marion, Empire and Courier; Frank P. Fox Co., Pope-Hartford; Studebaker Bros Co. of Indianapolis, Studebaker; Hearsey-Willis Co., White, Mitchell and Hupmobile; Sterling Motor Car Co., Krit and Firestone-Columbus; Gibson Auto Co., Premier, Reo and Ford; Indianapolis Auto Co., Brush, Cartecar and Firestone; Reliable Auto Ex-

change, E-M-F. and Flanders; R. L. Sutherland, Continental; Finch & Freeman Auto Co., Rider-Lewis, Warren-Detroit, Auburn, Richmond and De Tangle; Willis-Holcomb Co., Packard; McFarland Six Sales Co., McFarland Six; Peck Motor Car Co., Cadillac; Shoemaker-Smith Auto Co., Parry; Walter D. Cost, Frayer-Miller trucks; A. T. Bunch, Abbott-Detroit; Diamond Automobile Co., R. A. C.; Henry Wilke, Winton; Van Camp Hardware & Iron Co., Randolph; M. L. Conley & Co., Austin and Onlycar; State Auto Co., Oakland; Henderson Motor Sales Co., Cole; Glide Auto Co., Glide and Great Western; Buick Motor Co., Buick, Oldsmobile and Welch; Co-Auto Motor Co., Fuller, Stearns, Jackson and Westcott; Indianapolis Motor Car Co., Rapid; Rambler Auto Co., Rambler; Morton Place Garage, Moline; Motor Car Sales Co., Peerless and Regal; Nordyke & Marmon Co., Marmon.

Steam cars—Hearsey-Willis Co., White.

Electric vehicles—Fisher Auto Co., Baker; Frank P. Fox Co., Rauch & Lang; Studebaker Bros Co. of Indianapolis, Studebaker; Hearsey-Willis Co., Waverley.

Accessories—Fisher Auto Co., Hearsey-Willis Co., Stewart-Carey Glass Co., Spacke Machine Co., Gibson Auto Co., Prest-O-Lite Co., Pumpelly Battery Co., Irvin Robbins Co., Sterling Motor Car Co., Kohl Mfg. Co., Fisk Rubber Co., National Refining Co., Wheeler & Schebler, Warner Instrument Co., G & J Tire Co., Guarantee Tire & Bicycle Co., Diamond Chain Mfg. Co., Haywood Tire Equipment Co., Empire Tire Co., R. J. Irvin Mfg. Co., Hercules Electric Co.

Because no hall in the city was nearly large enough to accommodate all who desired to secure space, Toledo automobile dealers this year departed from their past custom in staging their annual show, and decided to hold individual exhibitions in their salesrooms. So successful was this innovation that it is unlikely that they will adopt any other method of showing their new models in years to come. Never before were the local motor car sales rooms so gaily bedecked with bunting, palms and other potted plants as on Monday, 28th ult., when the week of "open house" was ushered in. In addition to the elaborate dressing up of the sales rooms, Madison street, the local automobile row, was strung with miles of wire and electric lamps, which at night converted that thoroughfare into a brilliantly illuminated passage. Inspection of the sales rooms was the order of the day on Monday, while Tuesday was occupied with a parade and gymkhana stunts. On the following days a varied program comprising a repetition of the events of the preceding days, together with some added features constituted the attractions. Throughout the week large crowds visited the various establishments and at the conclusion of the carnival week, the dealers expressed themselves as heartily satisfied with the results of their efforts.

Those who took part as members of the Toledo Automobile Dealers Association which conducted the exhibition, and the products which they displayed were the following:

Gasolene cars—Toledo Auto & Garage Co., Jackson, Stearns, Fuller; Norris-Toledo Motor Sales Co., American, Velie, Parry, Warren-Detroit, Gramm-Logan; Regal Motor Sales Co., Regal; Atwood Automobile Co., Overland Marion, Stoddard-Dayton,

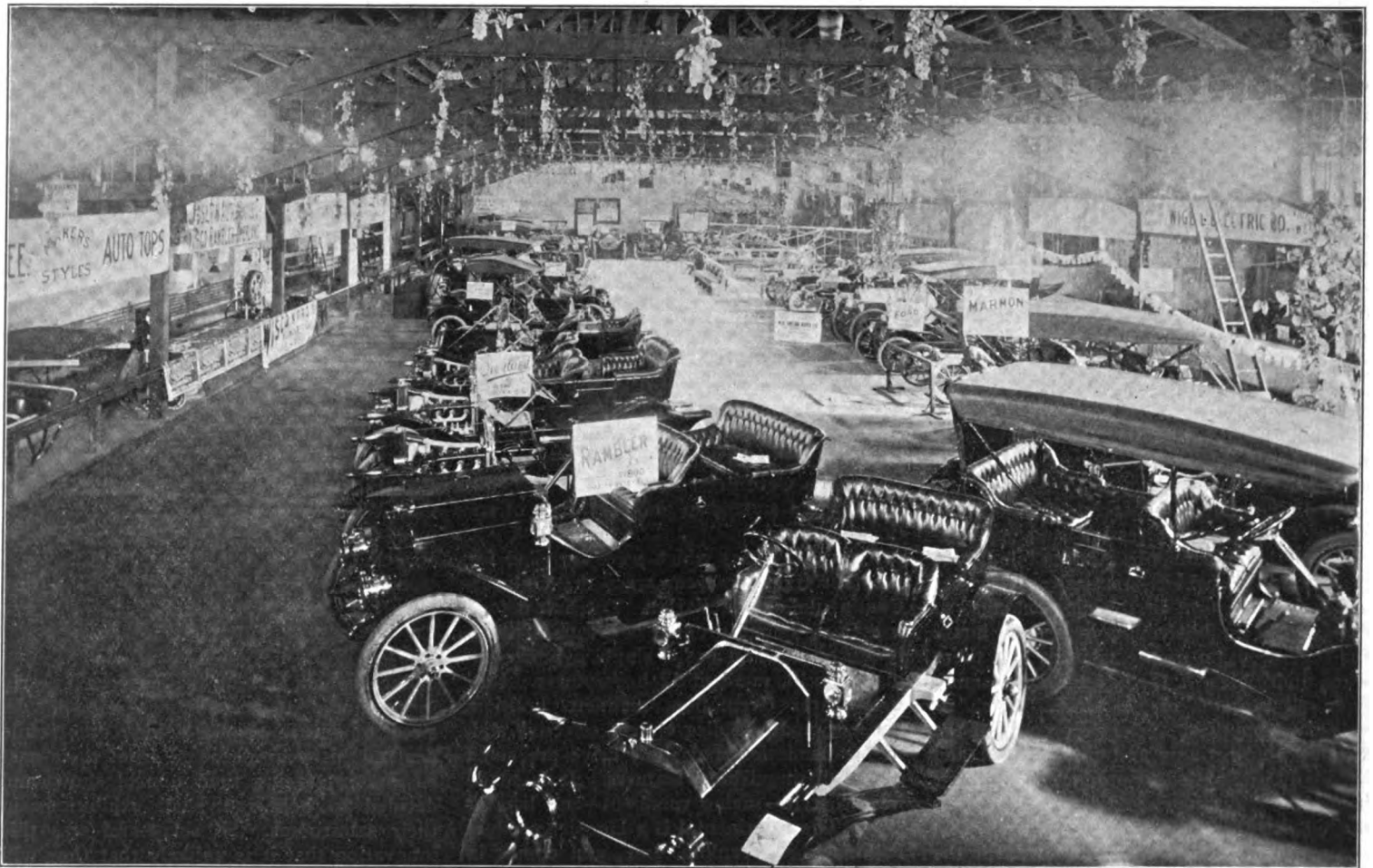
Gamble Motor Car Co., Baker, Rauch & Lang.

Accessories—Stein Double Cushion Tire Co., Paragon Refining Co., Nagel Electric Co., Goodyear Tire & Rubber Co., C. Z. Kroh Mfg. Co., Toledo Rubber Co.

The first annual automobile show held in the Coliseum, Rockford, Ill., last week, under the guidance of the Motorists Association of Rockford served as an excellent ex-

the week. The show was a success both financially, and in general and the exhibitors expressed themselves as well pleased with the outcome. The exhibitors were.

Gasolene cars—Troller & Co., E-M-F., Flanders, Velie, Oakdale. Oldsmobile, Randolph; Joslyn Auto Co., Rambler, Overland. Wisco; Savage & Love Co., Haynes, Detroit-Dearborn; A. T. Roberts & Co., Marmon, Ford; E. P. Neymeister, Hudson, Moline; W. B. Taylor Co., Stoddard-Dayton,



GENERAL VIEW OF FIRST SHOW OF MOTORISTS ASSOCIATION OF ROCKFORD, ILL.

Matheson, Marmon, Hupmobile, Rapid; Union Supply Co., Chalmers, Hudson, Stevens-Duryea, Pierce-Arrow, Reo; Lichtie Automobile Co., Cadillac; Roberts-Toledo Auto Co., Ford; Cole Motor Sales Co., Cole; Blevins-Studebaker Auto Co., Studebaker, E-M-F., Flanders; Maxwell-Briscoe-Toledo Co., Columbia, Maxwell; Gamble Motor Car Co., Peerless, Winton, White; E. F. Leinhard, Rambler; Buick Motor Co., Buick, Welch-Pontiac, Welch-Detroit; Kirk Bros. Automobile Co., Thomas; Willys-Overland Co., Overland, Marion; Toledo-Mitchell Co., Mitchell; Standard Garage Co., Croxton-Keeton; Banting Machine Co., Whiting, Grabowsky; Hilt-Costello Co., Speedwell.

Electric vehicles—Toledo Auto & Garage Co., Detroit; Atwood Automobile Co., Waverley, Ohio; Lichtie Automobile Co., Columbus; Ohio Electric Car Co., Ohio; Blevins-Studebaker Auto Co., Studebaker;

ample of the creditable showing which can be made by an enterprising small town. Formed in the latter part of January, the association took hold with a will, and in the short interval laid plans for a show which was a credit to its sponsors.

It was ushered in with a parade in which nearly 200 machines took part, including many out of town cars, the surrounding territory having been thoroughly "papered" with announcements of the show. Every one of the local dealers, as well as several from other places took space, there being over 20 exhibitors, of whom 9 displayed cars. In the variety of exhibits it was about an even break, 21 brands of car and almost an equal number of accessory firms being in evidence. The decorations were of a pleasing nature and the attendance which began by filling the hall on the opening night, was most satisfactory throughout

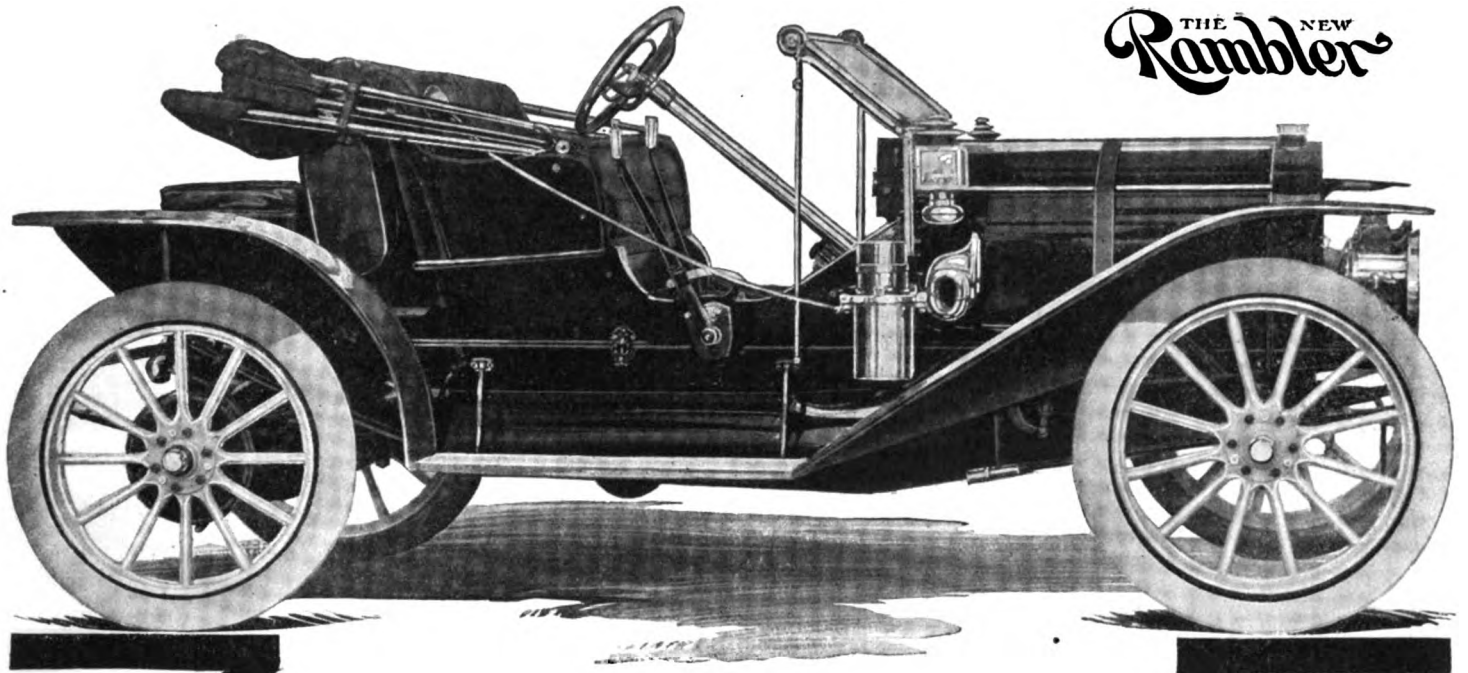
Buick, Chadwick; International Harvester Co., I. H. C.; Standard Auto Co., Black-Crow; Lundstrom Bros., Mitchell.

Electric vehicles—W. B. Taylor & Co., Baker.

Motorcycles—L. J. Theiss, Thor, Excelsior.

Accessories—Rockford Electric Co., Fried-Ostermann Co., J. S. Joslyn, Tokheim Mfg. Co., H. J. Rett, C. L. Lee, Wigell Electric Co., E. V. Moore.

When newly purchased accessories are about to be attached to the car by store or garage employees, it may save considerable needless marring of the body if the owner inquires in advance exactly how the parts are to be mounted. He should see to it personally, that no exploratory holes are drilled in an effort to secure the desired location.

THE NEW  
**Rambler**

**T**HE New Fifty-Three Rambler Roadster is the latest addition to the Rambler line. Its pleasing lines and features, providing unusual comfort, combined with the power, silence and quality of the Fifty-Three touring car, has gained for this model immediate distinction.

The distance from dash to seats is thirty inches. This length, the tilted seats, the rake of the steering column, combines to provide the most comfortable and graceful position for the operator.

Motor: 34 H. P.

Bore and Stroke:  $4\frac{1}{2} \times 4\frac{1}{2}$  in.

Wheel Base: 109 in.

Wheels and Tires:  $36 \times 3\frac{1}{2}$  in. Hartford Dunlop.

Guards: Convex front and rear.

Body: Two passengers, low seats.

Color: Dark Brewster green, cream wheels.

Equipment: Magneto and dry cells, oil side and tail lamps, gas head-lights and generator, horn, trunk with two suit cases, full set of tools and jack.

Price: \$1,800. Top with side curtains \$75. Wind-shield \$40.

**Thomas B. Jeffery & Company**  
Main Office and Factory, Kenosha, Wisconsin  
Branches: Chicago, Milwaukee, Boston, Cleveland, San Francisco



## RECENT PATENTS.

947,494. Cranking Device for Internal Combustion Engines. Roland C. Hilton, Quincy, Mass., assignor, by direct and mesne assignments, to Hilton Manufacturing Company, Boston, Mass., a Corporation of Massachusetts. Filed No. 13, 1908. Serial No. 462,400.

1. In a device for cranking internal combustion engines, the combination with an engine shaft, a ratchet sleeve into which one end of said shaft extends and to which it is swiveled, means to permit the sleeve to rotate freely in one direction while preventing it from rotating in the opposite direction, and a starting crank shaft having a cam engagement with said sleeve whereby turning movement of the crank in one direction will advance it into said sleeve and into locking engagement with the engine shaft and backward movement of the engine shaft will cause the starting crank shaft to be disconnected.

947,496. Automobile Radiator. David Landau and Asher Golden, New York, N. Y. Filed Jan. 13, 1909. Serial No. 472,067.

1. An automobile radiator comprising a series of radiator tubes; a casing for said series of tubes having a front and back; and a plurality of plates extended alternately from the back and front of said casing to form a tortuous passage for the air about said tubes.

947,543. Vehicle Tire. Harvey S. Firestone, Akron, Ohio, assignor to Firestone Tire & Rubber Company, Akron, Ohio, a Corporation of West Virginia. Filed Nov. 18, 1905. Serial No. 287,986.

1. The combination with a wheel felly and a resilient tire mounted thereon, of side flanges secured to said felly and overlapping the sides of the tire, the overlapping portion of said flanges having ribs clenchingly engaging the tire and also having one or more laterally projecting lugs on the inner side of said ribs entering the sides of the tire and serving to prevent creeping of the latter, substantially as described.

947,566. Explosive Engine. Howard H. Wixon, Chicago, Ill. Filed March 11, 1907. Serial No. 361,698.

1. The combination with a two cylinder two cycle explosive engine of the class described, of a single acting auxiliary air pump, means to operate said pump at twice the speed of the engine, and means whereby the air charge is delivered alternately to each of the engine cylinders, substantially as described.

947,575. Storage Battery. Julius E. Haschke, Chicago, Ill. Filed Nov. 7, 1908. Serial No. 461,442.

1. In a storage battery, a plurality of glass cells arranged side by side, plates and electrolyte in each cell, closures for said cells, a central vent structure for each cell projecting upward from its closure, a casing for the cells providing three sides and a bottom permanently connected together, a side overlying the ends of the cells detachably connected to the permanent structure, and apertured at a level to permit of inspection of the electrolyte in the cell, and detachable top slats spanning the casing crosswise of the series of cells therein to overlie the ends of all of said cells and to leave therebetween an open area for the vent structures.

947,637. Motor Vehicle. Budd D. Gray,

Providence, R. I. Filed Jan. 6, 1909. Serial No. 470,916.

1. In a motor vehicle, in combination with the frame and rear axle, of a change speed gear casing pivotally supported upon a transverse member of the frame, a differential gear casing on the rear axle, a tubular member secured to said differential gear casing and slidably and rotatably connected to said change speed gear casing, a transmission shaft in said tubular member, a universal joint connecting said shaft to the source of power and having its axis in alignment with the pivotal axis of said change speed gear casing, and radius rods connected at one end to the rear axle and pivoted at the other end to the frame in alignment with the said axis.

947,647. Induction Generator for Ignition Purposes. Henry J. Podlesak, Chicago, Ill., and Tesla E. Podlesak, Morristown, N. J. Original application filed Sept. 25, 1901. Serial No. 76,559. Divided, and this application filed Jan. 28, 1908, Serial No. 413,070. Renewed Feb. 10, 1909. Serial No. 477,251.

1. In an inductor generator for ignition purposes, the combination of a permanent magnet, a pair of pole pieces each held in magnetic contact with one pole of said magnet and having three polar projections, a coil of wire in inductive relation to the middle polar projections on said pole pieces, and an unwound inductor movable relative to said polar projections to concentrate the magnetic flux emanating from the poles of said magnet first outside of said wire wound polar projections and between said pole pieces, then across said wire wound polar projections and then outside of said wire wound polar projections and between said pole pieces in rapid succession.

947,653. Spring for Vehicles. Ludwig Sgal and Josef Schwanda, Vienna, Austria-Hungary, assignors to Pioneer Engineering Syndicate, Limited, London, England. Filed March 30, 1906. Serial No. 308,887.

1. The combination, with a vehicle frame and its axle, of a lever fulcrumed to the frame, a leaf-spring arranged between said lever and the axle, a spiral spring inserted between the frame and the lever and secured to the frame substantially at the fulcrum point of the lever.

947,674. Automobile Fender and Buffer. Antonio Camarda, New York, N. Y. Filed March 8, 1909. Serial No. 482,087.

1. The combination with a steering bar, of a two-part fender, means for connecting said parts of the fender with the opposite ends of said steering bar, whereby when one part of the fender is struck, the steering bar will be shifted, for the purpose specified.

947,683. Friction Brake and Clutch. William C. Marsh, Dunkirk, N. Y. Filed Feb. 11, 1908. Serial No. 415,429.

1. A friction brake, embodying a member having a braking surface, a brake shoe, means for applying the same to the braking surface so as to gradually increase its braking action thereon, a second brake shoe, a movable block to which said second brake shoe is pivoted.

947,705. Throttle Mechanism for Automobiles. George T. Taber, Pittsburg, Pa. Filed Sept. 3, 1909. Serial No. 516,127.

1. In a throttle valve mechanism for automobiles, the combination with the engine, of a throttle valve controlling the supply of motive fluid thereto, cranking mechanism outside the automobile, and connections

leading from said throttle to a point adjacent to said cranking mechanism.

947,706. Locking Device for Automobile Starting Cranks. John van Tekelenburg, Long Island City, N. Y., assignor of one-third to Adam Leidich, Brooklyn, N. Y., and one-third to Walter Muller, New York, N. Y. Filed Dec. 30, 1908. Serial No. 469,955.

1. The combination with a recessed shaft head, of a recessed crank mounted thereon, a tumbler rotatably arranged in the recess of the crank, means for locking said tumbler, and a key for releasing and a key for rotating said tumbler.

947,712. Carburetter. Garrett W. Henricks, Indianapolis, Ind., assignor, by direct and mesne assignments, to Improved Carburetor Company, a Corporation of Indiana. Filed Jan. 10, 1908. Serial No. 410,179.

1. A carburetter provided with an air inlet passageway, a main valve for controlling the passage of air therethrough, which valve is adapted to yield to the pressure of the incoming air, an emergency valve located in said air inlet passageway and preceding said main valve, a spring for normally holding said emergency valve in an open position, and means for temporarily closing said emergency valve.

947,968. Supporting Axle for Motor Vehicles. Budd D. Gray, Providence, R. I., assignor to American Locomotive Company, New York, N. Y., a Corporation of New York. Filed May 21, 1908. Serial No. 434,014. Renewed July 16, 1909. Serial No. 508,006.

1. A supporting axle for motor vehicles, comprising a central, annular body adapted for the reception of driving mechanism, tubular supporting members continuous with and oppositely projecting from said central body, a spacer fixed in the central body, and tubular liners fixed in said supporting members and connected at their inner ends to said spacer.

948,064. Process of Making Tire Shoes. Frank A. Seiberling and Will C. State, Akron, Ohio; said State assignor to said Seiberling. Filed May 7, 1909. Serial No. 494,588.

1. In the operation of building open-bellied pneumatic tire shoes from layers of fabric on ring-cores, the process of first constructing an annular bead, hardening the same and then applying it in this annular and hardened form to the ring core, substantially as described.

948,111. Battery Box. Russell W. Magana, Holyoke, Mass. Filed Oct. 1, 1908. Serial No. 455,737.

1. The combination, of a battery box, a resilient contact affixed therein and capable of engaging one of the binding posts of a battery, a bracket also fastened within said box, and a flexible connection attached at one end to said bracket and having attached to its other or free end a contact capable of engaging the other binding post of said battery.

948,193. Pneumatic Tire for Vehicles. Charles E. Titus, Springfield, Mass. Filed July 20, 1907. Serial No. 384,805.

1. An armor for pneumatic tires comprising a plurality of separate tread members, and means for fastening each tread member separately to the tread portion of the tire,



# Lubricator Patent

## SUSTAINED

In a decision dated March 24th, 1910, the United States Circuit Court for the Northern District of Illinois declared our Lubricator Patent No. 822,900 valid and infringed in our suit against the Lavigne Manufacturing Company and Brandenburg & Company and injunction was ordered to issue. The claims sustained cover means of regulating and indicating the operation of the pump extending from the inside of the reservoir through the cover.

We also own patent No. 947,449 dated January 25th, 1910, for lubricating mechanism, the claims of which cover all methods of suspending the pump operating and controlling mechanisms from the cover and removable with it.

The claims of these two patents cover practically every force feed lubricator now manufactured and sold for automobile and marine engine use.

Infringement of these patents will be vigorously prosecuted.

**McCORD MANUFACTURING COMPANY**  
**Detroit**

said tread members being arranged in continuous relation in parallel rows and intermatching throughout the series, thereby presenting a continuous unbroken armored surface, said members also having edges formed with beveled ridges which abut the ridges of the adjacent members and form therewith projections having inclined sides.

948,279. Gasolene Feed. Albert W. Hoffer, Bottineau, N. D. Filed Feb. 24, 1909. Serial No. 479,682.

1. In a device of the class described, a carburetter, a fuel tank, an auxiliary fuel tank upon the opposite side of the carburetter from the main fuel tank and near the carburetter, the top of the auxiliary tank being at approximately the level of the bottom of the main tank, a pipe leading from the bottom of the main tank and discharging near the top of the auxiliary tank, a pipe leading from the auxiliary tank to the carburetter, a strainer within the auxiliary tank between the openings of said pipes, a branch leading from the first named pipe to the carburetter, and a valve in the branch pipe.

948,317. Motor Vehicle. Rodolphus Fuller, Detroit, Mich. Filed March 8, 1909. Serial No. 482,047.

1. In a truck for motor vehicles, the combination of a truck frame, an axle, driving wheels on said axle, a motor located at one side of the axle adjacent to one wheel with its shaft extended toward the other wheel, a second motor located at the opposite side of the axle adjacent to the other wheel with its shaft extended toward the wheel at the opposite side of the truck, variable speed transmission mechanism located upon the extended end of each motor shaft, a pinion on each motor shaft actuated by each transmission mechanism, a counter shaft adjacent to each motor with one end extending toward the adjacent truck wheel, means for transmitting motion from each of said counter shafts to said wheels, and a gear on the opposite end of each counter shaft to engage said pinions.

948,337. Vehicle Washer. Edward Muller, Weehawken, N. J. Filed May 24, 1909. Serial No. 497,965.

1. In a device of the character described, a fixed inlet pipe provided with an elongated downwardly extending portion, a laterally disposed delivery pipe provided with a hose connection at the outer end thereof and with an upturned portion at the inner end thereof closely fitting the interior of the downwardly extending portion of the inlet pipe and rotatably supported therein, and means for engaging said laterally disposed delivery pipe intermediate the ends thereof and constituting the sole support therefor.

948,341. Motor Vehicle. George W. Perry, Jr., Peoria, Ill., assignor, by mesne assignments, to Avery Company, a Corporation of Illinois. Filed July 21, 1906. Serial No. 327,185.

1. In a steering gear for motor vehicles, the combination of a motor frame, a motor thereon, vehicle-supporting and driving wheels, power transmitting mechanism interposed between said motor and said driving wheels, and suitable steering wheels, of power transmitting mechanism interposed between said motor and said steering wheels and including positively acting power transmitting means, and means in addition to said positively acting power transmitting means for frictionally controlling the same.

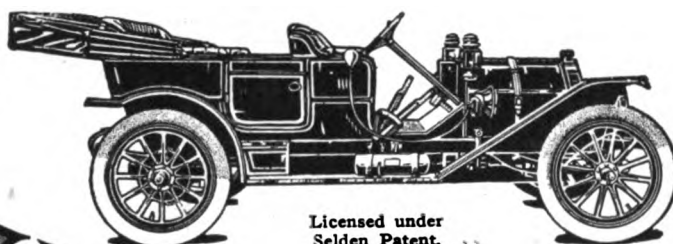
948,371. Taximeter. Alphonse Jean-Baptiste Edouard Darras, Paris, France. Filed Feb. 23, 1909. Serial No. 479,492.

1. In a taximeter, the combination with a continuously driven spindle, of two notched discs secured thereon, the notches being directed opposite and displaced to one another, a spring actuated spindle, means for transmitting movement from the first named spindle to the latter and a disc on said spring actuated spindle having stepped displaced projections on its two faces and adapted to co-operate with the two notched discs to periodically stop and release the spring actuated spindle and to thereby cause the latter to execute an intermittent movement.

948,389. Tire for Wheels of Vehicles. John Cairns, Willenhall, South Staffs, England. Filed July 29, 1908. Serial No. 446,005.

A vehicle wheel tire structure comprising in combination, a plurality of hollow studs of yielding material each provided with an annular groove near its base, a plurality of circular portions receiving the studs and having flanges engaging the grooves to secure the studs and confine the air therein, and pieces of canvas interposed between the bases of said studs and said circular portions, substantially as and for the purpose set forth.

948,483. Inductor Generator for Ignition Purposes. Henry J. Podlesak, Chicago, Ill., and Tesla E. Podlesak, Morristown, N. J. Original application filed Sept. 25, 1901, Serial No. 76,559. Divided an' this application filed Jan. 28, 1908. Serial No. 413,069.



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1. In an apparatus of the class described, the combination of an igniter mechanism associated with an internal combustion engine, a shaft projecting from the engine casing, a magnetic field frame adjustably mounted upon said shaft and provided with a winding, a movable inductor for varying the magnetic flux through said winding, an arm pivotally connected at one end with said field frame and at the other end with said igniter mechanism, and means for actuating said arm for simultaneously adjusting said igniter mechanism and said field frame.

948,489. Core for Manufacturing Pneumatic Tires. John K. Williams, Akron, Ohio, assignor of one-half to The Williams Foundry and Machine Company, a Corporation of Ohio. Filed Oct. 26, 1908. Serial No. 459,572.

1. A collapsible core for manufacturing tires comprising an annular body having as a part thereof a removable section adapted to laterally overlap at least one end of the remaining portion of the body, and means extending through the overlapping portion of said removable section and the remaining

portion of the body for detachably holding said removable section in position.

948,612. Carburetter for Combustion Engines. Richard E. Krause, Cleveland, Ohio, assignor to The Krause Carburetter Company, Cleveland, Ohio, a Corporation of Ohio. Filed April 6, 1908. Serial No. 425,383.

1. In a carburetter for a combustion engine, a mixing chamber having an outlet for feeding a combustible mixture to the engine; several air receiving ducts connecting and adapted to communicate with the said chamber, which ducts are provided with air inlets continually communicating with the external atmosphere and have other air inlets; means whereby the supply of air to the ducts through the last mentioned air inlets is controlled or regulated; a suitably operated valve covering the discharging ends of at least a plurality of the said ducts in its fully closed position and arranged to successively uncover the valve covered ducts in actuating the valve from its fully closed into its fully open position, and means for supplying fluid fuel to the ducts.

948,807. Tire Pump for Motor Vehicles.

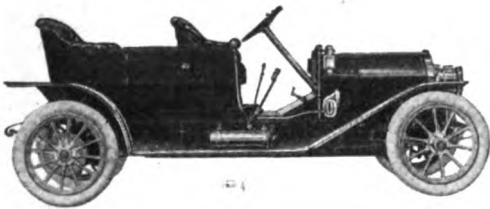
Martin L. Bastian, Philadelphia, Pa., assignor to Olney Automobile Company, Limited, Philadelphia, Pa., a Pennsylvania Limited Partnership. Filed Jan. 16, 1909. Serial No. 472,608.

1. A pump for inflating tires including in combination, high and low pressure cylinders, pistons operating in said cylinders, piston rods connected to said pistons and extending in opposite directions, means for reciprocating said piston rods comprising a device having said piston rods attached thereto, and a valve connection for connecting the low pressure cylinder with the high pressure cylinder, whereby said low pressure cylinder is exhausted into the high pressure cylinder during one half stroke, and from thence into the tire to be inflated during the following half stroke under compression of the high pressure cylinder.

948,997. Wheel, Maurice Lachman, New York, N. Y., assignor to Welded Steel Wheel Company, New York, N. Y., a Corporation of New York. Filed April 29, 1909. Serial No. 492,961.

1. A wheel composed entirely of metal

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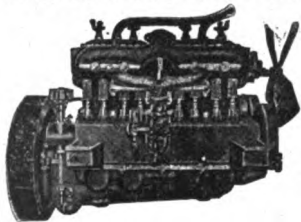
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and comprising a tubular hub, a rim and spokes arranged in pairs and which connect the hub and rim, said hub being provided at its ends with inner and outer discs through which it passes and which are secured thereto, and said discs being provided one with an inwardly directed and the other with an outwardly directed flange or rim between which the inner ends of the spokes are compressed, and said discs being also compressed to form in their outer faces grooves which form on their inner faces annular beads between which the inner ends of the spokes are also compressed.

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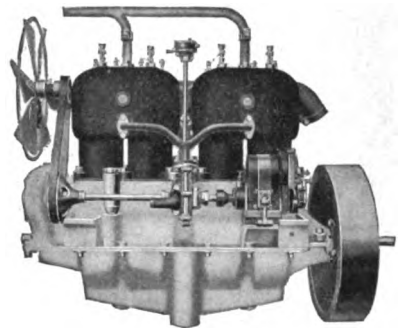


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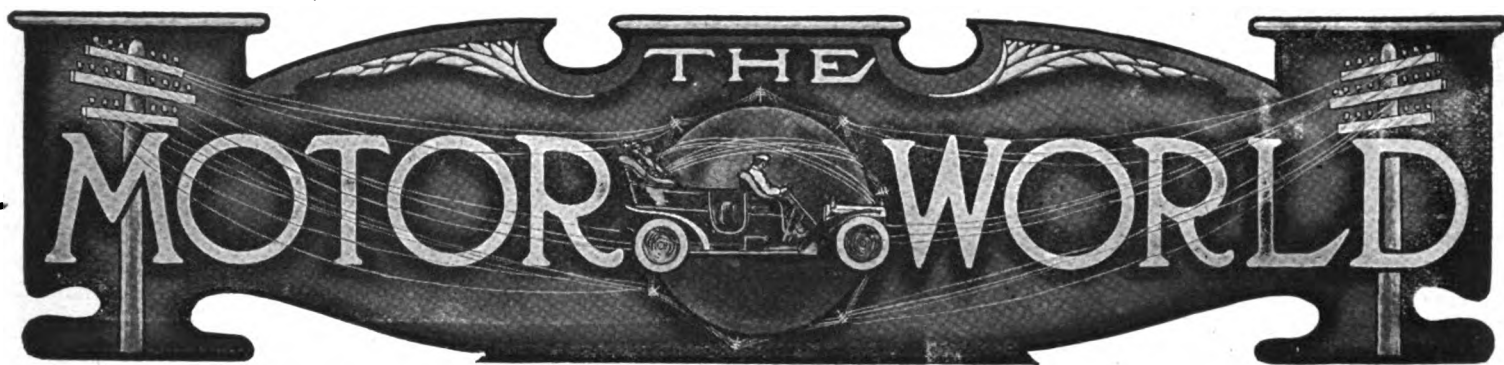
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**SELDEN LIGHTNING TO STRIKE AGAIN**

**Ford Files His Answer and Meanwhile A. L. A. M. Prepares Other Suits—Some of Those to be Sued.**

Progress in the clearing up of the difficulties attending the entering of the actual decree in the Selden case was marked this week by the filing of the Ford answering papers, as to why the name of the Columbia Motor Car Co. should not be substituted for that of the Electric Vehicle Co., as joint complainant with George B. Selden. The United States Circuit for the Southern District of New York, which sustained the patent, will hold the hearing as to the change of name on the 18th inst.

Such delicacy, diplomacy, caution and smiling tactfulness has characterized the policy of the Association of Licensed Automobile Manufacturers toward unlicensed makers since the decision sustaining the Selden patent, that an impression gradually has been created in some quarters that the Association perhaps would not assume any terrifically formidable role and would content itself with using moral suasion on the public in an effort to induce the latter to buy only licensed cars. That the A. L. A. M. program contemplates real aggressiveness, however, is indicated by the advance notices which have been permitted to leak out concerning infringement suits that have been prepared against over half a dozen of the "independent" makers and which are due for almost immediate filing.

It is suggested by some of those intimately in touch with Association affairs that the time intervening between the Selden decision and the present has been a period for straightening out matters as to who the new licensees should be, before the real warfare started, and for giving the unlicensed manufacturers, their agents and their prospective customers fair warning of the patent situation before actually commencing the litigation campaign. Having

utilized the time, also, for thorough and careful preparation and plans of attack, the association is now represented as about to move on a list of makers, including the Abbott Motor Co., Demotcar Co., Owen Motor Car Co., Warren Motor Car Co., and Paige-Detroit Motor Car Co., all of Detroit, Mich.; the Velie Motor Car Co., Moline, Ill., and the Parry Car Co., of Indianapolis, Ind. These makers, it is pointed out, all commenced active production since the rendering of the Selden decision, and are, therefore, to be given less kindly consideration, according to the licensed view.

**United States Motor Acquires Sampson.**

The United States Motor Co. has bought the Alden Sampson Mfg. Co., of Pittsfield, Mass., thus signaling the entrance of a \$16,000,000 merger enterprise into the commercial field, in addition to that of pleasure cars. The Alden Sampson plant at Pittsfield is to make a wide line of commercial vehicles, and will be enlarged with additional buildings, machinery and other equipments, as it has been less conspicuous in the past for the quantity of its production than for advanced engineering and extensive experimentation.

**Cartercar Joins National Association.**

The National Association of Automobile Manufacturers held its monthly meeting at the New York headquarters on Wednesday 6th inst. The Cartercar Co. of Pontiac, Mich., was admitted to the association's membership ranks, and one or two minor changes were made in the personal representation of other companies, aside from which the session was largely routine.

**Boynton to Become Mosler's Manager.**

Charles C. Boynton has resigned as buyer for the Excelsior Supply Co., of Chicago, Ill., his resignation to take effect on the first of June. At that time he will become general manager for A. R. Mosler & Co., of New York, manufacturers of Spit-Fire plugs and B-M carbureters. His successor at the Excelsior company will be Mr. Grubb.

**SHARP TALK AT A. L. A. M. SESSION**

**Two Members are Verbally Castigated—Briscoe Hotly "Sails Into" Franklin, and Some Facts Come Out.**

Some clearing of the atmosphere in the Association of Licensed Automobile Manufacturers took place when the members gathered at the New York headquarters on the 6th inst., and the process was highly meteorological in its character in respect to being accompanied by storm conditions and severe electrical discharges. In fact lightning and thunder were conspicuous in the session, but a spell of pleasant weather is looked for now that it is over. To change the metaphor, two members were "spanked" in order that family peace might be restored.

Not a few of the members for some time have been wanting to give expression to views regarding the boldness of the "wizard" of the General Motors Co. in publishing the Licensed quarterly figures of royalties and production, which data most of them have regarded as essentially confidential in character and not something to be used in stock selling campaigns. In consequence of this feeling the meeting was plunged early into a consideration of what steps should be taken to make the offending "Napoleon of the Industry" feel the weight of their displeasure at his alleged violation of confidence, and the point also was raised as to whether it would be best to discontinue the issuance of statistical quarterly reports to the members, in order that further unpleasant incidents of the kind might be avoided.

The proposal to cease supplying the statistics was warmly discussed, but it finally was decided that the reports should not be discontinued, as the information is of a character to which the members are entitled. Nevertheless, to prevent their unwarranted broadcast publication in the future and to make the Buick offense clear, resolu-



tions of censure were adopted, which might well make the left ear of W. C. Durant burning hot. Durant himself was not present, having been badly shaken up and bruised when a car in which he was driving with A. F. Brush was upset near Pontiac, Mich., on the 4th inst.

An even livelier portion of the session took place when Benjamin Briscoe, head of the United States Motor Co., broke loose as to some of his grievances against H. H. Franklin. The latter was accused of having expressed considerable adverse criticism against the association's recent policies in general and of having written letters making suggestions that Briscoe, in purchasing the Columbia Motor Car Co. for merger in the United States Motor Co., was guilty of ulterior motives in relation to the ownership of the Selden patent. It also was claimed that the Franklin had indicated that there was altogether too much "wholesaling" of licenses, and that "everybody" was being given a license if the price was forthcoming.

With indignation and heat, Briscoe repudiated any such intimations, either as to himself or the Licensed Association, and did not spare language in doing so, and in expressing his opinion of Franklin. The impossibility of his in any way controlling the Selden patent, despite the fact that he controls the Columbia Motor Car Co., which owns the patent, was made clear by reference to the contract terms under which the A. L. A. M. exercises its control. The charge that the Association was "taking in everybody" was pronounced ridiculous, particularly as it was brought out that the association has rejected the applications of no less than 78 manufacturers. As a result of Briscoe's presentation of Franklin's course, the latter, who was not present at the meeting, also was given a figurative chastisement in the woodshed.

A return of 75 cents per foot on the last Garden show was voted, in accordance with the recommendation of Colonel George Pope, chairman of the show committee. Confirmation and approval was given for the plan for a two weeks show at the Garden in 1911, the first week to be for pleasure cars and the second for commercials.

#### Kissel to Produce Electrics, Too.

The Kissel Motor Car Co. of Hartford, Wis., is stated to be about to go into the manufacture of electric vehicles in addition to its present line of gasoline cars, and to be taking up commercial models as well. The Hartford Plow Co., owned by the Kissels, has been sold by them as to machinery, patterns, patents, and the like, and the plant is to supplement the present automobile factory. A foundry and a drop forge plant will be added.

#### Chalmers in a Castings Foundry.

The Fairview Foundry Co., of Detroit, Mich., which recently was organized for the purpose of making automobile castings, has

completed its buildings and is installing its equipment. The foundry consists of two separate buildings, one for iron casting and the other for aluminum and brass work. All of the castings for the Chalmers Motor Co. will be made by the Fairview company, which also will reach out for other business. F. L. Bromley, is president of the concern, with J. W. Thompson as vice-president and C. A. Pfeer as secretary and treasurer. The board of directors consists of these officers and Hugh Chalmers. As a practical foundryman, Bromley has organized several foundry companies which specialize in the automobile trade.

#### Still Spreading Out in Detroit.

No abatement is observable in Detroit's projection of new factories and extensions for concerns in the automobile trade, among the most recent to be announced being the buildings for the Grabowsky Power Wagon Co., for the Warren Motor Car Co., and for the Detroit plant of the Long Mfg. Co. of Chicago. The Grabowsky plant is to be on a nine acre site at Mount Eliot and the Belt Line, the main building being 300 by 62 feet and the body department structure being 200 by 40. The Long Mfg. Co. of Chicago, producing radiators, tubings and parts, recently raised its capitalization from \$100,000 to \$300,000, and as a result of this move has arranged for a Detroit factory 325 feet long, at 1430-38 Michigan avenue. The new Warren plant is on Holden avenue, near Lincoln, and the first building is to be 600 by 60, of brick, stone and concrete. A second building, 450 by 60, is to be completed next fall, and a third building by next January.

#### Unusual Feature of Hayes's Plant.

The Hayes Wheel Co. of Jackson, Mich., having been confronted with a situation peculiar to the supplying of wheels to motor car manufacturers, has added to its factory buildings a fireproof warehouse, somewhat unusual in its purpose and arrangement. The entire space in the building is given over to the storage of hubs and rims, supplied by the company's customers for the building of wheels. Each customer is allotted ample storage space for the maximum quantity of unassembled material which he may have on hand at any time at the Hayes plant. As the warehouse stands apart from the other buildings, a belt carrier system is being installed to connect it with the assembling floors in the manufacturing buildings.

#### "Dan Patch" Coming via Minneapolis.

With the makers remaining anonymous, a series of cars to be known as the Dan Patch line is to be put on the market by the M. W. Savage Factories Co., of Minneapolis, Minn., which states that it has bought the entire output of an Indiana automobile factory for the coming year. The line includes about a score of models, from 40 horsepower touring cars to motor bug-

gies and commercial vehicles, and is to be distributed under the direction of E. B. Savage, who will institute a national selling campaign.

#### More Room for the Whitney Chains.

The Whitney Mfg. Co. of Hartford, Conn., making Whitney chains and other products for automobile application, is awarding contracts for the erection of a five story addition to its plant at Hamilton and Bartholomew street, to be ready for occupancy by October. The building will be reinforced concrete, with brick work on the outside tiers, and will add 24,000 square feet to the 80,000 feet already provided. A small single story building for storage purposes also will be put up.

#### Lauth-Juergens to Settle in Ohio.

The Lauth-Juergens Motor Car Co. has been incorporated in Fremont, O., with a \$150,000 capital, for the purpose of taking over the business of the Lauth-Juergens Co. of Chicago, Ill., which has been making cars in a small way for several years. Manufacturing operations will be transferred to Fremont, where a new plant will be ready for occupancy some time in May. Both pleasure and commercial cars are to be built.

#### Brush to Build Another Addition.

Despite the fact that the Brush Runabout Co., of Detroit, Mich., is little more than settled in its new factory, further factory additions already are being started. Incidentally indicating its confidence as to future permanency and stability, the company also is arranging for the building of a number of houses not far from the plant, for the occupancy of its workmen and their families.

#### To Manufacture Two-Cycle Trucks.

The Willet Engine & Carbureter Co., of Buffalo, N. Y., which has developed a two-cycle engine, has arranged for incorporation with \$1,000,000 capital, and announces its intention of erecting a large factory. It is stated that the concern will specialize on a 1,000-pound truck to sell at \$1,400, and furnished with its new two-cycle power plant.

#### Tire Company Gets Jersey City Factory.

The Rubber Co. of America, marketing an automobile tire, has purchased the factory of the International Watch Co., in Jersey City, N. J. It is announced that a quantity of tire making machinery is to be installed at once and active production commenced in the near future.

#### Miller to Make Palmer Truck Tire.

The Miller Rubber Co., Akron, Ohio, has acquired the right to manufacture the Palmer motor tire, the invention of H. A. Palmer of that city. The Miller company quite recently added automobile tires to its production.

**CARLSON PATENT IS SUSTAINED**

**Wins His Suit Against Maxwell-Briscoe—  
Decision May Affect All Two-Cylinder  
Opposed Engines.**

Except for the fact that a diminished relative importance has been given the two cylinder motor in consequence of the use of the four and six cylinder types, a patent decision which has just been given in favor of the Carlson Motor Truck Co., of Brooklyn, N. Y., and adversely to the Maxwell-Briscoe Motor Co., of Tarrytown, N. Y., might be regarded as of considerable concern to motor car manufacturers, since it involves an arrangement of the crank case cover and cam operating mechanism on horizontal opposed motors that is quite general in practice. The decision is the result of an action brought against the Maxwell-Briscoe company on April 10, 1907, by Charles A. Carlson for alleged infringement on his patent, No. 797,555, relating to improvements in internal combustion engines, especially the removable cover containing cam shaft and slides, as employed in the horizontal opposed types.

On appeal the United States Circuit Court for the Southern District of New York, with Judge Hazel presiding, has found for the complainant. Carlson assigned his invention to the Carlson Motor Truck Co., of Philadelphia, Pa., some time after the litigation was started, so that the decision comes as a victory for the company, although the prosecution originally was instituted by the inventor personally. It is asserted that the sustaining of the patent will be of wide effect among those makers whose products include cars having the horizontal opposed type of engine.

**Pierce-Arrow Takes up Trucks.**

Although it has been known for some time among the initiated, that the Pierce-Arrow Motor Car Co., of Buffalo, N. Y., has had an experimental commercial truck on the road under test, the actual announcement that the company is to manufacture motor trucks has not been forthcoming until this week. In connection with extensive additions to the factory now in progress a special truck building, 84x300, and four stories high, is to be erected. Although no structural details have been given out, it is indicated that the Pierce-Arrow truck will be for heavy loads and that its horsepower will be large compared with the average ratings of commercial vehicles.

**Morris Grabowsky Leaves the Rapid.**

Morris Grabowsky, who with his brother, Max Grabowsky, was one of the promoters of the Rapid Motor Vehicle Co., of Pontiac, Mich., and has been with the concern since its beginning in 1905, has tendered his resignation, to take effect immediately. He in-

dicates that he will be identified shortly with another commercial vehicle enterprise. Further changes have been made in Rapid affairs by the appointment of George A. Horner as general manager of the company. He became associated with the company several years ago in the capacity of accountant and cost system expert, and latterly has had a large hand in the management and financial direction of Rapid affairs.

**Lewis Sails for European Visit.**

With a view to keeping in touch personally with the development of European markets for Mitchell cars, Captain William Mitchell Lewis, of the Mitchell-Lewis Motor Co., Racine, Wis., sailed yesterday (Wednesday) for "the other side," accompanied by Mrs. Lewis, together with their son and daughter. He will remain abroad until the latter part of May, meeting J. W. Bate, the company's engineer and superintendent, who preceded him. The business trip will include England, France, Italy and Germany.

**How Owen is Using a Tent.**

Tents have been employed by automobile manufacturers for temporary factory addition purposes, but their use on the "automobile row" of a large city as a display room is more strikingly novel. Pending the time when he can get suitable Chicago quarters, Ralph R. Owen, of the Owen Motor Car Co., Detroit, Mich., has arranged for a tent exhibit in a lot between Twelfth and Thirteenth streets, in the heart of the Windy City's "automobile row."

**United Manufacturers to Move.**

The United Manufacturers, comprising five prominent accessory concerns, will remove their main offices in New York City on May 1 from the present address, at Broadway and 76th street, to Motor Hall, 250 West Fifty-fourth street. The new offices will have 10,000 square feet of floor space, affording considerably more room than the two floors in the Jones Speedometer building, which at present is utilized as headquarters.

**Mr. Jeffery's Body En Route to America.**

The remains of Thomas B. Jeffery, the Kenosha manufacturer, who died in Pompeii, Italy, on the 2d inst., and Mrs. Jeffery, who was with him when he expired, will reach New York on the Hamburg-American steamer Cincinnati, which is due April 19th. They will be met by Mr. Jeffery's son, Charles T., who will accompany them west, where the burial will take place.

**Bacon Retires as Haynes Manager.**

Richard Bacon, Jr., has resigned as sales manager of the Haynes Automobile Co., of Kokomo, Ind., a position which he assumed several years ago after a wide general experience in the trade. His future plans are not as yet announced.

**CONANT UNFOLDS HIS SHOW PLANS**

**Promoter of "Independent" Show in New York Styles it "Eleventh Annual"—  
Some Considerations Involved.**

Further announcement of the plans for an "independent" show at Grand Central Palace, New York, December 31 to January 7, reveal that it is to be termed the Eleventh Annual International Automobile Show and that the management is to be conducted by the Journal Company of Troy, N. Y., of which C. C. Conant, the promoter of the exhibition, is president. Prospective exhibitors apparently enjoy little or no prospect of the rebates which have been the portion of a majority of the exhibitors at previous Grand Central Palace shows, as the proposition is strictly on a buy and sell basis and does not appear to involve an association or co-operative movement on the part of the exhibitors.

"The management is in the hands of people who have had fifteen years experience in conducting successful trade shows," it is explained. "They are not promoters, but a corporation with ample capital, commercial standing and experience. Space will be allotted in order of receipt of application—a method which is entirely different to what has prevailed in the past."

Although the show seeks to be an "eleventh annual," it is given by interests heretofore associated with the carriage trade, in the promotion of carriage shows and in the publication of the Carriage Dealers Journal. Several forces would appear to militate against its passing off as smoothly as its predecessors at the Palace, not the least of which is the fact that the National Association of Automobile Manufacturers has sanctioned only the Garden show and that at the Coliseum at Chicago. While the "independent" or unlicensed manufacturers have no interest in the Garden show, it is possible that many of them would not care to forfeit their right to exhibit at Chicago where licensed and "independent" makers have spaces side by side, as in previous years. Those makers who choose to exhibit at shows not sanctioned by the National Association of Automobile Manufacturers will not be permitted to exhibit at the Chicago show, which is given by that association.

A further drawback, in the eyes of some of those who have been solicited to take space at the proposed Palace show, exists in the fact that their exhibits, if brought to the Palace, would be within the boundaries of the Federal court district where the Selden patent was sustained. The attachments and injunction proceedings which would be possible should the Licensed attorneys get "busy," it is thought might prove an unpleasant obligato to the "independent" show itself.

**THE WEEK'S INCORPORATIONS.**

Fort Worth, Tex.—Imperial Garage & Sales Co., under Texas laws with \$10,000 capital.

Freehold, N. J.—Ocean Garage Co., under New Jersey laws with \$10,000 capital; general automobile business.

Akron, O.—Portage Motor Car Co., under Ohio laws with \$5,000 capital. Corporators—Albert Buehrle and others.

Cincinnati, O.—Heilman Motor Car Co., under Ohio laws with \$100,000 capital. Corporators—John C. Heilman and others.

Chicago Ill.—Henry Motor Car Co. of Illinois, under Illinois laws; general automobile business. Corporators—J. J. Maloney and others.

Independence, Mo.—Smith-White Garage Co., under Missouri laws with \$2,000 capital. Corporators—Clifford R. and J. C. Smith, and Alma R. White.

Salt Lake City, Utah.—Utah Auto Tire Repair Co., under Utah laws with \$10,000 capital. Corporators—W. C. Ewing, A. S. Wright, L. E. Higgins.

Bend, Ore.—Central Oregon Automobile Co., under Oregon laws with \$5,000 capital. Corporators—John H. Wenandy, Frank L. Bunten, Guy B. Walker.

San Antonio, Tex.—Overland Automobile Co., of San Antonio, under Texas laws with \$10,000 capital. Corporators—R. W. and A. A. Aiken, W. P. Frantz.

Stamford, Conn.—Motor Accessories Co., under Connecticut laws with \$5,000 capital. Corporators—J. A. Mechaley, Arthur McMullen, Jr., R. G. Lockwood.

Frankfort, Ky.—Capital Motor Co., under Kentucky laws with \$3,000 capital. Corporators—W. L. and Pearl Williams, Joseph and Margaret Severance.

Dover, Del.—Automobile Co. of Philadelphia, under Delaware laws with \$50,000 capital. Corporators—J. H. Hughes, J. L. Wolcott, E. A. Bice, all of Dover.

Portland, N. Dakota.—Portland Automobile Co., under North Dakota laws with \$50,000 capital. Corporators—B. B. Grinley, Osten Thykeson, G. K. Jordet.

Fulton, N. Y.—Fulton Motor Co., under New York laws with \$10,000 capital; general automobile business. Corporators—Alfred N. Seymore, M. S. Powell, John C. Larkin.

Boston, Mass.—Union Fuel Co., under Massachusetts laws, with \$200,000 capital; to deal in fuels of all kinds. Corporators—C. H. Woodbury, Boston; T. S. McGowan, Brookline.

Cincinnati, O.—James Kidney Motor Truck Co., under Ohio laws with \$10,000 capital. Corporators—James P. Kidney, W. W. Ramsey, W. A. Stuart, E. E. Clark, Joseph Wilshire.

Louisville, Ky.—Falls City Vulcanizing Co., under Kentucky laws with \$5,000 capital; to manufacture automobiles, bicycles and supplies. Corporators—Albert H.

Drake, Joseph C. Kirchdorfer, Herman Jansen.

New Rochelle, N. Y.—Morgan-Swan Taxicab Co., under New York laws, with \$10,000 capital. Corporators—William W. Swan, Charles H. Morgan and Albert B. Morgan, all of New Rochelle.

Detroit, Mich.—Stuart Commercial Car Co., under Michigan laws with \$300,000 capital. Corporators—William W., Alexander F. Walker, Michael B. O'Connor, Johnson and Walter E. Stuart.

Detroit, Mich.—Commercial Motor Car Co., under Michigan laws with \$30,000 capital. Corporators—Charles Goodrich, Charles Flowers, George D. Wandless, H. Y. McMullen, L. B. Goodrich.

Richmond, Va.—Richmond Motor Car Co., under Virginia laws with \$5,000 to \$15,000 capital; to operate a garage and transfer business. Corporators—S. W. Meek, C. L. Atkins, M. L. Lloyd.

Washington, D. C.—Universal Motor Co., under Delaware laws with \$5,000,000 capital. Corporators—George G. Schroeder, Washington; Charles G. Guyer, S. E. Becker, Wilmington, Del.

St. Paul, Minn.—Joerns-Thiem Motor Car Co., under Minnesota laws with \$200,000 capital; to manufacture pleasure and commercial motor cars. Corporators—Fred Joerns, E. A. Thiem and others.

Petersburg, Va.—Percivall Motor Corporation, under Virginia laws with \$1,000 to \$50,000 capital; general automobile business. Corporators—H. L. Percivall, Benjamin Harrison, G. W. Watson, J. S. Gresham.

Omaha, Neb.—Independent Auto Repair Co., under Nebraska laws with \$25,000 capital; to manufacture automobiles, engines, etc. Corporators—Henry J. and Mary A. Galarneau, Ezra P. Beechler, Thaddeus E. Smith.

Shirley, Ind.—Woodburn Automobile Co., under Indiana laws with \$50,000 capital; to manufacture automobiles. Corporators—George Stenger, W. F. Keller, Herman, W. F. and E. F. Messman, E. P. Keller, Adolph Redderson.

Detroit, Mich.—Miller-Sprague-Waldo Mfg. Co., under Michigan laws with \$25,000 capital; to manufacture automobile accessories, etc. Corporators—Lewis C., John R. Waldo, George Miller, H. B. Ransom, Edwin W. Sprague.

Buffalo, N. Y.—Willet Engine & Carbu-  
retter Co., under New York laws with \$1,000,000 capital; to manufacture gasoline engines and vehicles. Corporators—Isidore Michael, Edward Michael, J. D. Willet, William G. Colwell, Albert F. Brown.

Newark, N. J.—Times Square Automobile Co., under New Jersey laws with \$125,000 capital; to manufacture and deal in automobiles, etc. Corporators—O. L. Weingarten, M. Froelich, Chicago, Ill.; L. Weingarten, Newark; L. Mansbach, New York City.

New Rochelle, N. Y.—New York & New

Rochelle Automobile Co., under New York laws; to maintain and conduct garages, etc.; to deal in and repair automobiles, accessories, etc. Corporators—Milford Simis, Leon Kaufman, New York City; Edward L. Walter, New Rochelle.

**Warner's New Company Begins Building.**

The Muncie Gear Works, which recently was organized in the Indiana city of that name, has been incorporated under the laws of the Hoosier state with \$250,000 capital. The directors named are H. L. Warner, B. O. Skillen, G. H. Guthrie, Joseph McPherson and F. F. McClellan. They already have acquired a tract of 2¼ acres on which three sets of concrete buildings will be erected. The main structure will be 175x280 feet. Preliminary work already has been started and it is expected that the plant will be ready for occupancy some time during the month of June. The company will manufacture automobile parts, most of them designed by H. L. Warner, who has been engaged in the parts business for several years.

**Baker Forms New Drop Forge Company.**

The Baker Drop Forge Co. has been formed in Jackson, Mich., chiefly for the production of forgings for the automobile trade; it is capitalized at \$65,000, and a site has been purchased adjoining the factory of the Frost Gear & Machine Co., the stockholders of which largely make up the new concern, of which W. H. Baker, former manager of the Jackson Drop Forge Co., is president. The other officers are: Vice-president, M. C. Townley; secretary and treasurer, C. M. Frost; directors, W. H. Baker, M. C. Townley, E. J. Weeks, A. S. Glasgow, E. T. Frost, C. M. Frost, E. C. Weeks. It is expected that the new concrete plant will be operating in 90 days.

**Joerns-Thiem Acquires a Factory.**

The Joerns-Thiem Motor Car Co. has been organized in St. Paul, Minn., and is installing machinery in the factory formerly occupied by the Brace Furniture Co., at Hampden and Hersey avenues, St. Anthony Park. The concern is incorporated with \$200,000 capital and is financed by Twin City money. Fred Joerns, of the Joerns Bros. Mfg. Co., St. Paul, is president, and E. A. Thiem, a motorcycle manufacturer of Minneapolis, is secretary. An experimental commercial car of 36 horsepower and 1½ tons capacity, has been built at Thiem's motorcycle plant, but it is the intention to make both pleasure cars and commercials.

**To Make Tire Chains in Brooklyn.**

To establish a factory for the manufacture of non-skid chains for motor cars, the Atlas Chain Co. has taken 10,000 square feet in Model Loft No. 4 of the Bush Terminal buildings, at the foot of Thirty-fifth street, Brooklyn, N. Y. About 100 operatives are to be employed.

## IN THE RETAIL WORLD.

Charles Fenn, Antigo, Wis., is preparing to open a garage; it will include a repair department.

Walter Sanders, Riverside, Cal., has erected a garage and equipped it with facilities for repairing.

The Kansas City (Mo.) Regal Co., which dispenses Regal cars locally, has taken new quarters at 1524 Grand avenue.

L. K. Cowley, Wichita, Kan., has taken temporary quarters at 154 North Emporia street. He handles the Cadillac.

Holmquist Bros., Centerville, S. Dakota, have embarked in the garage business in that town. They will feature repairing.

The Baach-Reed-Gage Garage Co. is the elongated title of a new concern which has opened up at Janesville, Wis. It will specialize on repair work.

The Housman-Blake Automobile Co., St. Louis, Mo., has taken over the new garage building at 5037 Delmar boulevard. It will handle the Springfield car.

St. Louis, Mo., has a new addition to its motor colony in the Lindell Motor Car Co., which has located at 2800 Olive street. The Enger car will be exploited.

John N. Easland Great Barrington, Mass., soon will place in commission his new garage in the Crotty & Viola block. It will be devoted largely to storage purposes.

The Foster Electric Co., Marinette, Wis., has commenced business in that place. It will confine its efforts to the sale and repair of electric vehicles exclusively.

Formed to market Krit cars in the Flour City, the Krit Automobile Co. has opened salesrooms at 1027 Hennepin avenue, Minneapolis, Minn. J. E. Doherty will be the manager.

The St. Louis (Mo.) Overland Co. will soon remove to new quarters at 3907-11 Olive street. The premises at present are occupied by the Fisk Rubber Co., which is about to vacate them.

R. M. Randal, Dallas, Tex., local representative of the Republic Rubber Co., has established permanent quarters at 319 Commerce street. A full line of Republic products will be stocked.

Ashley D. Scott and Charles Sonneman, St. Louis, Mo., have taken showrooms at 3432 Lindell avenue, where they will handle the R. A. C. car. The former is one of the pioneers of the local trade.

Work has been begun on a brick structure on the Scott estate, 915 Main street, Little Rock, Ark., which when completed, will be occupied by S. R. Thomas as an automobile sales and garage building.

Broadway, New York's "automobile row," has another new motor car establishment in the H. & H. Sales Co., which has taken up quarters at No. 2100, corner Seventythird street. It will market the Demot car.

The Fitchburg (Mass.) Cab & Automobile

Co. has taken a five years lease of the large stable on Grove street, near Elm, and shortly will open an automobile livery. Packard cars, both open and enclosed, will be employed.

Backed by prominent Dallas business men, the Imperial Garage & Sales Co., has entered the trade at Fort Worth, Tex., and has leased the premises at 493 Commerce street. The Stearns and other lines will be exploited.

The Du Puy Motor Car Co. Dallas, Tex., is the title of a new concern just formed in that city. C. L. Du Puy, a well known local tradesman, and George P. McAtee, a Houston capitalist, who comprise the firm, will represent the Selden.

The Henry Motor Car Co. of Illinois has been formed, with showrooms at 1549 Michigan avenue, Chicago, and will act as distributor for the Henry car in Illinois, Iowa, Wisconsin and Indiana. E. C. Haynes will be manager of the concern.

The Cook & Stoddard Co., Washington, D. C., is the proud possessor of new and handsome salesrooms, just opened at 1313 H street, N. W. The service department will remain at the old location, Twenty-second and P streets, N. W.

Lea, McKallipp & Abbey, Houston, Tex., formerly located at 608 Travis street, have changed their address and now may be found at 714 Main street. They handle the Jackson, Fuller, Glide and Babcock electric, and do a renting business also.

Work is progressing rapidly on the new reinforced concrete garage which is being erected for the Brownlee Automobile Co., San Antonio, Tex., at San Pedro avenue and Evergreen street. It will be two stories, 56 by 83 feet, and will cost \$15,000.

E. A. Garlock, Washington, D. C., has purchased the Overland Sales Co. located at 1214 V street, N. W. He shortly will remove the establishment to new quarters at 1521 14th street, N. W., where it will be conducted as the Overland Garage.

The Auto & Motor Boat Co., Houston, Tex., entered its new quarters at Capitol avenue and Milam street, last week. The firm is housed in a two story building 80 by 90 feet, completely equipped, where Moon and Franklin cars will be distributed.

The Iowa Auto & Tire Co., Davenport, has established a branch in Cedar Rapids, with a floor space 60 by 140 feet. The offspring will, of course, carry the same lines as the parent company—namely, Pierce-Arrow, Thomas Cadillac and Babcock electric.

The Fulton (N. Y.) Motor Car Co. has taken out its "papers" and commenced business at 64 South First street, where it will conduct a general garage business. The moving spirits in the enterprise are Alfred N. Seymore, M. S. Powell and John C. Larkin.

The White Star Taxicab & Garage Co., Chicago, Ill., which was formed recently, is

having a garage erected on Fortieth street, near Drexel boulevard. The new building, which will cover the entire tract, will be two stories high, 48 by 165 feet, and will cost \$15,000.

The Utah Auto Tire Repair Co., Salt Lake City, is a new enterprise just formed to take over and operate the tire repairing establishment located at 125 East Second South street. Among those interested in the concern are W. C. Ewing, A. S. Wright and L. E. Higgins.

L. D. Ward, Lexington, Ky., who has operated a garage on West Main street under the style of the Blue Grass Auto Co., has sold his business to C. W. Howard and W. D. McIntire, of Millersburg. The new proprietors will conduct the business along the lines heretofore pursued.

Taking its name from the thoroughfare on which it is located, the Jefferson Garage & Automobile Repair Co., Hartford, Conn., has "opened up" at 10 Jefferson street. The members of the firm, R. J. Dalton, Ambrose Upson and Burton Fox, are all former employees of the local motor car factories.

What will be one of the best appointed sales and service buildings in the West will be erected for the Ford Motor Co., at Twentieth and Harney streets, Omaha, Neb. Occupying an entire corner lot, the structure will be two stories, 60x137, and will cost \$38,000. Glass will be used extensively in its construction to insure ample lighting facilities.

One of the finest automobile salesrooms in the state just has been completed for the Maxwell-Briscoe-Indianapolis Co., at Illinois and Vermont streets, Indianapolis, Ind., to occupy which the concern has vacated its old quarters on Massachusetts avenue. The new place is a three story structure and is completely equipped for the distribution, storage and repairing of Maxwell cars.

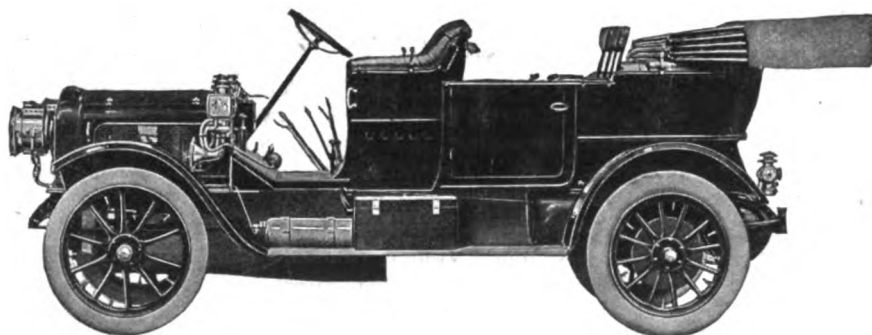
Minneapolis, Minn., has received an addition to its automobile colony through the formation of the Northwestern Overland Co., with headquarters at 921 Hennepin avenue. The new concern, which was launched by W. J. Bowman and R. A. Creek, two veteran tradesmen, will act as wholesale distributors for Overland cars in Minnesota, Montana, Wisconsin, the Dakotas and Western Canada.

The Buck Auto Co., 612-614 Mulberry street, Des Moines, Ia., has been purchased by Leslie T. Tietje, formerly connected with the Riddell Auto Co., and several other local garage men who pooled their interests to consummate the deal. The new owners will operate under a new name, and the former proprietors will establish a new garage on Walnut street, between Tenth and Eleventh, where the Packard will be handled exclusively. The Walnut street venture will be operated under the name of the Buck Auto Co., which is controlled by Davenport interests.

# The easiest-riding Car in the World

IS THE

# WHITE STEAM CAR



The White Steam Car has many desirable qualities which are not equalled in any other type of car. At all times and under all conditions it is noiseless, absolutely free from vibration, smokeless and odorless. It is easiest on tires. It has unequalled hill-climbing ability. The engine can never be "stalled." It is by far the easiest car to control and it is, therefore, the safest car for passengers as well as for other users of the highway. Either kerosene or gasoline may be used as fuel.

The development of the White Steam Car—the perfection of details, simplification of parts, etc.—has gone on steadily from year to year. As a result, the 1910 White Steamer represents as great an advance over the steam car of a few years ago, as does the 1910 White Gasoline Car compared with gasoline cars designed several years ago.

During the last nine months—from July 1st to date—more White Steamers have been made and delivered to customers than in the corresponding period of any previous year.

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Are you familiar with the many desirable features of the 1910 White Steam Car? A postal to us brings a copy of our catalog.

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## THE WHITE COMPANY

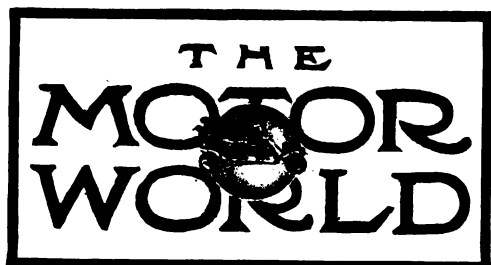
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### The "Marooning" of New Jersey.

New York finally having inserted a reciprocity clause in its pending automobile bill, it looks as if nothing can prevent the "marooning" of New Jersey and as if its more or less victimized citizens will at last be brought to realize the full price of Frelinghuysenism. That possibly illustrious Senator is about to be hoist by his own petard. It may have been a bright idea to build a fence around the state and force all who would enter to pay an admission fee, but with the states surrounding New Jersey each erecting a fence of its own and exacting even higher admission fees from the Jerseymen, any brightness the idea may have possessed will be so dimmed that few of those affected will be able to see it.

The policy of states treating the citizens of other states as foreigners and the spirit of retaliation which it has aroused are not wholesome. The regret that will go out to the residents of New Jersey will be tem-

pered somewhat by the knowledge that the author of this policy will feel the full force of the New York law when it is enacted. There are reasons for believing that Mr. Frelinghuysen is not over-anxious to pay admission fees and that he will not enjoy the taste of his own medicine which is in preparation.

### Psychology Applied to Motorists.

The proposal of Professor Charles Sherwood Ricker, of the Department of Psychology at Harvard University, to eliminate by experimental psychology the driver unfit to be trusted with the operation of a motor car, may be, and probably is, extremely interesting and valuable to the medical profession, but as a practical and real solution of the problem it is of little advantage to the everyday motorist. While it may be admitted, as Professor Ricker says, that the main difficulty with the majority of chauffeurs lies in their inability to react quickly upon perceptions and impressions, it must be remembered, nevertheless, that the conditions of the tests advocated are so artificial that they form no real criterion as to the abilities of the person under test to react swiftly upon real danger signals, and under actual existing street conditions; and furthermore, that they furnish no criterion as to the mental qualities tending to recklessness—the admitted cause of most accidents.

Humanity is composed of an almost infinite variety of characters; the slow and pedantically inclined are jostled about just as much as the naturally restive and nervous; they have to cross the crowded streets, dodge vehicles and make certain decisions quickly, whether they drive automobiles or not, and most of them pass these tests unscathed. The automobile has become an absolute necessity in the development of human activity, and as such it must continue; and the person of sluggish nerve action will continue to drive a car, because such apparent sluggishness cannot be regarded a certain symptom of inefficiency. Psychology, both experimental and deductive, has rendered many services to the human race, but its principles as yet are far from being viewed with conviction as applied to the affairs of the working-world.

The speed of mental reaction must increase with the familiarity of the subject. The man undergoing a test of the kind advocated by the Harvard professor may be extremely slow at the time such a test is

taking place, and yet prove himself sufficiently quick in real action when he has become familiar with the symptoms of danger and the driving, braking and steering movements, so that he acts almost subconsciously. Again, a subject undergoing a good test at one time, at another might fail to pass the requirement.

Such an apparatus as has been developed for purely psychological research might, however, be put to good use as a quick means of applying the simple tests as to facility in handling the control mechanism of the average car. Standard requirements based upon such tests might be employed profitably by state license examiners in weeding out novice drivers who are unfamiliar with the ordinary requirements of car manipulation. But such a test never should be drawn very closely nor considered final. The real measure of ability to operate a car successfully under trying conditions is the road tryout under real, not imaginary, conditions.

### Attempts to Eliminate "Globules."

That there is much yet to be learned about the carburetter problem, nobody will undertake to deny. But exactly what is the nature of the knowledge that is lacking few even of the best informed and most proficient engineers are able to agree upon. It is this very uncertainty which lends interest to the problem, especially in the case of those who otherwise might be inclined to pass over it so long as some device of the sort could be made or bought which would serve a normal engine with a usable quality of gas under ordinary road conditions. Although the internal combustion engine is pretty well understood at the present time, and although carburetters, as they are now known, exhibit certain familiar characteristics, the fact remains that the problem, as such, remains in a state of beautiful and nebulous theory and subject to a bewildering variety of interpretations.

Such being the case, it is not surprising to learn that one manufacturer, having decided, for reasons best known to himself, to provide a water jacket over the intake manifold, was greatly pleased, if not a little astonished, to discover therefrom a resulting gain of four actual horsepower, representing the equivalent of 8 per cent, over the original output on the bench. Indeed, the gain achieved in this and other ways was so much greater than had been anticipated that it was not without its embarrassments in

certain respects. Other makers have adopted the same plan with good results, though the actual ratio of gain in this or other instances is not important just here; the point is that merely preventing the temperature of the gas from being lowered in its passage from the mixing chamber to the cylinders, and while retarded evaporation was in progress, frequently serves to liven up the engine and also to improve its fuel consumption.

This leads to the "globular" theory, which is a favorite topic of discussion with carburetter theorists at the present time, and which also may be considered of some use in mystifying new recruits to the motoring ranks. The theory is that the action of the ordinary jet is to split the gasoline up into a multitude of tiny globules, each of which, in its progress toward the cylinders, soon becomes surrounded by a little atmosphere of its own which is composed of pure gasoline vapor. If the vapor which is composed of such globules is permitted to flow without much interference, the surrounding body of warm air aids in evaporating the liquid core—the "pulp," as one expert would have it—at the same time thickening the outer skin of vapor which surrounds the infinitesimal orange.

Obviously anything tending to break up the globules, increase the rate of evaporation, or free the main body of gas of the lumpy character which it assumes as a result of the globular tendency is in the direction of progress, and makes for improved running conditions, as well as for improved economy of operation. Jacketing the manifold is one way of going about it; churning the gas with a miniature fan is another, still other methods readily may be conceived.

One disconcerting fact in connection with the admittedly satisfactory performance of the modern high-grade carburetter is that fuel injection motors have been constructed and run under load on what is figuratively speaking, only a "smell" of gasoline, as compared with the consumption of the average external vaporizing and mixing device. Nor is the phenomenon of successful running on what ordinarily would be known as a weak mixture—too weak to run on in fact—confined to a single type of motor of the general class in question. It is, or seems to be, a characteristic which arises from the method of handling the gas, and may be regarded as a useful and suggestive commentary on the shortcomings of even

the most successful carburetter of the present day.

When a man takes another man's letter and, even for private circulation, changes its language to suit his own purposes, he is guilty of what is expressively if inelegantly termed "dirty business." When, with studied and malicious intention, a letter so distorted is published by such a man in a public print, "dirty business" is a term too polite fitly to describe the offense. We charitably had supposed that W. J. Morgan had put his interesting past so far behind him that he had forgotten his old wiles and devices, but apparently we were mistaken, for he has been guilty of an offense of the sort. Although but a few days before he was belittling Barney Oldfield in print, he nevertheless took Oldfield's bombastic and rather amusing "fling" at the Motor World, and after distorting it in such a manner as to render the paper printing it clearly liable at law from two sides, Morgan gave space to it in the New York publication which is generous enough to permit him to promote his own private ventures, on which it has been the pleasure of the Motor World to turn some light. If the publication in question will stand for such offenses, it will stand for almost anything; but it seems to possess so much character that it is doubtful if its responsible heads are aware of the gross misuse made of its columns.

Following the lead of the Motor World in drawing attention to the clause in the pending New York bill, which would have legislated out of use a number of non-skid tires—which clause since has been eliminated—the New Jersey deputy who acts as "auto editor" of the New York Globe has succeeded in working himself into a high fever over the matter. Among other things, he chides the tire manufacturers for remaining ignorant of such affairs that directly affect their own interests and expresses wonder that even E. S. Cornell, secretary of the National Society of Henry Clews, did nothing to prevent the threatened legislation. But if the New Jersey deputy was as well informed as he should be, he would have known that not all of the tire manufacturers were as ignorant or as disinterested as he fancies is the case. Even Mr. Cornell, who, after the Motor World took the initiative, suddenly became almost as excited as the New Jerseyman, could have told him that much.

## COMING EVENTS

April 11-18, Springfield, Mo.—Springfield Chamber of Commerce's first automobile show.

April 18-23, Bangor, Me.—Second annual automobile show in Auditorium.

April 30, Philadelphia, Pa.—Quaker City Motor Club's third annual roadability run to Atlantic City.

April 30, Kansas City, Mo.—Automobile Club of Kansas City's hill-climb on Dodson hill.

May 2, Denver, Colo.—Start of Flag-to-Flag endurance and reliability contest to City of Mexico for Wahlgreen trophy.

May 3, Trenton, N. J.—Trenton Automobile Dealers' second annual 300 miles endurance run.

May 5-7, Richmond, Va.—Richmond Times-Despatch endurance run.

May 5-7, Atlanta, Ga.—Opening spring race meeting on Atlanta motordrome.

May 9-11, Harrisburg, Pa.—Motor Club of Harrisburg's fourth annual reliability contest.

May 10-11, New York City—Motor Contest Association's reliability contest to Atlantic City and return.

May 13-14, New York City—Motor Racing Association's 24 hours race at Brighton Beach track.

May 18-19, Norristown, Pa.—Norristown Automobile Club's third annual endurance run to Scranton and return.

May 19-21, Hartford, Conn.—Automobile Club of Hartford's All-Connecticut reliability contest; 600 miles.

May 21-22, Brooklyn, N. Y.—Crescent Athletic Club-Long Island Automobile Club amateur touring contest on Long Island for Pardington trophy.

May 28, White Plains, N. Y.—Amateur Automobile Contest Association's hillclimb.

May 27, 28 and 30, Indianapolis, Ind.—Grand Circuit meeting and national championship races on Motor Speedway.

May 30, Briarcliff Manor, N. Y.—Amateur Automobile Contest Association's hillclimb.

May 30, Bridgeport, Conn.—Automobile Club of Bridgeport's fifth annual hillclimb on Sport Hill, Easton.

June 4, Worcester, Mass.—Automobile Club of Worcester's annual hillclimb on Dead Horse hill.

May 30, Denver, Colo.—Denver Motor Club's annual road race.

June 1, Berlin, Germany.—Start of Prince Henry tour, finishing at Homburg on 8th.

June 11, Wilkes-Barre, Pa.—Wilkes-Barre Automobile Club's annual hill climb or Giant's Despair.

## A. L. A. M. DINNER A HAPPY AFFAIR

**Toastmaster's Audacious Address Starts the Merriment and the Lighter View Prevails—Loving Cup and Piano for the Cliftons.**

To give a hint for a "keynote," if the latter were required, there appeared on the inside front cover of the menu of the "Annual Dinner of the Association of Licensed Automobile Manufacturers, Hotel Astor, New York, Thursday, April seventh," a quotation from Job E. Hedges, as follows:

"The Country is safe when competitors in business can eat together without eating each other."

As a tuning fork, the quotation apparently was entirely successful, and as Hedges himself presided as toastmaster, the affair was assisted by such spontaneous supplements as he chose to lend to the epigram. The gathering also boasted a real governor, as an aid to its eclat, but its chief climax was reached in the presentation of a loving cup to Charles Clifton, president of the Association—although it is probable that Arthur Brisbane takes issue with this view and still regards his number as the more important.

There have been "annual" dinners of the Licensed Association before, but in few respects did they resemble this one, which in addition to being highly formal in character was attended by an imposing list of makers who only a year ago were leaders in the unlicensed ranks and were not either invited or disposed to attend such a purely Licensed function. The dinner served to "bring them together" and to create a social agglomeration of all the present licensees under the Selden patent, which may induce further unity in the Association's business structure.

When the offerings of the Hotel Astor chefs had sufficiently advanced in their courses, Toastmaster Hedges started the speechmaking. After exhorting the diners to look to "better things above" (the ladies being in the balcony), he bewailed the fact that happy and pleasurable as the dinner might seem to some, it nevertheless gave him the impression of a funeral—a funeral at which he was undertaker, chief mourner and the corpse, because the affair marked the burial of the American Motor Car Manufacturers Association, of which he had been the adviser and counsel.

Pathetically he pointed to the lonely situation in which he found himself when the independent organization was no more; and how even his modest stipend was cut off, while the Licensed Association not only took Alfred Reeves, but raised Reeves's salary to enormous heights. A rescuer for Hedges had come, however, in the person of Henry Ford, who had seen to it that he was provided for by making him a Ford

legal adviser. For this reason, Hedges explained, he felt impelled to wax enthusiastic over Ford's generous and hospitable qualities, and would even go so far as to welcome the guests in Henry Ford's name, declaring that Ford himself would have ex-



CHARLES CLIFTON



HIS LOVING CUP

tended such a welcome had he been there.

Hedges's bold and humorous introduction of Ford's name caused some gasps of astonishment at first, but met with a riotously appreciative reception. His whole speech created a mood which made things easy for the speakers whom he subsequently introduced. The latter, together with guests of honor, sat at his right and left at a long table placed on one side of the Laurel Room, in which the dinner was given, while the main body of the diners were grouped at smaller, circular tables. The list of

those at the guests table, in addition to the toastmaster, included: Charles Clifton, William H. Edwards, Hon. Fred M. Warner, Thomas Henderson, Samuel T. Davis, Jr., Colonel George Pope, Arthur Brisbane, Herbert Lloyd, Hugh Chalmers, Lewis H. Kittredge, George B. Selden, Howard E. Raymond, Harry A. Lozier, Benjamin Briscoe, Ransom E. Olds, Albert L. Pope.

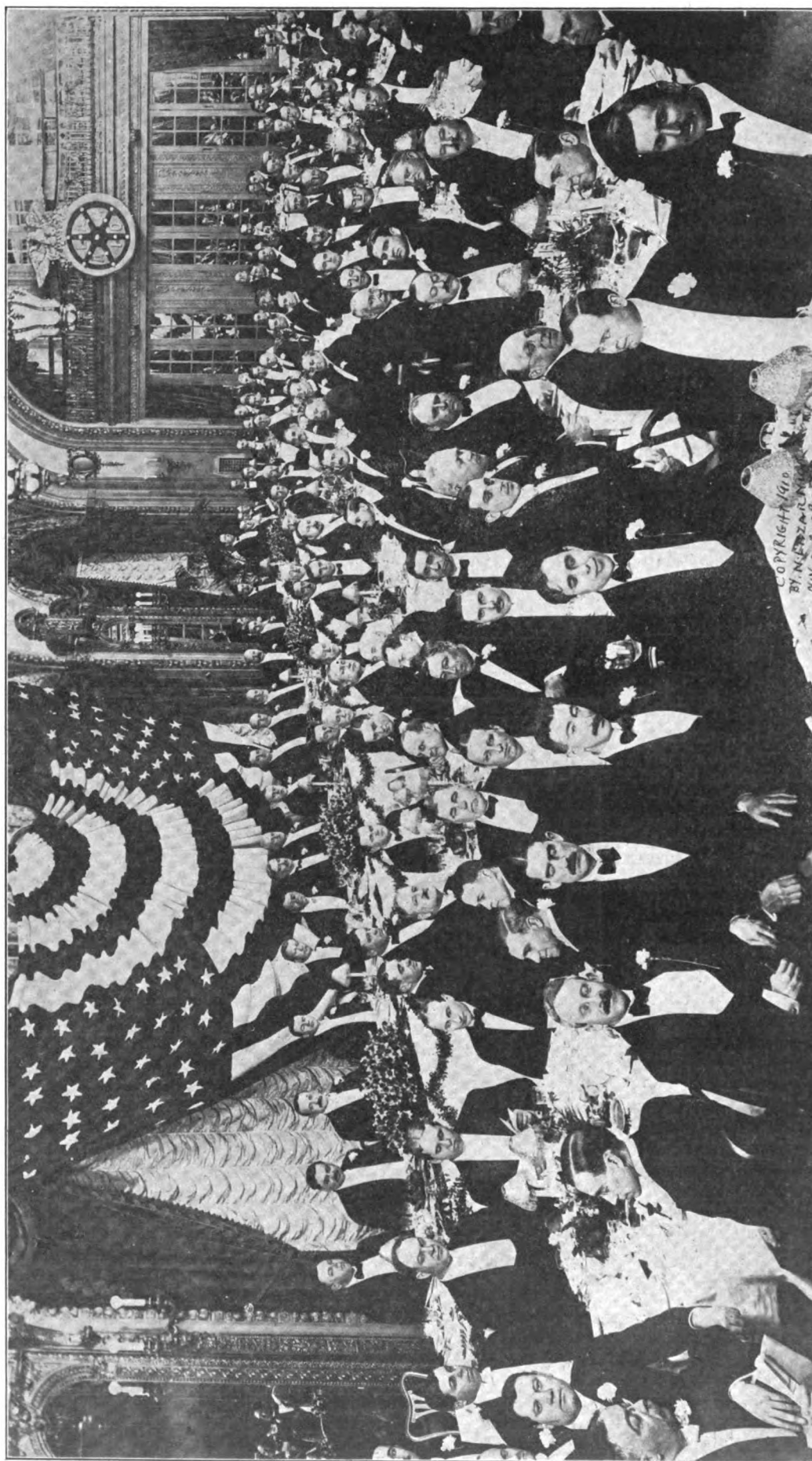
As the chief executive of the most productive automobile state in the Union, Governor Fred M. Warner, of Michigan, naturally enough was impelled to discourse glowingly on the number and aggregate value of the automobiles built in Michigan factories, after which he struck out more broadly and expressed a confidence in an ultimate good road movement by which the Federal government would assist the states, and the states assist the counties, in the building of highways that will be a credit and benefit to the nation.

Next on the list was Arthur Brisbane, who instead of being a speaker in the banquet sense, turned out to be more of a lecturer and didactic oracle. He lectured the makers thoroughly on what they should and should not do, incidentally explaining to them that he knew considerably more about some aspects of their business than they themselves, particularly as to the advertising. There was no little lifting of eyebrows in polite question when he predicted positively that high priced cars would soon be a "curiosity" because of their almost complete extinction. His claim that practically every man who can afford to buy a car and wants one is already supplied or has his order in, served to introduce a suggestion that hereafter the makers turn their attention to making customers of the 100,000 women in the United States to whom cars could be sold if the right selling effort were directed toward getting their orders, or who could persuade "tight wad" husbands to "give up." Another proposal that he advanced was for the makers to get together and build 100,000 satisfactory low price machines of the convertible type, so that the plumber, the baker and the middle class merchant could use the car for utilitarian purposes during the week and for pleasure purposes for himself and family on Sunday. With prophetic eye he looked forward to vacuum cleaning for city streets, and he maintained that the police should not interfere with chauffeurs whose cars "smoke" from too much oil, but that the offending drivers should be left to suffer the ridicule of their more skilled confreres who would make them regard "smoking" as a sign of inferior driving technique.

A few shafts directed at Joseph "Evergreen" Ryan, of Chicago, in the course of Brisbane's remarks, brought Ryan to his feet for reply, in much the same way that the two have performed elsewhere on the banquet circuit in giving their "repartee duo" act. Ryan's comedy work was well received.

"Big Bill" Edwards, the street cleaning

ANNUAL DINNER OF THE ASSOCIATION OF LICENSED AUTOMOBILE MANUFACTURERS AT HOTEL  
ASTOR, NEW YORK, APRIL 7TH.



Reading from left to right, those seated at the guests' table are: Albert L. Pope, president Pope Mfg. Co.; Benjamin Briscoe, president United States Motor Co.; Howard E. Raymond, president Motor and Accessory Manufacturers; Hugh Chalmers, president Chalmers Motor Co.; Arthur Brisbane, Editor New York Journal; Samuel T. Davis, Jr., vice-president A. L. A. M.; Hon. Fred M. Warner, Governor of Michigan; Col. Charles Clifton, president A. L. A. M.; Job E. Hedges, Toastmaster; William H. Edwards, Commissioner of Street Cleaning, New York City; Thomas Henderson, vice-president Winton Motor Carriage Co.; Col. George Pope, treasurer A. L. A. M.; Herbert Lloyd, president Columbia Motor Car Co.; Lewis H. Kittredge, secretary A. L. A. M.; Harry A. Lozier, president Lozier Motor Co.; Ransom E. Olds, president Reo Motor Car Co.



The real sentiment of the evening developed when Colonel George Pope, on be-

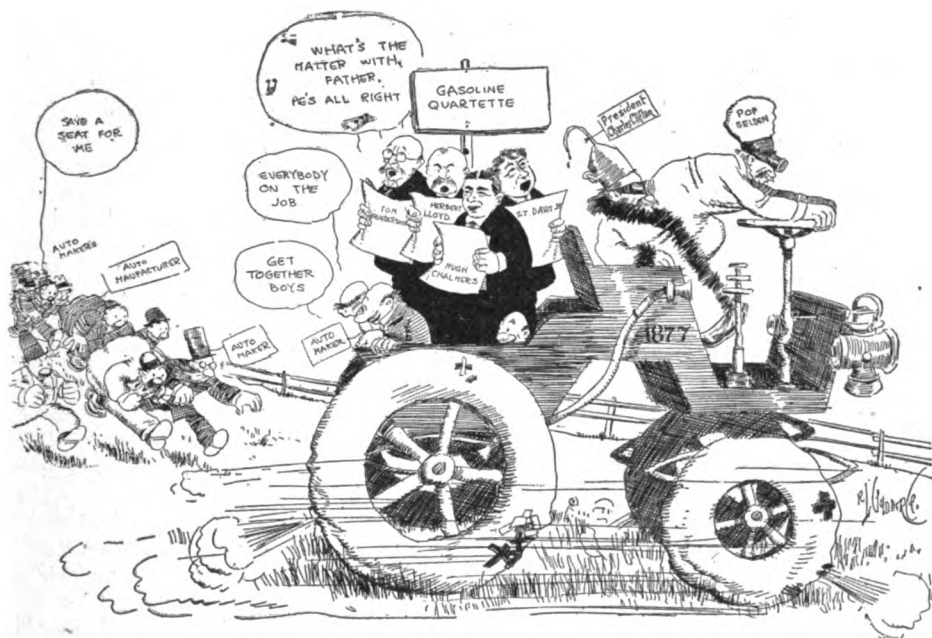
In winding up the evening, Toastmaster Hedges took the ladies into his confidence and told them that the official ceremonies.

## Bay Staters May "Beat" Taxis.

It was probably on this account that a New Yorker the other day hired a taxicab in Manhattan for a trip to Boston. When Waltham was reached the passenger took "French leave," without saying anything about the payment of the \$171.40, which the taximeter registered. The chauffeur who has the distinction of having driven a "fare" the longest distance without compensation heretofore recorded, and his long-distance cab, were shipped back to New York by boat.

While some doctors, and a good many people who are not doctors, have been blaming the motor car for many of the ills that modern man is heir to, Dr. James Tyson, of the University of Pennsylvania, praises the automobile for its services to medicine and hygiene. "One of the best forms of exercising," he said, "which will tend to strengthen the heart perhaps quicker than anything else, is automobiling. This, of course, is true, provided that the patient is not timid or of extremely nervous temperament. In automobiling considerable fresh air is forced into the lungs, and in this way the heart is greatly stimulated without undue exertion."

Claiming that the schedule of the post office compelled him to break the speed laws when collecting mail from the boxes, Earl Miller, a chauffeur in charge of an Indianapolis mail collecting wagon was discharged by the court, while the officers responsible for making up the schedule were subpoenaed for appearance in court the next day. As a result of the court's examination of this schedule, the latter is to be revised.



### GOLDBERG'S CARTOON THAT ENLIVENED THE MENU

When President Clifton stood up to respond he was given a standing ovation, with waving napkins and hearty cheers. When finally he was given opportunity to speak he gracefully disclaimed the credit for so large a portion of the Association's success as had been ascribed to him. He indicated that whatever honors might exist were due to the members themselves, whose co-operation and assistance had made the Association's success possible. In accepting the cup for himself and the piano for Mrs. Clifton, he deprecated any tendency to give him more credit than was his due, and he asked for a continuance of the hearty co-operation of the members. indi-

Amusement managers have been convinced for some time that one of the best ways to make people enjoy themselves is to give them the opportunity of actually and actively participating in the fun, and the banquet parodies were a winning feature in this respect, as they induced many staid manufacturers to sing themselves hoarse in shouting the frivolous sentiments of the refrains. Two of the half dozen parodies which aided in stirring up the free-from-care atmosphere and promoting fellowship spirit, are as follows:

(Tune of "Afraid to Go Home in the Dark.")  
 Clifton, dear, listen here,  
 A license is what we desire.  
 We will pay  
 Our money today  
 Before the price goes any higher.  
 We've finished today  
 With the M. C. M. A.  
 Of patent strife we tire.



## NEW YORK FOR RECIPROCITY

**Reamended Callan Bill Provides for It—Progressive Penalties Eliminated and Other Important Changes Made.**

After August 1st, the state of New Jersey will be entirely "marooned." This is made practically certain by the latest revision of the Callan automobile bill, now pending in the New York legislature, which as amended last week, includes a "reciprocity clause" and thus completely isolates New Jersey, the states of Pennsylvania and Delaware already having adopted a similar requirement. As the Mosquito State failed to waive the "admission fee," which it so long has exacted from non-residents, New Jersey motorists will be compelled to annually disgorge from \$5 to \$25, according to the horsepower of their cars, for the right or privilege to use the roads of New York.

This latest overhauling of the Callan bill was the result of another hearing and another long conference between the legislative leaders, which took place late last week.

In its chief features, the bill, which has been restored to the order of third reading, remains the same as printed in full in the *Motor World* of March 31st. Except in respect to vehicles used solely for commercial purposes, the registration fee for which was increased from \$2 to \$5 per year, the fees, \$5 to \$25, and the speed limit 30 miles per hour, remain unchanged. One of the amendments, however, permits purchasers of cars to operate under the dealers' registration numbers for 15 days or until they have obtained their own certificates.

Cities of the first class, which means New York and Buffalo, still are permitted to fix their own speed limits and traffic regulations, but a new provision requires that they enact such general ordinances before the Callan bill—if it is enacted—becomes effective on August 1st next. Other cities and incorporated villages may adopt speed limits not more restrictive than 15 miles per hour, but another added requirement compels that official copies of all local ordinances be filed with the Secretary of State at least 30 days before they take effect.

Apart from the reciprocity clause, possibly the most important and unexpected change effected last week, was the elimination of progressive penalties for violation of the speed limits. The present law provides increased fines and imprisonment for second, third and subsequent offenses and these were continued in the previous drafts of the Callan bill. In the reamending of it they were wiped out and speed offenses are made "a misdemeanor punishable by a fine not exceeding \$100." Imprisonment and indictment will be no longer possible. Chauff-

feurs—who are defined as persons operating cars "as employees or for hire," which would seem to include salesmen and possibly branch managers as well as professional drivers—may have their licenses revoked for third or subsequent offenses, and owners and chauffeurs alike will have their registration and license certificates, respectively, revoked for intoxication or for not stopping in case of accident, the latter offense constituting a felony. But a new sentence which has been inserted makes such suspension or revocation conditional on the recommendation of the trial court, thus wisely giving the technical offender a chance for the mercy that goes with real justice.

The so-called "joy riding" clause—the one fixing a fine and imprisonment for using, injuring or tampering with a car without the owner's permission—also has been eliminated. This probably was done because of the existence of a separate law covering the offense.

The full text of the new reciprocity clause is as follows:

285. Exemption of non-resident owners. The provisions of the fore-going sections relative to registration and display of registration numbers shall not apply to a motor vehicle owned by a non-resident of this state, other than a foreign corporation doing business in this state, provided that the owner thereof shall have complied with the provisions of the law of the state, territory or federal district of his residence relative to registration of motor vehicles and the display of registration numbers thereon, and shall conspicuously display his registration numbers as required thereby. The provisions of this section, however, shall be operative as to a motor vehicle owned by a non-resident of this state only to the extent that under the laws of the state, territory or federal district of his residence like exemptions and privileges are granted to motor vehicles duly registered under the laws of and owned by residents of this state.

### Glidden Pathfinder Now on Its Way.

Escorted by a cavalcade of 50 cars, the Chalmers "30," driven by Joseph W. Gardham, the 1910 official pathfinder, carrying Dai H. Lewis, of Buffalo, the veteran scout, who will lay out the route, L. J. Smith, Detroit, and N. Lazarnick, photographer, left Cincinnati, O., on Tuesday, 12th inst., and crossing the Ohio River to the Blue Grass state, started on its long and trying 2,500 miles journey. The first day's run was to Lexington, Ky., 83 miles, and the roads were found in excellent shape. In order that Lewis may have every assistance in logging the route, the data gathered by Frank Zirbes in the Mitchell Ranger, which recently completed a trip over the course, arrangements have been made to turn this valuable information over to Lewis. The Mitchell expedition encountered very bad weather and roads, and Zirbes voices the opinion that there will be no clean scores in this year's reliability contest. It is expected that the pathfinders will require at least six weeks to map out the route of the tour.

## TWO DAYS OF EASY ENDURANCE

**Savannah Club Promotes It and Nearly All Survive with "Perfect Scores," a Lady Among Them.**

Notable in the fact that all of the contestants came through, the two days endurance run from Savannah, Ga., to Jacksonville, Fla., a distance of 175 miles, held on the 4th and 5th inst. by the Savannah Automobile Club, attracted 22 entries, all of whom survived the contest, 17 with perfect scores. Although the daily runs were comparatively short, 76 miles the first, and 99 the second, the roads were in bad shape in several places and many minor difficulties were encountered, which were responsible for the penalizations. One of the features of the contest was the presence of a lady, and a gentleman of the cloth among the contestants—Mrs. L. W. Hazard, and Rev. Francis Brown—both of whom drove Maxwells and finished in the perfect class.

Leaving Savannah on Monday morning, 4th inst., the cars passed through Gaston, Drayton, Darien and Midway, stopping for the night at Brunswick, which was reached about two hours behind schedule. Considerable of this tardiness was due to the delay in the ferry service at Dents Landing, while deep sand near Darien gave some of the small cars quite a tussle.

Although slightly longer, the second day's run to Jacksonville was less fatiguing, better roads being encountered, and the tourists were met at Callahan by a large party from Jacksonville who escorted the visitors to the final control. One of the most regrettable features of the contest was the enforced dropping out of the refreshment car from Jacksonville, before Callahan was reached, and as the latter is a "dry town," it well can be imagined what disappointment this mishap entailed.

Those who finished with perfect scores were the following: J. L. Highsmith, Maxwell; Chris Jacobs, Hupmobile; H. B. Flanders, Buick; L. R. Akin, Buick; Mrs. L. W. Hazard, Maxwell; W. H. Towles, Maxwell; Darwin B. Hull, Buick; Rev. Francis Brown, Maxwell; Henry A. Brantley, Maxwell; W. C. Thompson, E-M-F.; W. C. Adams, Maxwell; R. S. Brown, Cole; Robert Brockett, Maxwell; Harvey Granger, Lancia; George Mouro, Acme; N. G. Browne, Packard; A. W. Solomon, Stevens-Duryea.

### New Jersey's Non-Resident Bill Fails.

As many persons supposed was the case, the eleventh-hour motions made by the New Jersey Senate to permit non-resident motorists to enter the state without payment of a fee, were mere bluff. The Senate which previously had killed a bill of the sort that had been passed by the Assembly, permitted its own bill to die with the Legislature, which adjourned on Thursday last.

## BOARD TRACK PROVES A "HUMMER"

Los Angeles Motordrome Inaugurated with General Slaughter of Records and Spirited Sport—Honors are Well Distributed.

That the one-mile circular banked board track known as the Los Angeles Motordrome, which has been constructed at Playa del Rey, Cal., is faster than any of the specially built automobile speedways yet constructed in this country, was proven in a record-breaking manner at the inaugural meeting held on Friday, Saturday and Sunday, April 8th, 9th and 10th. Records previously established at the Indianapolis and Atlanta speedways were wiped from the slate as chaff before a gale, and although the world's one and two miles records made on the straightaway sand stretch at Florida refused to be dislodged from their perches, the times made upon the saucer track give intimation that it is not impossible that even Florida's low marks may go by the boards when the season is a bit more advanced and the drivers become more accustomed to racing upon a circular track.

It yet remains to be seen what action the Contest Board of the American Automobile Association will take in regard to classifying the performances made upon the Los Angeles track. All world's records for mile tracks were broken, and many that previously had been made at the  $2\frac{1}{2}$  miles Indianapolis and 2 miles Atlanta speedways. In classifying its records the American Automobile Association differentiates between the mile track records and the "speedway" performances. The Los Angeles mile track is at the same time a mile track and a specially constructed speedway.

What occurred at the three days' meeting last week most concisely is detailed in the following table, which shows the best times made at the various distances; where no class is specified the events were free-for-all classes in respect to piston displacement:

Distance.	Time.	Driver.	Car.
1	0:36.22	Oldfield	Benz°
2	1:18.29	Kircher	Darracq*
3	1:58.90	Robertson	Simplex*
4	2:40.76	Kircher	Darracq*
5	3:15.62	De Palma	Fiat*
5	3:15.89	Harroun	Marmon†
10	6:31.37	Robertson	Simplex*
10	9:03.25	Endicott	Cole†
10	7:49.25	Oldfield	Knox‡
15	17:07.81	De Palma	Fiat†
50	39:20.69	Marquis	Isotta‡
50	43:49.69	Endicott	Cole†
100	1:25:22.1	Harroun	Marmon‡

° Records only for Los Angeles track.

\* Records regardless of class.

† Record for cars 161-230 cubic inches.

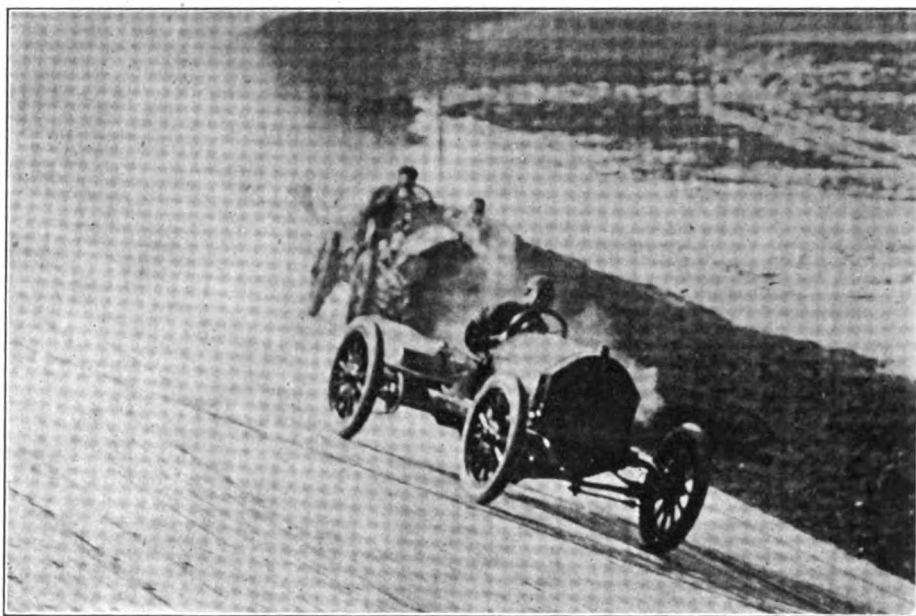
‡ Record for cars 451-600 cubic inches.

§ Record for cars 231-300 cubic inches.

The opening day (Friday) was most productive of record breaking performances.

Oldfield covered one circuit of the track in 36.22 seconds, which, of course, is not as fast as his Florida record, nor is it as fast as Hemery's mile made at the Brooklands track in England—31.55 seconds. So far as is known, however, it is the best time for a mile made upon any track in America. Following Oldfield, Kircher made a two miles record in 1:18.29, the previous mark having stood to the credit of Strang and the Atlanta speedway in 1:21.51. DePalma then shattered the 5 miles record by covering five laps in 3:15.62. The old mark was 3:17.7, made by Louis Strang at Indianapolis December 16 last, and not 4:11.3 made by Oldfield, as stated in the dispatches. As

car came in for further glory on Sunday, when he broke the 5 miles record for cars in the 231-300 class. Harroun's time was 3:15.89, as compared to 4:48.00, as made by Strang at Indianapolis. John B. Marquis, who began his career as a motorman of a trolley car down in Pennsylvania and more recently was mecanicien for Strang, also came in for a share of the glory. Marquis cracked the 50 miles record for cars in the 451-600 cubic inches class by covering the half-century in 39:20.69, the former record having stood at 42:02.98, made by Robertson on the Atlanta course. Robertson and Kircher also established records for 3 and 4 miles, their respective times being 1:58.90



IN FULL FLIGHT ON THE NEW TRACK

soon as DePalma finished, George Robertson tried for the 10 miles record—and got it—his time being 6:31.37, which is much better than Strang's Atlanta record of 7:01.94.

One of the most notable performances of the first day's racing was the breaking of the 100 miles record for cars between 231 and 300 cubic inches piston displacement, which previously had stood to the credit of the Atlanta speedway and Harroun and his Marmon car at 1 hour 30 minutes 8.31 seconds. At the Los Angeles saucer Harroun, in a car of the same make, on Friday covered the distance in 1:25:22.1. The other record to fall on the opening day was the 10 miles mark for cars in the 161-230 cubic inches class, which Endicott reduced to 9:03.25; the former record stood at 9:43.36, made by Matson at the Atlanta track.

Although several drivers made attempts to break records in time trials on the second day's meeting, none of them were able to approach the times made the first day. The only record to fall was the 50 miles for cars in the 161-230 cubic inches class, Endicott covering the distance in 43:49.69; Matson made the old record of 50:36.00 at Atlanta last fall. Harroun and his Marmon

and 2:40.76. This comprises the record-breaking of the first three days' meeting.

Friday—April 8th.

Despite the fact that the weather was cold and cloudy, with a cold wind blowing across the track, the opening on Friday was an auspicious occasion. Nearly 10,000 people were in the grandstands and they were fully prepared to see the records go aglimmering, as phenomenal speeds had been recorded in preliminary practice. The time trials opened the program and Caleb Bragg, in a Fiat, started the ball whirling by a circuit in 37.56 seconds. "Me & My Car" Oldfield followed with a mile in 36.22 seconds, and Ben Kircher, in an old Vanderbilt Darracq, turned two miles in the record-breaking time of 1:18.29, DePalma following for the five miles record in 3:15.62. Robertson drove his Simplex 10 miles in 6:31.37, which also was a record.

From a competitive standpoint the 5 miles free-for-all and the 100 miles stock chassis race for cars within the 231-300 cubic inches classification proved the thrillers of the afternoon. In the free-for-all De Palma in his Fiat and Robertson, in a Simplex, raced hood to hood the entire distance, with

Kircher close up, DePalma winning at the tape by a scant length. In the 100 miles Harroun (Marmon) and Siefert (Dorris) made the race interesting. Not more than a length separated them for 95 miles of the 100. In the last five miles Harroun drew away from Siefert and won the race and cracked his own record, as stated elsewhere. The summaries:

Time trials—One mile, Oldfield, Benz, 36.22; Caleb Bragg, Fiat, 37.56. Two miles, Ben Kircher, Darracq, 1:18.29. Five miles, Ralph DePalma, Fiat, 3:15.62. Ten miles, George Robertson, Simplex, 6:31.37. The 2, 5 and 10 miles times are world's records.

Ten miles for stock chassis, 161-230 cubic inches—Won by Endicott, Cole; second, Nikrent, Buick; third, Hampton, Ford. Time, 9:03.25 (record).

Ten miles stock chassis, 451-600 cubic inches—Won by Oldfield, Knox; second, Hanshue, Apperson; third, J. B. Marquis, Isotta. Time, 7:49.25.

Five miles free-for-all—Won by DePalma, Fiat; second, Robertson, Simplex; third, Kircher, Darracq. Time, 3:16.30.

One hundred miles stock chassis, 231-300 cubic inches—Won by Harroun, Marmon; second, Siefert, Dorris; third, Livingston, Corbin. Time, 1:25:22.1 (record).

Saturday—April 9th.

"Me and My Car" Oldfield had let it be known that he intended to shatter DePalma's record of 3:15.62 for 5 miles on Sat-

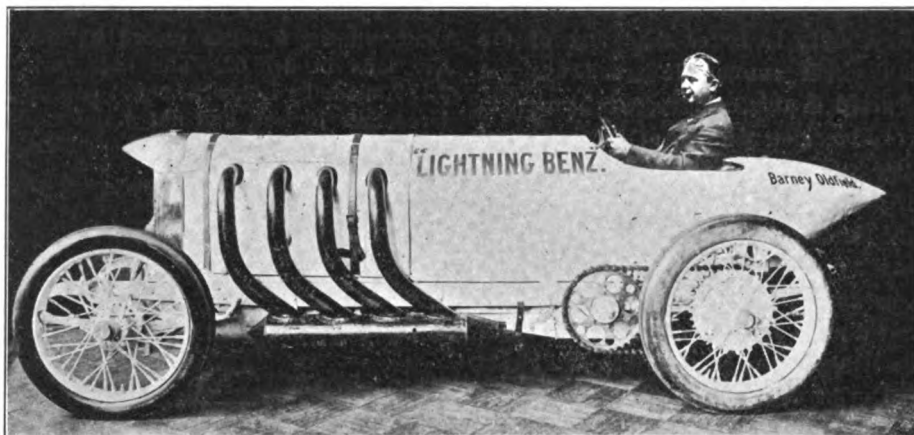
than DePalma had done the previous day. DePalma tried for the mile, but couldn't do better than 38.35, while Bragg's time for the same distance was 39.22. Robertson also tried for the 5 miles, but he was slower than Oldfield, finishing in 3:17.34.

With the time trials cleared out of the way, the spectators turned their attention to the real racing of the day. In the 10

Time trials—One mile, De Palma, Fiat, 38.35; Bragg, Fiat, 39.22. Five miles, Robertson, Simplex, 3:17.34; Oldfield, Benz, 3:15.71.

Five miles stock chassis, 451-600 cubic inches—Won by Oldfield, Knox; second, Hanshue, Apperson; third, Marquis, Isotta. Time, 3:42.20.

Ten miles handicap, stock chassis—Won



"ME AND MY CAR," NOT TO MENTION MY CIGAR

miles free-for-all Robertson and Bragg kept side by side until seven miles had been reeled off in better than 40 seconds to the mile, when Robertson drew a lead of a yard. This was increased a length in the next mile, and he won out easily in 6:35.06.

by Hampton, Ford (3:10); second, Livingston, Stoddard-Dayton (1:25); third, Oldfield, Knox (scratch). Time, 10:10.10.

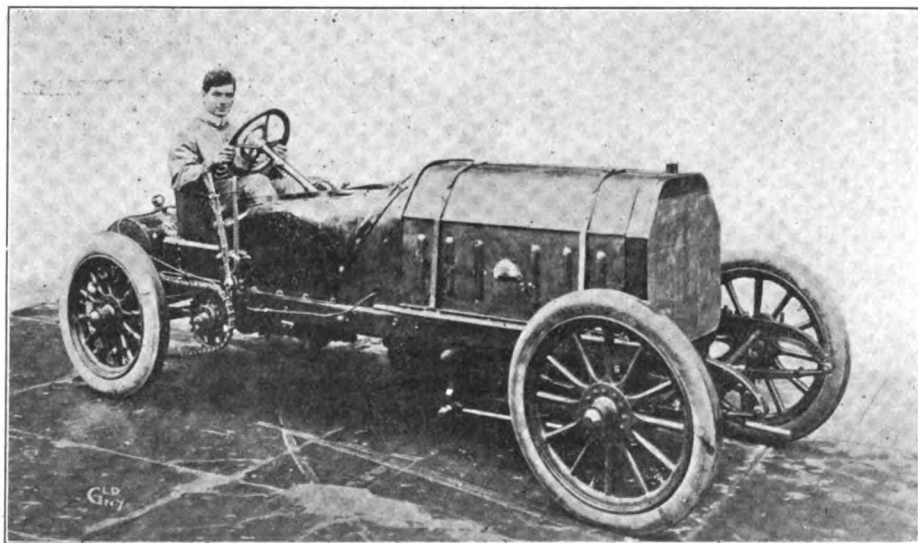
Ten miles free-for-all—Won by Robertson, Simplex; second, Bragg, Fiat. Time, 6:33.06.

Fifty miles stock chassis, 161-230 cubic inches—Won by Endicott, Cole; second, Nikrent, Buick; third, Miller, Warren-Detroit. Time, 43:49.69 (record).

Sunday—April 10th.

The good racing for the first two days of the meeting sufficed to bring out a crowd of 12,000 spectators to the third afternoon's carnival of speed, and they did not go home dissatisfied, for a number of records were sent soaring skyward, and the first accident of the meet—a spectacular one, too—was recorded. Fortunately the mishap did not result seriously.

It occurred in the 50 miles "Venice Sweepstakes," open to stock chassis within the 451-600 cubic inches classification. Four drivers started in the race—Oldfield (Knox), Marquis (Isotta), Livingston (Stoddard-Dayton) and Hanshue (Apperson). Oldfield soon retired with a broken valve spring and Livingston was delayed five miles by a puncture. Marquis then took the lead, with Hanshue chasing him and Livingston trying hard to pass the latter. The cars had passed the judges' stand a few yards when the Apperson's right rear tire rolled off and the car swerved up the track. Hanshue twisted the wheel, and it came down so quickly that he went off the boards into the sand strip circling the inside of the track. The momentum of the car was so great that the big machine rolled over four times before stopping. Hanshue did not extricate himself until the car rolled



RALPH DE PALMA IN THE 200 H.P. FIAT RACER

urday, and consequently the big crowd was in a state of expectancy when the peculiarly shaped Benz came out on the track for the 5 miles time trial. Had the race been timed by a hand-controlled stop watch Oldfield might have erased DePalma's performance from the hall of fame, but an electrical timing apparatus that records to the one-hundredth part of a second is a most precise instrument. Oldfield came dangerously close to DePalma's mark, but the timing machine made it 9-100 second slower

In the 50 miles event for stock chassis in the 161-230 cubic inches class another pretty race was witnessed. Nikrent in a Buick and Endicott in a Cole alternated in setting the pace until the last five miles, when the latter forged ahead and finished with a wet sail, 100 yards in the lead. His time—43:49.69—constitutes a class record. Hampton in a Ford won a 10 miles handicap for stock chassis and Oldfield took the 5 miles for 451-600 cars in a Knox; his time was 3:42.20. The results:

over twice, while Carey King, his mechanic, was thrown clear the first time the machine began somersaulting. The men were unconscious when taken to the hospital tent, but soon revived, and, excepting some bad bruises, apparently were none the worse for their accident. Marquis continued and won the race and incidentally cracked the record. His time was 39:20.69. Livingston finished second.

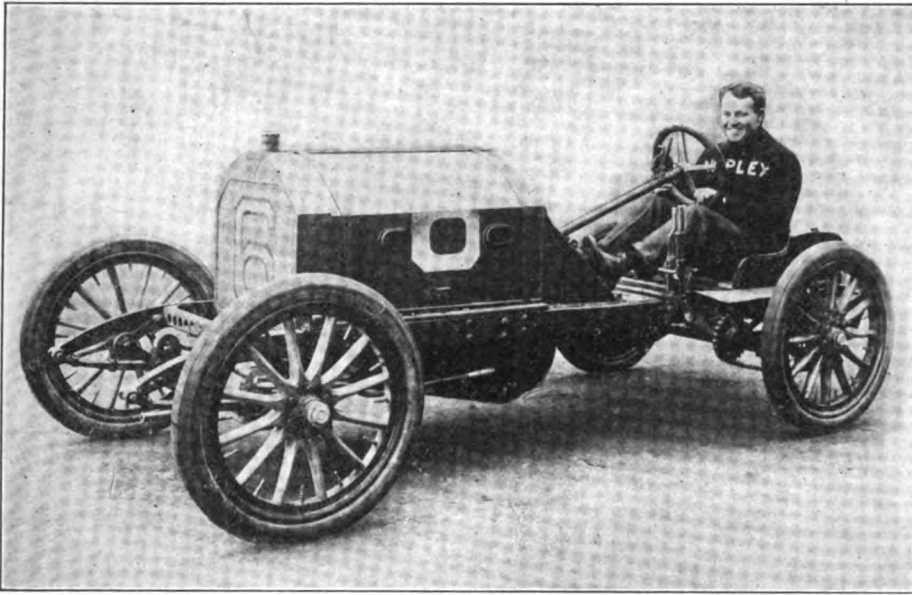
The five miles free-for-all was the prettiest race of the day. Bragg, Robertson and Kircher started, but the last-named could not hold the pace and dropped back after nosing the way for a mile. Robertson then went to the front and remained there until

Fifteen miles stock chassis, 161-230 cubic inches—Won by DePalma, Fiat; second, Marquis, Isotta; third, Kelly, Hupmobile. Time, 17:07.81 (record).

Five miles "Chandler & Lyon" handicap—Won by Lescault, Palmer-Singer (1:00); second, Livingston, Stoddard-Dayton (0:35); third, Marquis, Isotta (1:00). Time, 3:23.16.

Five miles stock chassis, 231-300 cubic inches—Won by Harroun, Marmon; second, Siefert, Dorris. Time, 3:15.89 (record).

Fifty miles stock chassis "Venice Sweepstakes," 451-600 cubic inches—Won by Marquis, Isotta; second, Livingston, Stoddard-Dayton. Time, 39:20.69 (record).



GEORGE H. ROBERTSON AND HIS SIMPLEX RACER

the last mile, when Bragg opened to the limit, drew even with Robertson and passed, winning out by a couple of lengths. The race was worth all the applause it received. Just before that Robertson won the 5 miles free-for-all handicap, starting from scratch.

The record trials at the 1 and 5 miles distances did not produce any new times, but Robertson and Kircher took a whack at the 3 and 4 miles distances, there not having been any previous speedway records for these distances. Robertson thereby established a 3 miles record in 1:58.90 and Kircher a 4 miles mark in 2:40.76.

Two other records also went by the boards. In the 15 miles for stock chassis between 161 and 230 cubic inches, DePalma in a little Fiat won from Marquis in an Isotta in 17:07.81, and Harroun, driving his Marmon flier, cracked the 5 miles mark for cars in the 231-300 class. He covered the distance in 3:15.89 and defeated Siefert, who drove a Dorris car. The summaries:

Time trials—One mile, Bragg, Fiat, 38.52; Oldfield, Benbz, 36.90. Three miles, Robertson, Simplex, 1:58.90. Four miles, Kircher, Darracq, 2:40.76. Five miles, DePalma, Fiat, 3:40.27. The 3 and 4 miles times are world's records.

Five miles free-for-all handicap—Won by George Robertson, Simplex (scratch); second, Lescault, Palmer-Singer (0:50); third, Livingston, Stoddard-Dayton (0:30). Time, 3:29.38.

Five miles free-for-all—Won by Bragg, Fiat; second, Robertson, Simplex; third, Kircher, Darracq. Time, 3:15.89.

#### New Yorkers Oppose Retaliation.

At the regular quarterly meeting of the directors of the American Automobile Association in New York State last week, resolutions were adopted to the effect that the national body was, opposed to retaliatory legislation in securing the passage of state automobile laws. During the remainder of the Congressional session the legislative board will continue to work for the passage of the Federal legislation bill. In accordance with the suggestion of President Lewis R. Speare, who tendered a report as chairman of the special committee delegated to wind up the unsettled claims of the 1908 Vanderbilt Cup race, the following resolution was adopted:

"Resolved, That the national board of directors of the American Automobile Association recognizes the substantial credit

due William K. Vanderbilt, Jr., in his disregard of all technicalities and voluntary assumption of the unpaid items relating to the 1908 Vanderbilt Cup race, and herewith expresses its high regard for a sportsman who has given so much time and personality to the general advancement of automobile competition."

#### Saunderson is A. C. A.'s New Head.

Succeeding Judge E. H. Gary, who declined re-election, Henry Saunderson, former vice-president, was elected to the presidency of the Automobile Club of America at its annual meeting on Tuesday of this week, 12th inst. The other officers elected were: First vice-president, John E. Borne; second vice-president, Robert Lee Morrell; third vice-president, Edward Shearon; treasurer, Ferris E. Marshall. Governors to serve four years: Dave H. Morris, Albert E. Shattuck and E. H. Gary; governor in place of C. Vanderbilt, resigned, Alfred Ely; governor in place of Horace Porter, resigned, George Moore Smith.

The secretary's report showed an increase of 204 active members and 227 new members of the bureau of tours, bringing the total membership up to 2,282. A constitutional amendment providing for the withdrawal of the club room membership was passed by a narrow margin of one vote after considerable discussion. Another constitutional matter settled established a definition in respect to non-resident membership. Henry Saunderson, the new president, who is 42 years old, is the youngest man who ever has served in that capacity. He is a well-known motorist and has served the club in a number of important offices, notably as chairman of the executive committee and chairman of the building committee which is erecting the new \$800,000 annex to the club.

#### Connecticut Visitors Need Front Tags.

Although the Connecticut automobile law possesses a reciprocity clause in respect to the admission of automobiles registered in accordance with the laws of the home states of their owners, it also contains a possible snare to motorists residing in states such as New York, which only require one license tag to be carried. A somewhat obscure paragraph of Section "10," which embodies the reciprocal provision, also stipulates that "Two markers be placed on the cars (of non-residents), as is required of cars registered in this state." The provision has been made the subject of an opinion by Attorney-General Holcomb, who holds that the requirement for two tags holds, regardless of the specific provision of the laws of other states in the matter.

#### Orphans' Automobile Day Selected.

Thursday, June 2d, will be Orphans' Automobile Day in New York City. As usual, the place for the day's outing will be Coney Island, although the exact amusement resort has not as yet been selected.



## LOS ANGELES'S BOARD TRACK

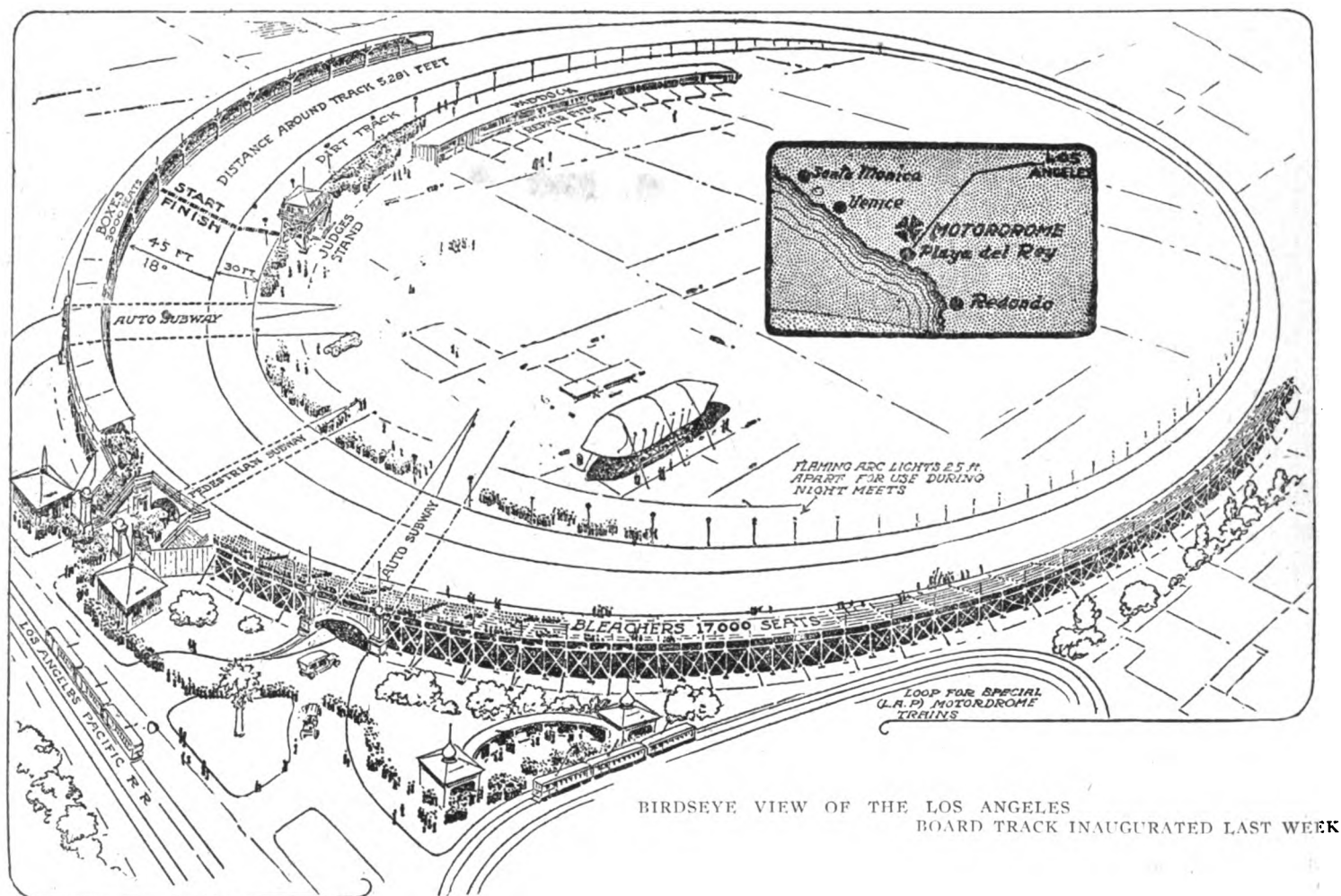
**Its Successful Inauguration a Triumph for a Veteran Track Builder—Some Features of Its Construction.**

Although the new Los Angeles motor-drome is hailed as a tremendous innovation in track construction, its only novelty is in its application to automobile racing. Board tracks have been built and used for many

at the outer rim. The track is 75 feet in width, built with a wide, flat inside free-board or "pole." It is built of the finest quality Oregon pine, which is said to be the very best wood to stand the sun without warping and cracking. So little rain falls on the Coast that warping through dampness does not have to be taken into consideration. Inside the board "pole" a circle of loose sand 10 feet in width all around will act as a natural brake to a car should it slide from the track owing to an accident.

spikes and bolts were used in erecting it. During its construction it was tested in a practical way by running a large number of touring cars over its surface, thereby subjecting it to a load much greater than that it would be called upon to withstand in the ordinary course of racing events.

The course is situated about five miles and a half from Playa del Rey, a short ride on the Los Angeles Pacific line from Los Angeles. For night racing the track will be lighted by seventy arc lamps of 4,000 candle-



years for bicycle racing and, indeed, Jack Prince, constructor of the huge wooden dishpan at Playa del Rey, who has built more board tracks than any other living man, already has to his credit two motorcycle saucers, one at Los Angeles and the other at Springfield, Mass., upon which all world's motorcycle records have been broken. Despite the lack of novelty in the form of the course, however, its application is new and the undertaking is by no means lacking in difficulty. Building a board track to uphold the weight of a large number of motor cars is altogether a different matter from building a track for cycles, whether pedal or motor propelled.

The new course is a true circle, exactly a mile in circumference. It is banked all around at an angle of 20 degrees, and is 25 feet high

Judging from the reports of early trials on the track, it seems likely that the contention that it is destined to prove free from skidding tendencies is likely to be borne out. The surface has been coated with an absorbent powder formed of crushed shells, which has been well rubbed in, and which is intended to absorb all oil and moisture dropping from the cars. In general, however, the probability of its freedom from skidding is based on the high coefficient of friction which obtains between rubber and wood, and which is higher than between rubber and most other smooth surfaces.

In the construction of the track 3,000,000 feet of two-by-four plank in 15 foot lengths and four-by-six under supports have been utilized, while more than 100 tons of nails,

power each, placed 40 feet high, and overhanging the track.

Three cemented subways connect the arena parking space with the outside, two of these being for machines and the other for pedestrians. Seating arrangements for 40,000 persons have been built, the covered box seats on the homestretch side accommodating 12,000, the remainder to be taken care of in the bleachers, located on the north side of the saucer.

### Club Offers to Oil Roads.

The Automobile Club of St. Louis, Mo., has offered to pay half of the cost of oiling the 100 miles of roads in the county during the year, provided the county will raise the necessary funds to defray the other half of the expense.



## MOTOR SLEIGH FOR POLE SEEKING

**Ingenious Vehicle Designed for the Scott Expedition—Its Construction and the Purposes It Will Serve.**

Although public ardor in regard to pole-chasing expeditions has been quenched by the rapidly succeeding emotions evoked by the controversy over right of discovery in the case of the northern terminus of Arctic travel, proposed ventures in Antarctic regions still possess a certain interest which is enhanced by the projected use of motor vehicles in the inevitable and melodramatic "dash to the pole." Indeed, were it not for

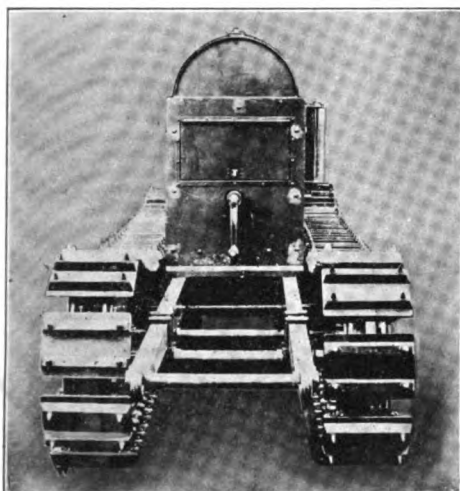
the high speed gear permitting a speed of  $3\frac{1}{2}$  miles per hour, while the low gear allows speeds up to two miles per hour. In order to obtain this abnormal gear ratio, a worm drive is employed in the rear axle casing. Owing to this extraordinary low gear no brakes are necessary, and if it is desired to haul the sleigh by man power or to coast it down an incline, the worm wheel may be declutched from the live axle.

As shown in the accompanying illustrations, the most conspicuous feature of these sleighs is the peculiar driving mechanism. The wheels, of which each sleigh has four, do not touch the ground at all. Two large endless chains are mounted so as to run over chain wheels that revolve on the front and rear tubular axle casings, and these

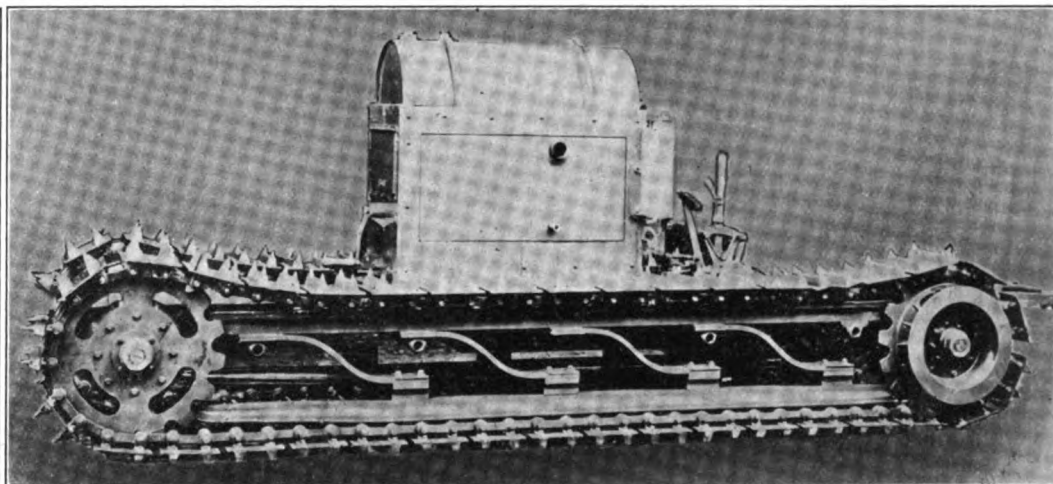
said to be considerable, and to represent the efforts of from 20 to 25 dogs. The saving in freight carried is therefore considerable, for the amount of gasoline, oil, and a few spare parts, do not total as much as feed for a score of "huskies."

### "Back Kicks" Cause Most Accidents.

Kicking motors stand forth conspicuously as a source of anxiety to automobile casualty and insurance companies, as well as of anguish to the motorists who are so unfortunate as to encounter them. Two hundred and thirty-five kicks cost one company of this class nearly \$20,000 last year, according to the annual report for 1909 which just has been issued. Though, as frequently has been pointed out, a most prevalent



"SOUTH-SEEKING POLE" OF TRACTOR



MOTOR TRACTOR SLEIGH FOR ANTARCTIC EXPLORATION

this stimulous the cause of the motor sleigh might languish. As it is, they are promised some little prominence in connection with the plans of Captain Scott, who is projecting a trip to the extreme south. The motor equipment which is destined to figure in the Scott expedition is of a type which has been developed by the Wolseley Tool and Motor Car Co., of England, and which presents many novel features. Foremost of these is the absence of any form of steering mechanism, the machines, which are designed solely for tractor purposes, being intended to be guided by means of two ropes attached to the front end.

The sleighs are fitted with 12 horsepower gasoline engines of the conventional vertical type, air-cooled, with four cylinders cast in pairs. The carburetter, which in the cold atmosphere of the Antarctic would offer great difficulties, is provided with a jacket through which the exhaust is led, and also with a heating pan in which alcohol may be burned when it is desired to start the motor. For lubricating the gears and other parts of the machinery a special brand of oil is used which is capable of withstanding the low temperatures. The clutch is of the leather cone type, while the power is transmitted by shaft drive. Two speeds forward are provided, and none for reverse,

chains have spiked pattens attached to their rollers. These spiked sections grip the ice and hard snow and furnish a secure hold for the driving wheels. Power is supplied to the chains by the live axle in much the same manner as in the regular motor car. When the sleigh is propelled forward, the spikes catch the ice and remain stationary, while the sprockets run over the chain much as the cogwheels of a mountain railroad run over the cogs. The result is that the lower part of the chain remains stationary while the upper part travels at double the speed of the machine. The system is practically an adaptation of that used in the Pedrail tractor.

The seat for the driver takes the form of a perfunctory square wooden box fixed immediately behind the engine. The gasoline tank is made to form the top of the bonnet that encloses the engine. No provision is made in the construction of these sleighs for steering apparatus for the reason that they will be used only on icefields, where the only direction necessary to follow is that of the compass, or possibly, that required by more level ground. If it becomes necessary to change the direction of the sleigh, two men walking ahead pull the front part around by main force.

The pulling force of these machines is

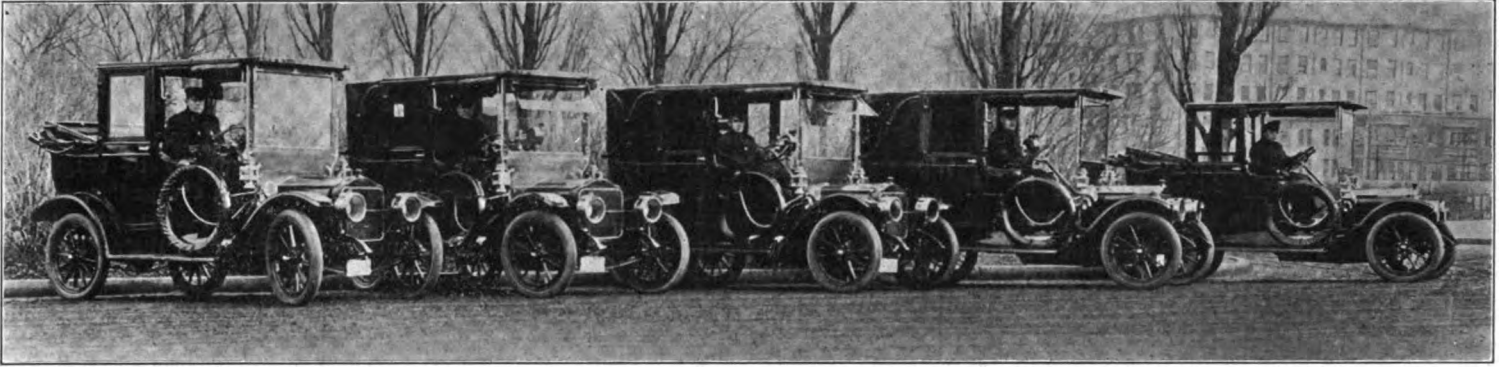
cause of automobile accidents, it has proved by no means the most expensive from the insurers' standpoint, since such injuries for the most part are of a minor nature.

Tinkering with the motor and trying to make adjustments or repairs, while possessing merely a superficial knowledge of the engine and its working was responsible for injuries to 128 of the policy holders, for which they collected some \$7,200. Collisions were next in number of accidents, being responsible for injuries to 117 persons and costing this one company over \$40,000. Skidding or running into ditches was the cause of 105 motorists collecting \$21,479 from the company. But of all the accidents none showed a greater percentage of fatality than the bursting of tires. Although only twelve such accidents happened to policyholders of this company, two of them, or  $16\frac{2}{3}$  per cent., resulted fatally.

### Protection of the Spare Tire.

Spare tires which are carried on the machine always should be amply protected against the effects of the weather. Unless one of the numerous forms of water proof canvas or leather tire casing is used, the spare shoe may be wrapped in oiled linen such as is employed by the tire makers in the original wrapping of the casings.

## FOUR PHASES OF THE COMMERCIAL VEHICLE

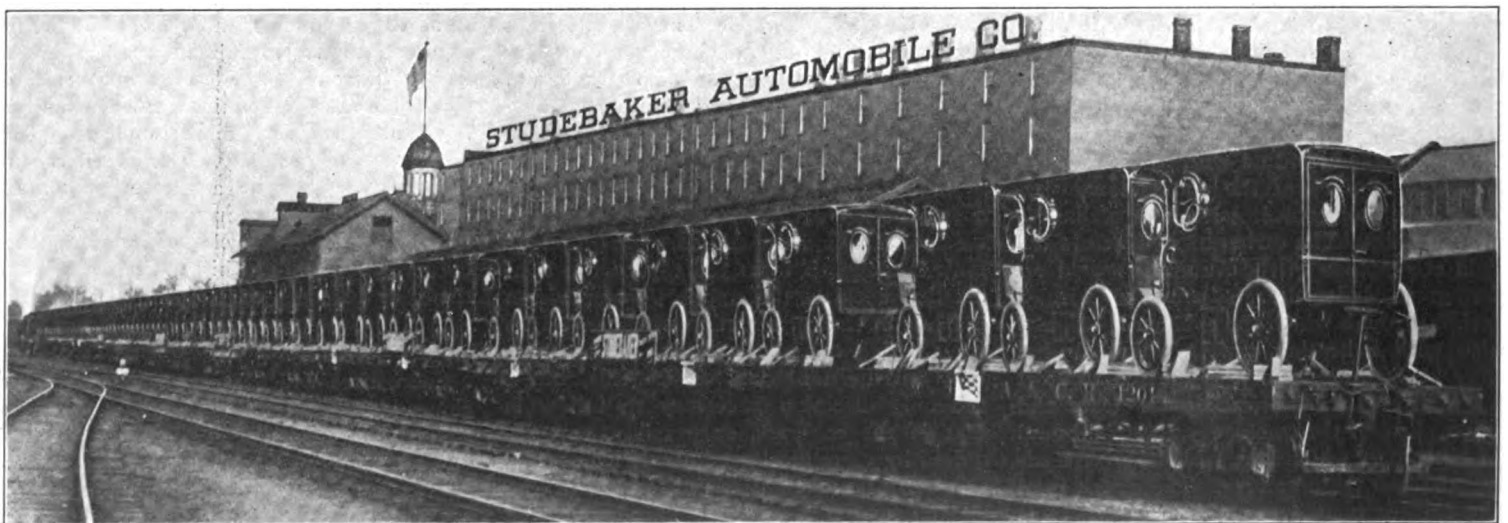


FLEET OF WHITE TAXIMETER CARS IN SERVICE IN BOSTON, MASS



GRABOWSKY TRUCK LOADED WITH CONTINENTAL DEMOUNTABLE RIMS

RAPID TRUCK USED BY BRISCOE MFG. CO., DETROIT.



RECORD SHIPMENT OF COMMERCIALS—STUDEBAKER ELECTRICS FOR GIMBEL BROS.' NEW YORK STORE

**OPINIONS GLEANED FROM OWNERS**

**Jeffery Takes a Mail Vote to Discover What Factors They Value Most—Replies Prove Instructive.**

While it might be supposed that popular taste in the matter of car specifications and the invisible qualities underlying them is best expressed in terms of the popularity of any given make or model, such a view is open to numerous objections. Evidently believing implicitly in the value of the ballot as a means of obtaining direct information in this direction, Thomas B. Jeffery & Co. have taken a mail vote in an effort to determine just what characteristics the average motorist most values in the car which is destined for his own use. Practically every Rambler owner in the country contributed his opinion in the form of answers to the series of questions submitted. The result was a general agreement on the importance of at least ten of the points which must be considered in choosing a car.

Ninety per cent of the owners agreed that the buyer should first make sure that the car is the product of a maker whose reputation and investment give assurance that he will still be in business when the car becomes old and worn and needs repairing and an occasional new piston, valve or other part.

Over one-half of the owners specified accuracy in the shaping and fitting of parts as next in importance, agreeing that the car should not be an assembled product but one produced in a plant where all parts are made. In this way alone, they pointed out, could the owner be sure of parts properly made.

The next point for the buyer to consider, according to the Rambler owners, is the possibility of at some time desiring to dispose of the car to purchase another.

The better a car is when it is new and the more responsible the manufacturer, the more the car will be worth when you want to sell. In other words, the quality of the car, according to these owners, determines its permanent value.

The majority emphasized the necessity of quality predominating over price in the making of an automobile. The average price of cars produced in factories where every part is made and made properly is between \$2,000 and \$2,500. About one-half of the Rambler owners contended that a real high class car could not be purchased today for less than \$2,500, while the rest were divided between amounts ranging from \$1,800 to \$2,500.

Those features voted as most desirable by the owners included the long wheel base because of the advantage in traveling over rough roads.

Light cars were not favored, the majority

specifying that a car should be heavy enough to provide ease of riding.

The weight of opinion was against the short wheel base because of vibration, which causes deterioration.

Big wheels and tires were voted unanimously as being necessary to comfort in riding, besides being proportioned, of course, to the weight of the car.

Extremes in horsepower were found unpopular, the average being between 34 and 45 horsepower.

Accessibility of parts was demanded by practically every owner; that is, the ability to move any one part of the car without disturbing all others.

Many owners considered the brakes almost as important as the engine.

The weight of opinion seemed to be that the safest brakes are those which are quick acting and easily adjusted. Poorly adjusted brakes are often tolerated and result in accidents.

**Dealing with Motor Truck Axles.**

Although many car manufacturers continue to produce their own axles, the extent to which the stock product has been adopted is not generally appreciated, either in connection with the pleasure or commercial types of vehicle. In which connection it is interesting to note, in the recently published motor truck axle folder of the Timken-Detroit Axle Co., Detroit, Mich., the statement that 85 per cent. of the successful truck makers at present use the Timken axle products. The booklet, which is in catalog form, conveys much information of a vital nature pertaining directly to the equipment of commercial vehicles, and suggesting types and sizes suited to various sizes and types.

**Where Tool Thieves are Skilful.**

Stealing tools from the back lockers of motor cars while the latter are being driven at a fair rate of speed, does not appear to be so very easy at first glance. The habit, however, is said to have become prevalent in England. It seems that gangs of bicycle riders, will follow a motorist for a considerable distance along lonely roads, closely hugging the car, and helping themselves to any parts they can pry off, or to the tools they can extract from the tool chest, even going so far as to unscrew the rear lamps from their brackets.

**To Enforce Extinguishment of Lamps.**

An order has been sent out to all the steamboat inspectors by the United States Inspector General in Washington, stating that the law prohibiting the transportation of motor vehicles on ferries unless the lights are extinguished will be strictly enforced this season. There has been some laxity in the matter hitherto, many ferry companies permitting cars to be run on board with the lamps lighted, although drivers were required to extinguish them after the machines had been brought to a stop.

**THE INFLUENCE OF PSYCHOLOGY**

**Harvard Professor Declares It Affects Owners of Automobiles and Points Out How It Does So.**

With the great increase of automobile driving in this country, the need of some regulation regarding the men and women entrusted with the handling of motor cars has become apparent, and many attempts have been made to formulate plans which would prove satisfactory both to the drivers and to the non-motoring public. One of the most original and scientific of such proposals has been advanced by Professor Charles Sherwood Ricker, of the Department of Psychology at Harvard University. The latter declares that a great many persons are physically and mentally unfit to drive automobiles, and that it is a part of the duty of experimental psychology to find these deficient persons before they can do any harm by driving motor cars recklessly or carelessly. He declares that operating an automobile is not solely a matter of skill, but is to a certain extent a matter of constitutional limitations.

"The chauffeur," says the professor, "must be able to react quickly to these objects about him, and this reaction often involves two or more distinct movements. It is a well known fact in psychology that certain individuals will show a remarkably quick reaction time when only one movement is demanded, but that when two or more movements are necessary some individuals are as helpless as a paralytic to make the second and third efforts.

"It seems that in such cases all the surplus nervous energy is directed along the path which causes the first movement and none remains for the subsequent ones. Such individuals are obviously not competent to drive motor vehicles where a thoughtless youngster may try to run across the street in front of a passing automobile and suddenly realizing the impossibility of succeeding attempts to turn back.

"The natural movement of the chauffeur would be to turn in and pass behind the boy, but the unexpected action of the youngster places him directly in front of the machine and quick work must follow. The emergency brake must be put on, the clutch released or the reverse set in, together with a skilful handling of the steering wheel, and all the activities apparently simultaneous. Where would a slow reactionist be in such a predicament? The muscular reaction times of many are comparatively slow even though the mind may be alert. Accuracy and speed of movement may mean at such a time the loss or saving of a life and yet these questions are not considered by any highway commission in the country."

Following which it appears that the professor's interest in the subject in some

measure hinges upon an apparatus of his own invention which is intended to aid in the discovery of such "deficiencies."

"With the idea of a practical application of psychology in the automobile world," he says, "I have prepared a simple piece of apparatus for the measurement of the reaction time in hundredths of a second of prospective chauffeurs and other motor car drivers. The apparatus may be connected to the frame of an automobile, with the driver's seat, a wheel of the conventional size, a foot clutch release, an emergency brake and a dummy throttle, or it may be attached to any standard machine for actual road tests.

"In either case the wheel is so arranged that any movement makes a metallic contact, completes an electric circuit, and drops an arm or pointer upon a revolving cylinder covered with smoked paper. This is the time recorder. The clutch release controlled by the foot also completes a circuit after a movement of one-sixteenth of an inch, dropping another arm upon the cylinder, as does the emergency brake and the throttle.

"In place of the ordinary wind shield the operator faces an opaque screen with three openings an inch and a half in diameter. Behind the openings are different colored electric bulbs so arranged on spokes that they may be readily changed. The colors are white, green and red, and are manipulated by means of push-buttons, which also connect with the revolving time recorder and drop additional arms upon the smoked paper.

"The operation is exceedingly simple. Each color or combination calls for certain definite responses on the part of the operator, such as turning, slowing down, stopping, reversing, etc. Pushing of a button by the examiner throws a certain light upon the screen and automatically registers the time on the smoked paper. The reaction of the driver is also recorded on the cylinder and the time between the pushing of the button and the turning of the wheel or lever is the reaction time for the individual.

"The sight and hearing of an applicant should likewise be examined. There are hundreds of persons who should be wearing glasses and nearly as many who are hard of hearing. Any of these desiring a license might very easily, through ignorance or design, fail to explain their shortcomings to the ordinary examiners. The near-sighted individual might get along well in the daytime and at dusk mistake a speeding automobile in the distance for a slow moving team. Again, another individual might hear the toot of a horn in front or at his side and yet owing to a slight deafness be oblivious to a warning 'honk' on a dangerous curve."

Professor Ricker furthermore calls attention to the element of fatigue which, in his opinion, is responsible for a great many accidents. "The driving of an automobile through crowded city streets is the

greatest strain outside a narrow escape which can well be imagined. Ought the chauffeur who has driven his car all day through the crowded streets be allowed, fatigued as he must be, to handle his car half the night through bright lights and deep shadows? These conditions are especially severe in the demand on attention, reaction time, the eye and the ear."

#### Remy Offers Two Rich Prizes.

By far the richest and most unique prizes ever offered for motor competition will be fought for at the Indianapolis (Ind.) Motor Speedway meets this summer. In addition to the G & J, Prest-O-Lite and Wheeler & Schebler trophies, Frank Remy, of the Remy Magneto Co., Anderson, Ind., will offer a \$15,000 trophy, the design and size of which is yet to be announced, as are the conditions under which it will be competed for.

The Remy Brassard which last year carried with it a weekly stipend of \$75 to its successful defender, will, this year bring an income of \$150 a week to the holder, and \$75 weekly additional if his car is equipped with a Remy magneto. The first award will be styled the Grand Brassard, and the second the Lesser Brassard. An innovation in prizes has been introduced by Carl Fisher, who has put up a silver helmet, which further is distinguished by the fact that it will not be a first prize, but will go to the winner of second place in the ten miles national championship on May 30, for stock cars in the 451-600 displacement class.

It will be competed for four times throughout the season and will carry with it a weekly income of \$50. The winner must wear it in competition, and it will become the permanent property of the holder at the close of the season. Another new addition to the prize list is the Wilson trophy, valued at \$150, which will be awarded to the stock touring car of not over 50 horsepower which, with full equipment, and carrying four passengers, first covers a mile in 1 minute or under. A mile is to be driven each way around the track, to compensate for grade variations. The opening meet will be held May 27, 28 and 30.

#### Mayor Fails to Close Boston Parks.

Boston, Mass., has become the center of a brisk local tempest because of the threatened closing of its parks to automobiles. Mayor Fitzgerald has become obsessed with the idea that because extensive use of the local park systems is made by automobiles, it is wrong for the entire income from registrations and fines to be turned over to the State Highway Commission. The first indication of the obsession was a petition presented to the Legislative committee on roads and bridges, which is engaged in preparing sundry amendments to the existing automobile laws. Failing of recognition in this quarter, His Honor turned his attention to the Boston Park Commission and the Metropolitan Park Commission,

suggesting that the parks be closed to automobiles during the coming summer. This the respective commissions have power to do, subject to the approval of the State Commission.

The Metropolitan board responded with an expression of confidence in the wisdom of the Legislature in apportioning the funds to the highway commission, and declining to act as suggested. In the same connection, the highway commission has written the Mayor modestly requesting him to furnish it with a complete list showing the number and valuation of cars taxed in Boston, the amount of taxes collected from persons or property in any way engaged in the automobile business, the valuation of property occupied by those so engaged and the number of people and amount of capital engaged in the industry—if possible.

#### Minneapolis Elects and "Resolutes."

At the annual meeting of the Minneapolis (Minn.) Automobile Club last week, the following officers were elected for the ensuing year: George M. Gillette, president; Herbert J. Clark, first vice-president; Charles B. Velie, second vice-president; G. A. Will, secretary; Louis Koch, treasurer. Chairmen of the various committees also were appointed as follows: Asa Paine, house; A. M. Robertson, laws and ordinances; Harold Vorce, sign posts; G. A. Will, good roads; G. H. Feeley, membership; Dr. C. E. Dutton, tours and contests. Resolutions were adopted requesting the legislature to appropriate a \$100,000 bond issue for good roads in Hennepin county, and to compel all vehicles to carry both front and rear lights.

#### New Haven Club Choose Officers.

At the annual meeting of the New Haven (Conn.) Automobile Club last week, all of the old officers were re-elected as follows: Thomas G. Bennett, president; Jacob P. Goodhart, vice-president; W. T. Dill, secretary; Clarence E. Thompson, treasurer. Vice-President Goodhart was delegated to inspect suitable quarters for club rooms, the club contemplating vacating its present rooms.

#### Clubmen to Act as Policemen.

Imitating the methods of the Russian secret service, the members of which are not known to each other, the president of the St. Paul Automobile Club has appointed fifteen of the members of the club as "automobile detectives" who will assist the local police in having the speed laws enforced.

#### Fisher Heads Indiana Association.

Convened in annual session at Indianapolis, Ind., during carnival and show week, the Indiana State Automobile Association elected officers for the coming year as follows: Carl G. Fisher, president; A. D. Clessler, E. MacMorris, vice-presidents; F. I. Willis, treasurer; A. R. King, secretary.



## PIERCE-ARROW'S ENLARGED PLANT

**Huge Additions Completed and Nearing Completion—Measurements that Convey an Idea of Its Immensity.**

Of the two most patent indications of expansion in the automobile industry, the constant influx of new concerns and enlargement in the scope of existing organizations, the latter may be accounted by far the healthier sign. Especially is this the case when the operations of one of the pioneer manufacturers continue to widen year after year until they embrace an industrial unit fit to be classed in point of magnitude with

double the working area, while ultimate plans call for something over a million square feet of floor space, all to be devoted to the production of cars and the tributary operations. Late in the fall of 1909 work was begun on the extensive scheme of factory enlargement, which is now well under way. First to be completed was the addition to machinery hall, one story high, 75x204 feet in size. On adjoining ground a new store house and assembly building has been erected, which is L-shaped, one leg being 62x305 and the other 50x100 feet; both are four stories in height. In order to provide ample facilities for the body making department the section of the original plant formerly devoted to that work has been enlarged by the addition of two wings,

ished stock will be kept, while the two upper floors will be used for the assembly of construction units such as motors, transmissions, rear axles, carburettors, pumps, steering gears and clutches. Removing from Machinery hall the stock room and inspection department, which formerly occupied a portion of its vast space, considerable additional space will be secured, a portion of which will be used for new ma-



REAR VIEW OF NEW PIERCE-ARROW FACTORY, SHOWING NICKEL PLATING BUILDING AND NEW WINGS

any of the big undertakings of the day. Evidences of both sorts are not lacking at the present time to augur bigger productions and better products for the future. But of the second order no more impressive example is to be found than in the present and projected operations at the plant of the Pierce-Arrow Motor Car Co., at Buffalo, N. Y.

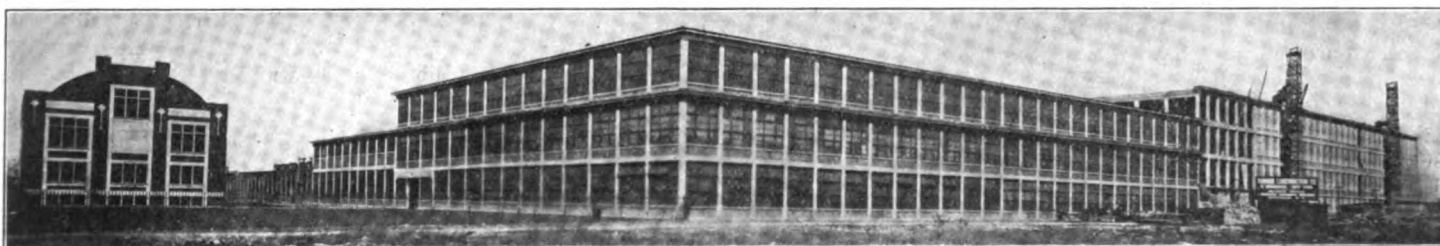
Two years and a little more ago the then new plant in Elmwood avenue was completed and ready for occupancy. Of the most modern type of reinforced concrete construction, carefully laid out and arranged with a view to such growth of the business as then appeared probable, it was

each 250x50 feet and four stories high. These are nearing completion and will be ready for occupancy within 30 days.

For work on the smaller parts which enter into car production the nickel plating building, so-called, is now being erected. It will be four stories high, and 62x184 feet in plan. A one-story addition to the motor testing department, 55x200 feet, is to be constructed within a short time, and a 50x51 foot addition to the one-story power house is about completed. In addition to this a new 150 foot stack, with the name "Pierce-Arrow" inlaid in colored brick, has been finished. With the great increase in manufacturing facilities and the enlargement

chinery. It is claimed that this will afford the largest single machine room under one roof in North America, regardless of the line of manufacturing with which the comparison is made. Heretofore the assembling of units and chassis has been done in one hall 401x122 feet in size, but with the removal of the unit assembly departments to the new building the whole floor, having an aggregate area of something like 50,000 square feet, will be available for chassis assembling and painting.

In adding to the buildings, room has been made for much added equipment which already is in place, while more is to follow as fast as there is room for it. Machinery



VIEW OF PIERCE-ARROW FACTORY ALONG GREAT ARROW AVE., SHOWING NEW ADDITION ON RIGHT

considered a model plant of its kind, and as such attracted and has continued to attract no small amount of attention. But the market for Pierce-Arrow cars materialized at a rate which exceeded expectations and the inevitable consequence is illustrated by the accompanying pictures.

Operations in the plant as originally constructed were commenced with something over 360,000 square feet of floor space available. The building project at present under way and those contemplated will more than

of the business which it implies added room for office quarters will be required, to which end an extension to the office is planned, which will be 60x220 feet in size and three stories high. The structure will be of brick and reinforced concrete to correspond with the present administration building.

The new working space is nicely adapted to fit into the general scheme of routing the work through the factory. On the two lower floors of the new storage and assembly building raw materials and some fin-

hall already has its new quota of machine tools, while to take care of the added "load," the boiler capacity in the power plant has been increased by 2,000 horsepower and a new 1,000 horsepower engine put into commission, while economizers have been installed in connection with all the boilers. Needless to add, the increased capacity of the plant will require corresponding additions to the working force, which even now is not small. At present it numbers no less than 2,600 employees.



## INGENUITY IN THE HOROGRAPH

**Latest Warner Timing Instrument Delivers Printed Record of Car Speeds—  
How Accuracy is Checked.**

How the times of flying motor cars are caught in hundredths of seconds is a problem which continues to puzzle the masses despite the fact that for many months it has been done successfully and without the least element of secrecy by apparatus of unquestioned accuracy. Progress in this, as in other lines connected with the development of the institution of automobile racing, however, has brought about the adoption of

a time registering device of absolute and unvarying accuracy and of correlating with it an indicating device sufficiently sensitive to be of instant response and, furthermore, absolutely unvarying in its reliability.

A general idea of the way in which these principles have been employed in the Horograph may be gained from the accompanying illustration, which shows the complete apparatus ready to be connected into the numerous electrical circuits which are necessary to its operation. Beside it is shown the chronometer from which an accurate check of the performance of the timing mechanism is obtained.

The primary element in the mechanism consists of a series of four type wheels, suggestive, in a way, of those which are

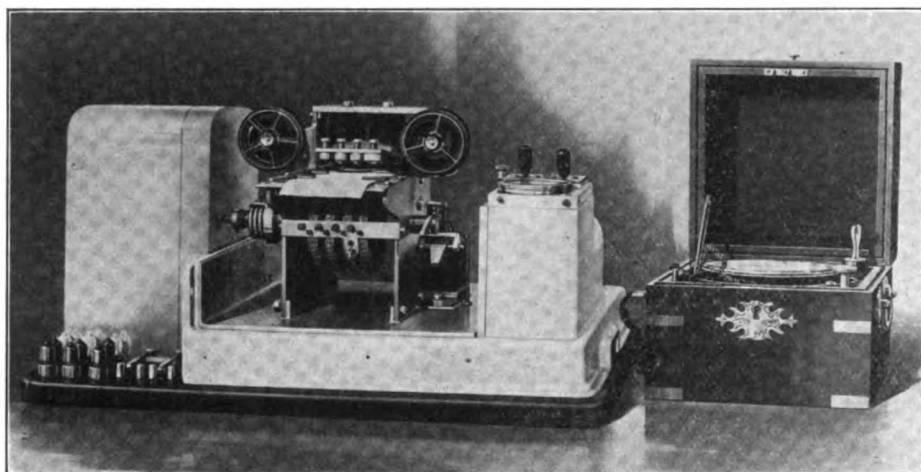
printed on the constantly moving strip of paper. In this way, a racing car automatically records the exact time of its start and, later, the exact finishing time. The elapsed time, then, may be obtained from the strip by subtraction.

By far the most delicate and important part of the mechanism is the system whereby the type wheels are driven and their speed is checked. The wheels are mounted on and driven by the friction of a shaft which is revolved by an electric motor. At first they are held stationary, but as soon as the car crosses the starting line they are released and print "zero" on the tape. Thereafter they revolve continuously, the hundredths wheel turning once in every two seconds, and the others more slowly and at proportionate rates.

As it is absolutely impossible to construct an electric motor which will revolve with absolutely mathematical uniformity, some method of correction is necessary to compensate for the slight inaccuracies which even the most modern construction and painstaking elimination of faults involves. The method adopted in this case takes the form of an automatic check against the movement of the chronometer. At one end of the driving shaft is a double armed lever in the path of which is a "detent" actuated by a small electro-magnet. Through a relay circuit, the chronometer acts to energize the magnet every second, thus moving the detent out of the path of the lever.

In service, the speed of the motor is so regulated that the shaft turns just a trifle faster than once every two seconds, so that the lever arms touch the detent a perceptible instant before it is withdrawn by the magnet acting under the seconds impulse of the chronometer. This instant contact is sufficiently long to close an independent electric circuit which actuates a little telltale mounted on the base of the instrument. In this way the telltale is made to throb once every second. If the telltale pulsations are of too long duration, it indicates to the operator that the motor is running too fast, and that the arms come into contact with the detent earlier than they should; he therefore reduces the speed of the motor. If, on the other hand, the telltale fails to rise every second, or misses a beat, it indicates that the motor speed has fallen so low that the arms fail to touch the detent before it is withdrawn by the magnet. So accurate is this checking device that the speed of the motor can be regulated to within one-thousandth of a second's variation from the speed of the chronometer.

In actual use, the instrument is protected by cutout switches, which prevent the starting and stopping times from being printed on the tape by accidental means; while telephones connecting the timing booth with various points on the course or track, enable the operators to keep in touch with the movements of the cars, apart from the actual indications of the apparatus.



WARNER HOROGRAPH AUTOMATIC SPEED RECORDER

improved methods calculated greatly to ensure the value of the newer records, particularly where relatively short distances, such as one or two miles, are involved. Some little time ago it fell to the lot of C. H. Warner, of the Warner Instrument Co., Beloit, Wis., to devise a system of timing which involved the use of the chronograph. The system served a useful purpose for a time and did duty in a number of racing and hill climbing contests at which notable performances were achieved. But it is a more highly refined piece of apparatus, known as the Horograph, which was used at the recent Florida meet and is installed at the new Los Angeles motor-drome, which is having its inaugural meet this week. Like its predecessor, the Horograph is a Warner product.

Fundamentally the automatic timing instrument, no matter what its direct application, embodies no very complex theory. It is necessary to have but two distinct elements in the mechanism, as a matter of fact; one to record the passage of time, and the other to imprint upon the automatic record which the first portion of the instrument establishes, an index of the starting and stopping, or "in" and "out," times of the car or other object which is to be timed. The difficulty lies in securing

used in the familiar recording telegraph or news ticker. The characters on the four wheels, however, indicate respectively, hours, minutes, seconds, and hundredths of seconds. The wheels are driven in much the same way as the rings in an odometer instrument. Over them runs a strip of paper, and above that a typewriter ribbon. Periodically a hammer actuated by an electro-magnet strikes the ribbon and paper against the type wheels, thus making a record of the exact time on the paper every time the electric circuit energizing the magnet is closed.

In the circuit of the magnet which operates the hammer is a relay, or electrically operated interrupter, in a second circuit, which normally is closed. It is this circuit which is governed directly by the starting and finish tapes which are stretched across the course. The tape, or wire, which is carried a few inches above the ground, is attached at one end to a switch which is ingeniously constructed in such a fashion that it is opened by the shock of impact when the wheels of a racing car contact with the tape, rather than by a gradual increase in tension, such as might be caused accidentally. When this controlling switch is opened by the passage of the car, the hammer drops and a record of the time is

**BOSCH'S NEW DOUBLE IGNITION**

**Two Wholly Independent Systems Developed—Novelty in Timer-Distributor and Synchronous Coil.**

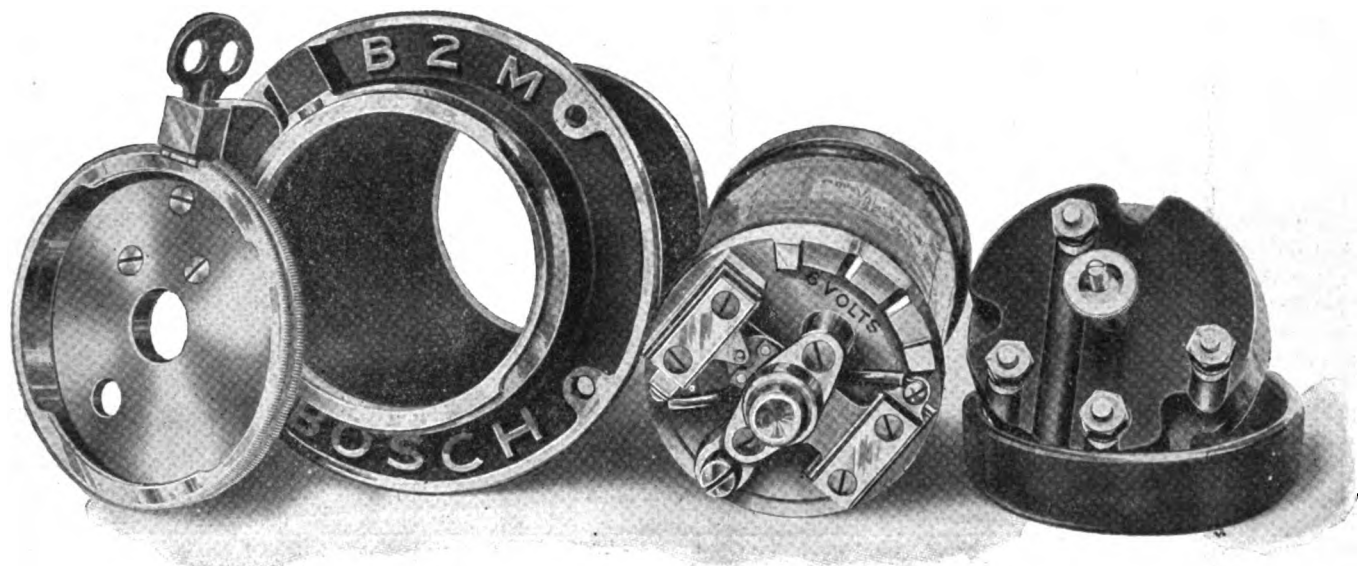
Despite the continued success of the dual ignition system, whereby two virtually independent sources of current are provided with but a single set of spark plugs, many engineers continue to prefer the double igni-

only interconnection between this and the other system being at the controlling switch. The other set of plugs is served by the batteries through the synchronous coil and a combined timer and distributor, entirely independent of the magneto and in that respect an innovation. Besides the high tension leads running from the timer and distributor to the plugs, its only other connections are a high and a low tension wire, both of which are led back to the coil.

The coil and switch are the most distinct-

designed that the end is set flush, or nearly so, with the dash or floor board. In addition to this a locking device has been added to it, which introduces the safety feature. The key, which fits into the switch piece, can be withdrawn only when the switch is set neutral. Furthermore, such is the construction that even if the outer screws are removed the lock will still retain the switch in the off position.

The switch is arranged to set in either of four positions, namely, the neutral or "off"



NEW BOSCH SYNCHRONOUS COIL, SHOWING PARTS DISMOUNTED

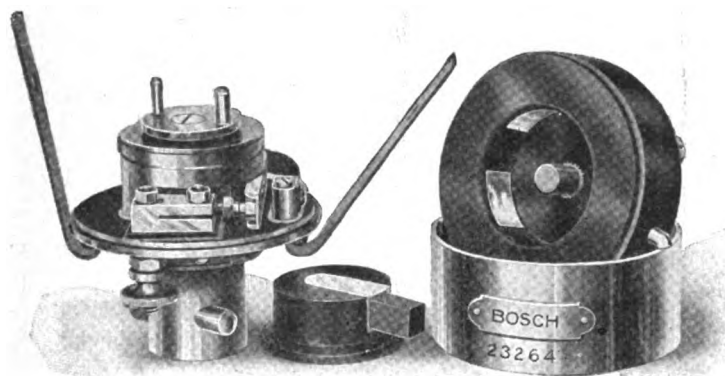
tion system, as it is sometimes distinguished, or that in which the two systems are kept entirely independent clear through to the two sets of plugs. As the originator of an eminently satisfactory form of dual arrangement, the Bosch Magneto Co., has adhered to that system in the past where two ignitions were required. An entirely new system just has been announced, however,

ive and original elements in the new system, and are combined in an exceedingly compact and cleverly contrived unit which may be set into the dash or floor board of the car.

In many respects this device resembles that which has been used so successfully in the dual system. Like the more familiar arrangement, it includes the synchronous coil

position, and one permitting the engine to be run on the battery with one set of plugs, on the magneto with the other set of plugs, or on both systems simultaneously. When it is desired to start the engine "on the spark" a push button in the center of the switch is depressed. This closes contact through an auxiliary vibrator in the coil, thus producing a spark in the cylinder which stands next in order of firing. Should it happen that the engine has come to rest in such a position that the primary contact is broken, at the timer, no spark would result ordinarily. By depressing the push button to the full extent of its travel, however, a second contact is made, which permits a spark to be developed at any point in the circle regardless of the position of the primary contact breaker.

The accompanying illustration shows the interior construction of the coil, including the major parts, which may be disassembled by the withdrawal of a single screw. The outer housing, the brass cover and the rear cover that protects the connections, are stationary. So also is the switch plate. The coil, however, is connected mechanically with the switch plug and rotates with it, establishing the various connections. The coil is similar in every way to the armature of the magneto so that there is no difference in the ignition sparks produced by the two systems. The windings are of heat-proofed enameled wire, the layers being insulated with a special fabric. The magnetic field is



NEW BOSCH TIMER-DISTRIBUTOR DISASSEMBLED

which provides for two complete and independent systems with two sets of plugs, and which combines with the synchronous coil and self-starting feature of the Bosch dual system a number of novel and no less ingenious features.

By the new method of arrangement, one set of plugs is served by the regular high tension magneto in the regular way; the

and starting button, which is used when the engine is to be started without cranking. In connection with the development of the double independent system, however, it has been modified considerably. The most noticeable change is in the method of mounting and in the transformation of the control. A kick switch now is used instead of the former hand switch, and the coil is so

rendered more than usually complete by the use of laminated soft iron end plates. Built into the lower part of the coil is a heavy fiber block in which are embedded the movable switch contacts, which establish the different connections when the coil is rotated.

The combined timer and distributor is unusually compact in form and of small size. As shown in the picture, the central lead from the high tension terminals on top of the device, conducts the current from the coil to the distributor. The outer leads are connected to the plugs. The parts of the device which may be dismounted without the aid of tools consist of the cover containing the distributor contacts and terminals, a brass housing in the form of a simple ring, and the main body of the device. When assembled, the parts are held in place by two outside springs that snap over conical pins set in the cover. The distributor rotor is of hard rubber, and supported by two pins. Imbedded in it is a brass tube containing a carbon brush that sweeps the distributor contact plates under the pressure of a light spring. It is identical with the distributor that is used in the construction of the standard Bosch magneto. The revolving portion of the timer-distributor is mounted on two ball bearings, which are rendered dust proof by close-fitting caps. The timing lever, of the primary timer, is a single piece steel stamping, and is very large in proportion to the size of the instrument. The platinum points are 5-32 inch in diameter, and the stationary point is provided with an adjustment for the taking up of wear. The primary terminal is located on the under side of the instrument, and a proper ground return is assured through a special connection provided for the ground wire.

#### Quick Work in the Quaker City.

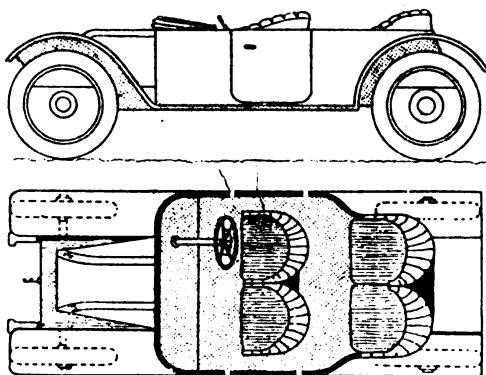
What appears to be the record in the relatively new field of automobile insurance activity happened in Philadelphia a few days ago. Thomas W. Fisher bought a new Packard motor car and immediately insured it for \$3,500. On the evening of the same day, while the car was standing in front of one of the hotels and the chauffeur had stepped into an adjoining garage, thieves managed to get away with it. Although it was but a few minutes later that the theft was discovered, no trace of the missing car could be found. On Saturday last the door of the machine and the chauffeur's seat were recovered in a junk shop, the owner of which claimed to have bought them in the regular course of business and paid \$1.25 for them. The insurance company, deciding that there was no chance of recovery of the whole machine, promptly sent its check for the full amount to Mr. Fisher and he bought a new car.

As a souvenir of this somewhat unusual case, the insurance company displays in its office the stolen and recovered door of the car.

## INCREASING THE WIDTH OF BODIES

**Foreign Designer Shows How It May be Done and Suggests Advantages—Favors New Bonnet Shapes Also.**

That considerable space for possible extension of the body area goes to waste in the average car, is a fact, recently pointed out in these columns, which is perfectly evident upon a moment's thought. Until the present time, it has been customary to limit the width of the average body by the width of the chassis, plus an overhang for the seats amounting to not more than eight or nine inches all told. At the same time, modern commercial vehicle practice reveals possibilities in the direction of increased



NOVEL SEAT ARRANGEMENT FOR TORPEDO

body widths, which also are being utilized in some of the most recent touring types of pleasure car, but which yet remain to be fully appreciated. A suggestion along this line derived from a recent English body design may be applied to some possible advantage. Incidentally it illustrates the possibilities of advantage to be gained in applying the same principle to the construction of enclosed vehicles.

As the illustration shows, the forward portion of the body is brought out flush with the outer edge of the running board and the sides are pierced for only a single door on either side. The extreme total width of body obtained, together with the use of individual seats in front renders access to either front or back seats perfectly easy, at the same time providing a novel arrangement of the seats. This arrangement is supposed to aid in the dust-suppressing qualities of the body by preventing the pocketing of air over the running boards and also in "easing off" the air currents at the back, where the body width is decreased behind the rear seats.

It may be mentioned in passing that the inventor of this odd-appearing structure is in favor of reversing the slopes and curves of the bonnets now in use, in order to secure a rough copy of the lines of a vessel—his idea being that by this means, the body of air through which the vehicle moves would be

less disturbed by its passage than by the ordinary form of vehicle exterior. He also proposes the standardization of lamp brackets mounted on the forward extremities of the front fenders, after a fashion which was tried out in this country several years ago by a concern which has since ceased to exist.

#### Uncle Sam's Newest Mail Wagon.

When the first real mail car was installed on the railroads of the country, it was considered a great achievement to be able to sort and deliver mail while going at such high speed. For a long while, however, little improvement could be noticed in the picking up of mail from the street boxes, and much valuable time is continuously lost through the slow methods of collecting and assorting. Recently the United States Post Office Department has installed an experimental mail wagon in Los Angeles—the second installation of its kind—the work of which is being watched with intense interest by all post office officials in the country, and particularly by those in the big cities.

In construction, this new mail car is a miniature reproduction of the railway mail car. It is a large automobile, fully enclosed by wire netting. The ground floor provides space for a semi-circular dumping table. In the open space as many as five men can work, sorting mail as the car is driven from box to box. Along one side are five sacks for first-class mail, and opposite are three pits for newspapers, magazines and parcels. In a smaller compartment at the rear sits the collector who opens and empties the mail boxes at every street corner.

The car is electric lighted throughout, and the open wire netting provides ample ventilation for the sorting clerks. According to the tests made so far in Los Angeles for some time, each one of these automobiles dispenses with the service of three horses and two men, collects the mail much faster and saves the department the sum of about \$2,000 per annum. Seven cars, all of which are made by the Autocar Co., of Ardmore, Pa., have been delivered to the Philadelphia post office and four have been ordered for Los Angeles.

#### Michigan Town Applies Thumb Screws.

While most of the states of the Union possess laws which distinctly and specifically exempt the automobile from assessment taxes, on account of the license to be paid for its use, Michigan does not seem to have made any such provision. At least the assessor of Port Huron, Mich., has notified the owners of some 82 machines in and about the town, that they will have to pay taxes on their machines at the same rate as is paid for other property. Automobile owners are up in arms over the ruling, and several protests have been filed. Pending a judicial settlement of the argument, Port Huron automobile owners had to pay the assessments.

## LOCAL SHOWS IN SIX CITIES

**Widely Scattered, They Cause Their Respective Communities to Swell with Pride—Season Nears Its End.**

Those wan and drawn salesmen who have been following the local show circuit since its opening last November doubtless will welcome with joy the final stand which fast is approaching. With the staging of local exhibitions in Watertown and Elmira, N. Y., Harrisburg, Pa., Davenport, Ia., Logansport, Ind., and Kalamazoo, Mich., during the past week, the fag end of the current season's crop of show functions has about been reached. In several of the places mentioned shows were held for the first time, and as such of course took first rank in importance in local affairs. Arranged and managed chiefly by the local dealers, they were widely heralded through the immediate territory and attracted many out of town visitors in addition to the townspeople, who lent vigorous support to the exhibitions.

Among the cities making their debut on the show circuit was Kalamazoo, which staged its maiden function under the auspices of the Kalamazoo Automobile Association in the state armory on the 7th, 8th and 9th. On display were 27 makes ranging from the tiny runabout to the huge six-cylinder car, and flavored with a representative display of accessories. The decorations consisted of green and red bunting hung upon the walls and ceiling, while scores of electric lamps released "bottled sunlight" at night. The promoting body, which is composed of nearly all the prominent local dealers, was formed but recently, and is so elated over its initial efforts that it is planned to make the show an annual event. Shown for the first time this year was the Michigan, manufactured by the Michigan Buggy Co.

Following were the exhibitors:

Gasolene cars: J. H. Dore, Maxwell; Kalamazoo Motor Co., Mitchell, Brush, Krit; Russell & Albrecht, Overland; C. H. Fricke, White; Webber & Haines, Cadillac; William Harlow, Buick; George Boyles, E-M-F.; Philip Glass, Ford; Arthur Barry, Haynes; Fred Milliman, Reo; William Kidder, Thomas; F. N. Root, Everitt; Michigan Buggy Co., Michigan.

Steam cars: Russell & Albrecht, Stanley; C. H. Fricke, White.

Electric vehicles: Kalamazoo Motor Co., Detroit.

Accessories: Dayton Airless Tire Co., Standard Oil Co., Topical Oil Co., Monarch Metal Polish Co.

Filling the Kelker street hall to capacity, the first automobile show ever held in Harrisburg, Pa., was inaugurated on Saturday

evening last, 9th inst., sponsored by the newly organized Harrisburg Automobile Dealers' Association, and booked for a week's run. Nearly every dealer in the city has a display, over 50 makes of car being staged, while a few who were crowded out are holding private shows in their salesrooms. Following the fashion of other show committees, the Pennsylvanians have secured as a feature an aeroplane, which is suspended from the ceiling in the center of the hall. Bunting and electric lights are used liberally to transform the hall into an appropriate exhibition room, while palms and potted plants are spread around profusely.

The exhibitors are as follows:

Gasolene cars: Crispin Motor Car Co., Peerless, Cadillac, Palmer-Singer; Cox Automobile Co., Stoddard-Dayton, Courier, Oldsmobile, Oakland; Central Pennsylvania Automobile Co., Buick, Studebaker, E-M-F., Flanders, Jackson, Demot, Overland, Inter-State; Keystone Motor Car Co., Klinekar, Hudson; Andrew Redmond, Maxwell, Columbia, Regal; George Loveland, Apperson; S. S. Johnson, Metz; International Harvester Co., International; Harrisburg Automobile Co., Hart-Kraft, Reo, Rambler, Ford, National.

Electric vehicles: George Loveland, Studebaker; Andrew Redmond, Columbus; Keystone Motor Car Co., Woods.

With cars and accessories of a total value of over \$100,000 on view, Davenport, Ia., made its first venture on the show circuit last week, the exhibition, which was held in the state armory, opening on the 7th and lasting three days. Local dealers were responsible for the exhibition and, due to their energetic efforts, Davenport has every reason to be proud of its maiden show. As a member of the Tri-Cities, the others being Moline and Rock Island, situated across the river in Illinois, Davenport is particularly well situated to attract good crowds, as was attested by the surprisingly large attendance on each of the three days. The show will be an annual event.

Among the exhibitors were the following: P. C. Patersen Auto Co., Velie, Pope-Hartford; Iowa Auto Co., PierceArrow, Cadillac, Thomas; Sanders' Auto Co., Kisselkar, Black-Crow; Klemme Auto Co., E-M-F., Flanders; Roeske & Sindt, Ford; Dillon Auto Co., Hupmobile; Zeman Auto Co., Mitchell; Brandenburg Auto Co., Jackson, Reo, Monitor, Rapid; Mason Auto Co., Peerless, Hudson, Chalmers.

Electric vehicles: Buck Auto Co., Detroit; P. C. Patersen Auto Co., Waverley; Iowa Auto Co., Babcock; Mason Auto Co., Baker, Rauch & Lang; Brandenburg Auto Co., Woods.

Preceded by a parade of decorated cars through the principal streets, prizes being offered for the most tastefully and strikingly

adorned cars, the Automobile and Motorcycle Dealers' Association of Logansport, Ind., opened their second annual automobile show in the Broadway garage on Thursday, 7th inst. The function continued for the balance of the week. Cars were shown by 25 exhibitors, comprising the membership of the association, and the building was prettily decorated to present a forest scene, the spaces harmonizing with the general scheme. To lend interest and create enthusiasm the dealers held a hill climb and novelty race during the progress of the show.

With 33 cars on exhibition, the first automobile show that Watertown, N. Y., ever has seen was held in the state armory, from the 6th to the 9th inst., under the patronage and guidance of the Watertown Automobile Manufacturers' and Dealers' Association. It was not an automobile show exclusively, for although cars were in the majority, motor boats also were on view. Under a canopy of flags, which also adorned the side walls, the cars were tastefully arranged, and all the exhibitors, strange to say, united in agreeing that there was plenty of "elbow room." One of the most prominent displays and one which received a surfeit of attention was that of the town's sole automobile manufacturer, the H. H. Babcock Co., which showed for the first time several models of the Babcock 40-horsepower gasolene touring car. In the basement were located the accessory men, among them being several out-of-town firms, and their wide and varied displays attracted much attention.

The exhibitors were the following:

Gasolene cars: John L. Smith, E-M-F., Flanders; Jefferson County Automobile Sales Co., Whiting, Velie; W. D. Nellis, Reo; Warner Automobile Co., Metz., Ford; L. D. Butterfield, Jackson; Watertown Automobile & Supply Co., Franklin, Chalmers, Hudson, Matheson, Oldsmobile, Oakland, Mitchell, Overland; F. H. Edwards, Maxwell; Sprague & Haynes, Cadillac; Gould Automobile Co., Buick.

Electric vehicles: H. H. Babcock Co., Babcock.

Accessories: Panhard Oil Co., Monogram Oil Co., Standard Oil Co., People's Oil & Fuel Co., Garland Automobile Sales Co., Clinton Vulcanizing Works, Potter Co., Vacuum Oil Co., W. W. Conde Hardware Co., E. L. Williams Co., George A. Lance.

Every available inch of space taken, Elmira, N. Y., this week is in raptures over its first automobile show which is being held in the state armory, promoted by the local Chamber of Commerce. Thirty makes of car are exhibited, all but one being shown by local dealers, while the E. R. Thomas Motor Co., of Buffalo, has taken space for its products and has on exhibition the battle scarred New York-Paris car and the trophy, which receives no end of attention. Vieing with it for notice is a Curtiss aero-

## FOUR SYSTEMS OF MOTOR HAULAGE

Expert Defines Them and Remarks the Real Question Involved—Hiring with an Ulterior Motive.

To the manufacturer or merchant who is debating the question of undertaking the installation of a system of motor haulage for his wares, a question of secondary moment, which presently swells to primary importance, is that of maintenance. Having decided to make use of the commercial automobile, and having taken up the problem in characteristic analytical fashion, he first settles in a general way upon the type or general character of the vehicles he will use. Thereafter, supposing he is not inextricably involved in the toils of some wily salesman, he comes upon the problem of maintenance in all its magnitude.

"Four solutions of the problem are open to the average user who goes about the matter in an open-minded and voluntary way," said an expert in discussing the situation. "The first and most natural course is to buy the machines outright, taking as many as he figures he can use, and generally one or more in addition to provide substitutes for layovers, and to take care of rush work. Having purchased the equipment, he may then arrange for garage facilities, install his own repair shop, lay in a stock of parts, hire a foreman and as much of a crew as may be required and thus put himself upon an independent basis.

"The second method open to him is to buy the vehicles, but to have all repair work carried out under some form of maintenance contract, such, for example, as a number of the commercial vehicle makers are ready to undertake. Another method, a variation of this, is to buy the vehicles, but contract for their entire operating and maintenance expense on a monthly or yearly basis.

"The fourth method of handling the problem is to expend nothing in downright purchase of equipment, but to hire the vehicles by the month or year, paying a contractor for the service at rates based on mileage covered, or on any other basis which may be agreed upon. This method, I may say, is one which is being followed by a large number of the great department stores in the larger cities, which are more anxious to secure regular service than to attempt rigid economies by expending some capital and venturing into an unfamiliar line of management.

"It is, you see, merely a question of dividing the business of vehicle upkeep, maintenance and operation, and, to a certain extent, of competition along those lines. The prospective operator must decide whether by purchasing his equipment and running it entirely himself, he can reduce his car mileage or ton mileage costs to a lower

price than that for which he could buy the service from a specialist; or, whether it would be to his advantage to invest a reasonable amount in good equipment and then operate it at a lower cost than he could have it done for under contract; or, again, supposing he owns and operates the vehicle himself, whether he can put himself in a position to compete with the repairman who is willing to undertake to keep his machines in running order, for a price. Of course, in the latter case, something depends on whether he is going to hire out the repair work or actually attend to it in his own shop.

"Supposing then, that the merchant or manufacturer, or whoever he may be, has already decided that by patience, perseverance, good management and experience, it is possible to treble the work of a given number of horse-drawn wagons merely by substituting an up-to-date motor equipment, the problem of administering such an equipment, reduces to a not too difficult question of pure business. He is subject to mechanical experience and local facilities to some extent, he is very largely in the power of circumstances in the way of highway conditions, length of hauls, number of stops per trip or per load-mile and uniformity or 'lumpiness' in the volume of merchandise to be transported. But the real question is as to the amount of capital he is willing or able to concentrate on the transportation problem and the thoroughness with which he is disposed to go into the handling of the work.

"As I said before, the natural thing to do, is to buy the cars outright and attend to all the details of their care and running. The most attractive proposition to many users who are overburdened with other work or are timid as to the outcome, is to shift the responsibility on the willing shoulders of some contractor and pay the contractor the living wages and profit which he has a right to demand. Maintenance and operation contracts and simple repair contracts, represent intermediaries between the two extremes.

"And I might as well add," he concluded with a shrewd smile, "that more than one commercial vehicle user has adopted the policy of hiring the machines on an operating basis with an ulterior motive. He pays the contractor a good price and in return a stated number of vehicles back up to his platform every day and haul away his stuff. The contractor owns the machines, pays the drivers, settles the fuel and oil bills, handles the repair problem, looks out for insurance, liabilities and damage claims, and replaces every broken-down car with a fresh one. But in the meantime the man whose goods he is hauling is watching him and keeping pretty close tabs on his operations with the idea that just as soon as he has learned the ins and outs of the business, he himself can venture a little investment on his own account and not only scale off the contractor's profit, but save money besides."

plane, which is suspended from the ceiling. Draped with flags and the aisles defined by rows of potted plants the hall presents a pretty appearance. Motorcycles and accessories also are much in evidence. An innovation in show routine will be introduced on Thursday (today), society night, when the exhibition will remain open until 11 p. m., and dancing will take place.

Those who are exhibiting are as follows:

Gasolene cars—Southern Tier Motor Co., Overland, Marion, Oldsmobile, Courier; Corning Automobile Co., Pierce-Arrow; Roberts & Son, Rambler, Krit, Grabowsky; Chenango Motor Sales Co., Speedwell; L. D. Woodward, Ford; R. C. Pierce, E-M-F., Flanders; H. K. Spaulding, Haynes; John Rhodes, Jackson, Fuller; Oliver Eisenhart, Winton; La France Motor Car Co., Hudson, Chalmers, Reo, La France; International Harvester Co., International; Charles F. Bishop Co., Buick; Frank Record, White; Elmira Motor Car & Machine Co., Maxwell, Franklin, Empire; Corning Automobile Exchange, Peerless; H. E. Richardson, Oakland, Rapid; E. R. Thomas Motor Co., Thomas.

Motorcycles—P. B. Rutan, Indian, Thor, Excelsior; Elmira Arms Co., Pierce.

Accessories—C. A. Georgia, H. H. Hallock & Bros., J. Mont Tillman, Frederick Tomlinson, Swan & Sons, S. F. Izzard & Co., John Frey, Perry, Sly & Ayers, Carroll C. Keeton, Charles M. Watkins, Standard Oil Co., Clay W. Holmes.

### Babbitt's Failure to Grasp Full Value.

As illustrating the occasional inability of inventors to appreciate the real element of value in their ideas, it is noteworthy that the original patent specifications drawn up by Isaac Babbitt, inventor of the metal which bears his name, concerned merely the method of holding the soft alloy in place in journal boxes, and not the composition itself. His first venture, "Britannia ware," was not a commercial success. Six years after his failure to introduce it, or in 1830, he produced the bearing metal from which he afterward derived fame and a substantial fortune.

### One Evil of Over-Lubrication.

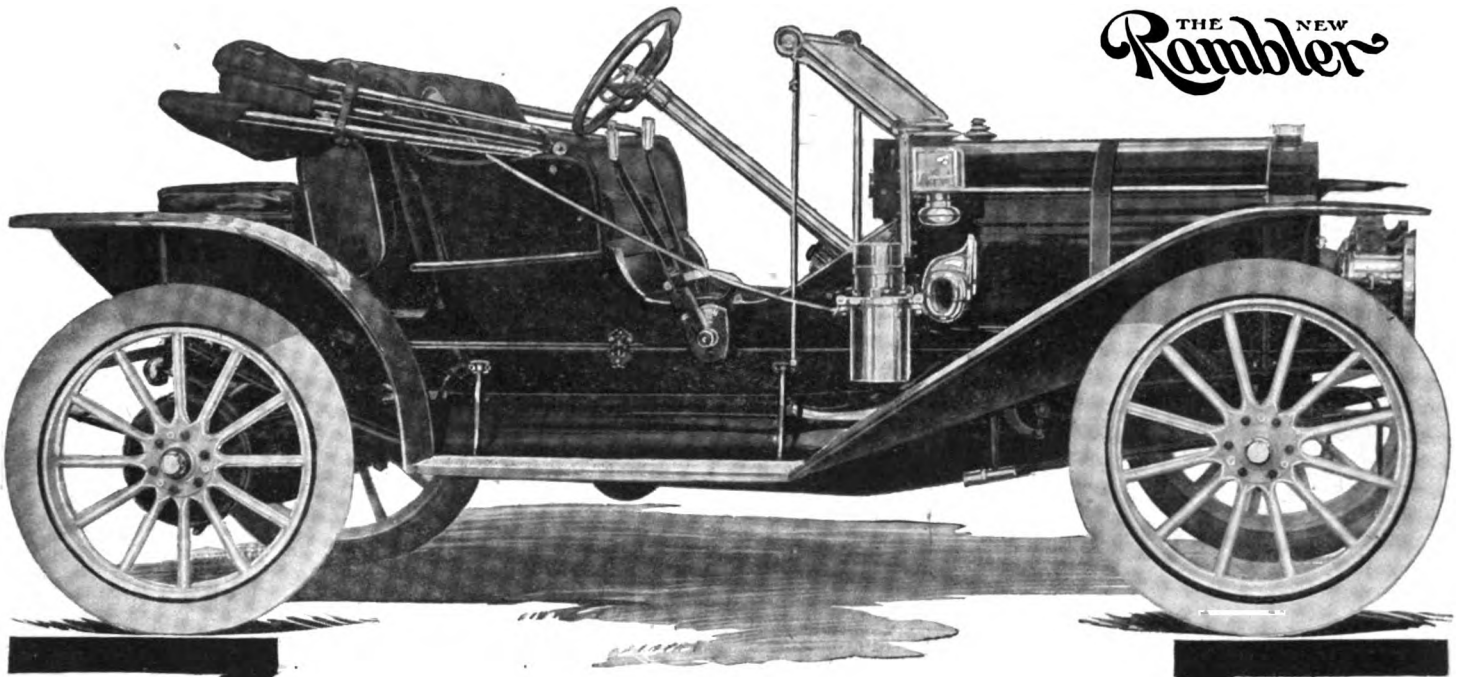
Despite the fact that many drivers appear to consider it "smart" to over-lubricate their engines to the extent of causing them to smoke voluminously, the practice is not to be encouraged, and for more reasons than one. Among other difficulties which it breeds, is the clogging of the muffler with particles of half-burned carbon and oil.

### Usefulness of the Babbitt Hammer.

A very useful tool which seldom is included in the stock equipment of a car, is a copper or babbitt hammer. It serves a useful purpose in removing finished parts which are too firmly set in place, and always should be used on such work in preference to the regular machinists' hammer because it will not dent or mar the metal.



THE NEW  
**Rambler**



**T**HE New Fifty-Three Rambler Roadster is the latest addition to the Rambler line. Its pleasing lines and features, providing unusual comfort, combined with the power, silence and quality of the Fifty-Three touring car, has gained for this model immediate distinction.

The distance from dash to seats is thirty inches. This length, the tilted seats, the rake of the steering column, combines to provide the most comfortable and graceful position for the operator.

Motor: 34 H. P.

Bore and Stroke:  $4\frac{1}{2} \times 4\frac{1}{2}$  in.

Wheel Base: 109 in.

Wheels and Tires:  $36 \times 3\frac{1}{2}$  in. Hartford Dunlop.

Guards: Convex front and rear.

Body: Two passengers, low seats.

Color: Dark Brewster green, cream wheels.

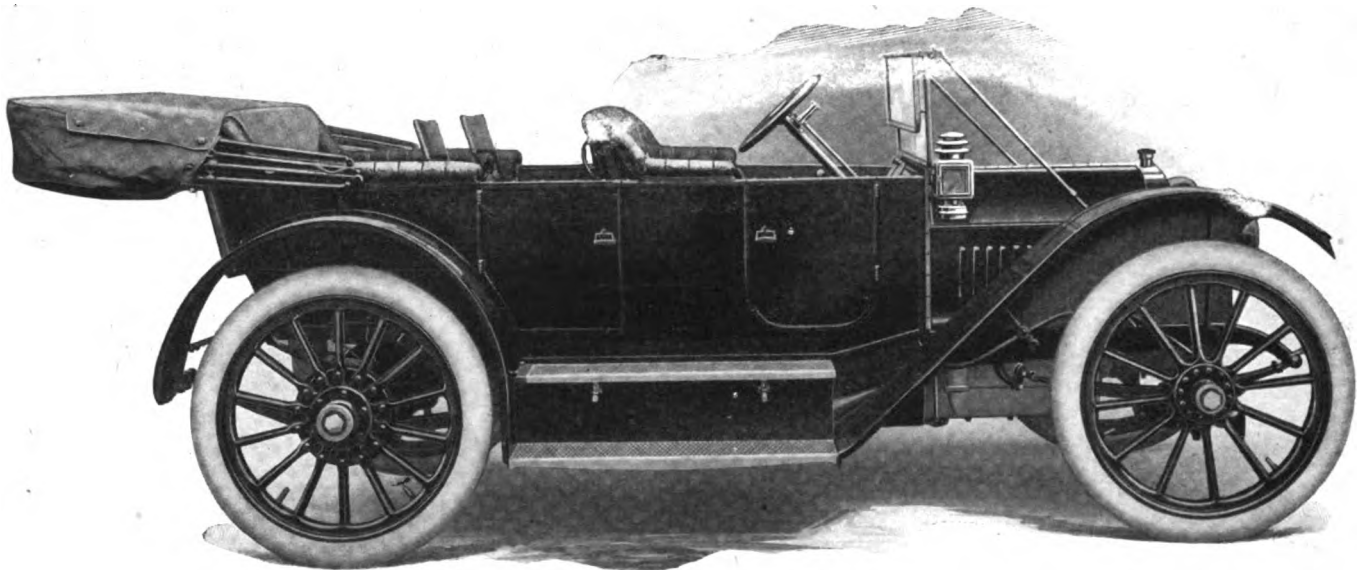
Equipment: Magneto and dry cells, oil side and tail lamps, gas head-lights and generator, horn, trunk with two suit cases, full set of tools and jack.

Price: \$1,800. Top with side curtains \$75. Wind-shield \$40.

**Thomas B. Jeffery & Company**  
Main Office and Factory, Kenosha, Wisconsin  
Branches: Chicago, Milwaukee, Boston, Cleveland, San Francisco

**"Two Years Ahead"**

# THE 1911 OWEN



## **Designed for Touring Comfort—Fully Equipped**

Present tendencies strongly mark the coming popularity of Owen features.

### **Left Hand Drive**

The logical place for the steering gear in any country where the law of the road is "keep to the right," and where city ordinances compel vehicles to stop on the right side of the street.

### **Right Hand Gear Control**

With all levers within the body this makes the operation simple and with nothing new to learn. It permits of easy access to front seat from either right or left side.

### **42 Inch Wheels**

The history of automobile building has been toward large wheels. They make easy riding easier; reduce jolts and jars and make boulevards out of ordinary country roads.

### **Triple Tire Mileage**

It is nothing unusual to get 15,000 miles from an Owen 42x4 tire.

### **Long Stroke Motor—6 Inoh**

This stands for elimination of vibration, long life of all working parts, economy of gasoline and oil, great torque or pulling power at slow speed, wonderful hill climbing, throttling down ability. The Owen motor is four cylinder, 4¾x6, 50 H.P.

### **High Front Door Body**

The advanced type of touring body—it protects the front seat passengers and adds a classy style. The Owen body is of straight line design with roomy tonneau and auxiliary seats.

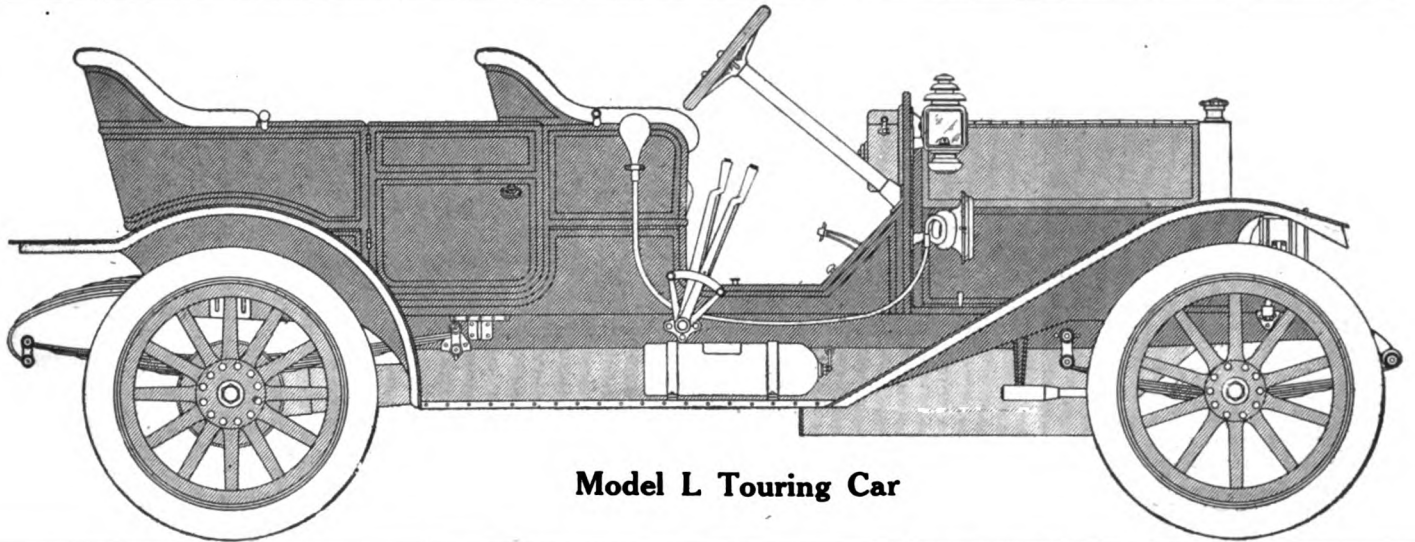
### **Full Touring Equipment**

This is the way all motor cars will be sold in the future. The 1911 Owen is regularly equipped with every touring necessity—finest quality mohair top, folding wind shield, speedometer, clock, electric horn, electric and gas head lights, electric and oil side and tail lights, Prest-O-Lite tank, luggage rack, tire carrier irons, coat rail, foot rest, muffler cut-out, foot accelerator, tire chains, one extra inner tube and a full set of tools.

**Price \$4000 F. O. B. Detroit**

Dealers wishing details relative to agency arrangements should write us at once.

**OWEN MOTOR CAR COMPANY, Detroit, Mich.**



Model L Touring Car

# The HENRY 35

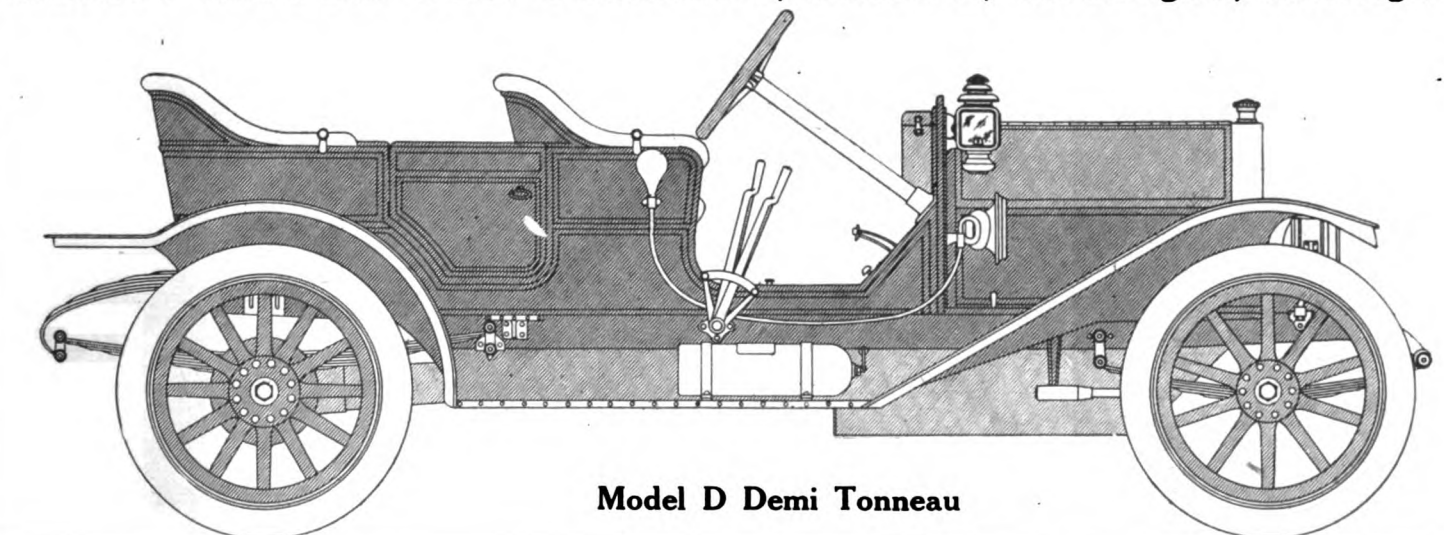
**Built to Sell on Its Merits at \$1750**

WE realized in building this car that the competition on cars selling from \$1250 to \$2000 is very great and that the only possible way to capture the trade was to produce a car that would offer the purchaser better value and the dealer a bigger sales making opportunity than any other machine in this class. It took some time to figure out just how to do this—though the men composing our organization had long experience in motor car building.

But we did it, and here is the car acknowledged by experts to be the best car for less than \$2500 on the market. The Henry was a success from the start because in addition to speed, ease of control, dependability and comfort it has a style that is as a rule found only in the high-priced machines.

Dealers should get our unusually attractive proposition on this wonderful car. Mail postal today for catalog and full particulars.

**HENRY MOTOR CAR COMPANY, Station B, Muskegon, Michigan**



Model D Demi Tonneau

## SPECIFICATIONS

**BODY**—Standard Touring Straight Line. Seating Capacity, five.

**MOTOR**—Four Cylinders. H.P., 35-40. Bore, 4 1/8. Stroke, 5 1/4. Cylinder "L" head, cast in pairs. Valve location, all on one side. Cycle, four.

**LUBRICATION**—System, circulating inside pump. Vertical shaft, spiral driven. Pressure feed to crank case.

**COOLING**—Water cooled, centrifugal pump. Radiator, tubular. Fan, attached to engine, belt driven.

**IGNITION**—Jump spark. System, dual. Magneto and dry cells. Splitdorf magneto. Control, hand lever on wheel.

**CARBURATION**—Carburetor, special. Fuel feed, gravity.

**CLUTCH**—Type, multiple disc. Friction surfaces, steel to steel.

**GEARSET**—Selective, located amidship. Three speeds forward.

**TRANSMISSION SYSTEM**—Shaft drive through torsion tube. Rear Axle, full floating.

**BEARINGS**—Crankshaft, three large, plain. Camshaft, three plain. Clutch, spindle, plain. Clutch, thrust, ball. Gearset, F. & S. ball. Rear axle, F. & S. ball. Front wheels, ball. Steering knuckle, plain. Steering gear, ball thrust. Plain bearings. Parson's white brass.

**RUNNING GEAR, ETC.**—Wheelbase, 116 inches; tread, 56. Wheels, 10 spokes front, 12 rear. Tires, front and rear, 34x4; Firestone, Continental or Michelin. Front springs, semi-elliptic. Rear springs, three-quarter scroll. Front axle, pressed steel, box type. Brakes, expanding, service and emergency; internal on rear wheel. Frame, pressed steel. Equipment, 5 lamps, tools and generator, jack and repair kit. Top extra. Control, hand levers on steering wheel and foot accelerator. All cars iron for top.

## RECENT PATENTS.

948,689. Elastic Suspension for Vehicles. Lorenzo Basso, Genoa, Italy. Filed March 5, 1909. Serial No. 481,530.

1. An elastic suspension for vehicles comprising in combination with the axle and frame, an annular support concentrically mounted on the axle, an annular yielding member mounted on said support, inner and outer band surrounding said member, springs connected to the ends of the outer band at points on diametrically opposite sides of said member, and connections between said springs and the frame of the vehicle.

948,800. Automobile Steering Mechanism. Robert Symmonds, Jr., Kenosha, Wis., assignor to Thomas B. Jeffery, Wis. Filed Aug. 2, 1906. Serial No. 328,872.

1. In a steering mechanism for automobiles the combination with a steering shaft, of a casing into which the lower end of said shaft extends, means for securing said casing to the automobile frame, a tube mounted upon said casing, and surrounding said shaft, a ring carried by the upper end of said tube, a circular flange fixed to said shaft and underlying said ring, a hand wheel fixed to said shaft above and engaging said ring, and means located within said casing engaging said shaft whereby a rotary movement of the shaft will be communicated to the steering wheels of the automobile.

948,813. Removable Wheel Rim. John C. Cole, Chicopee Falls, Mass., assignor to Fisk Rubber Company, Chicopee Falls, Mass., a Corporation. Filed March 1, 1907. Serial No. 359,967.

1. A wheel comprising a metal rim permanently secured to the felly and having one of its edges beveled, a tire rim fitting loosely over the fixed rim and overhanging the beveled portion thereof, an expansible and self contracting ring whose normal external diameter is less than the interior diameter of said tire rim, interposed between the fixed rim and tire rim, said ring having a beveled under surface parallel with the beveled edge of the fixed rim, and an upper surface parallel with the inner surface of the removable rim, and means to move said ring against the beveled surface on the fixed rim to expand the ring radially to a greater diameter than its normal condition, thereby forcing the same into binding contact with the removable rim to lock the latter to the wheel.

948,978. Wheel. Ralph R. Sandham, Harlan, Iowa, assignor, by mesne assignments, of one-half to Josiah D. Sandham, Omaha, Neb. Filed July 18, 1907. Serial No. 384,330.

1. In a wheel, the combination with a rim carrying laterally spaced inwardly extending members, of a tread section comprising complementary sides and a tread proper spaced from the rim, the sides being provided each with an annular opening to receive the corresponding rim member, and a pneumatic tube interposed between the rim and tread.

948,998. Wheel. Maurice Lachman, New York, N. Y., assignor to Welded Steel Company, New York, N. Y., a Corporation of New York. Filed April 30, 1909. Serial No. 493,107.

1. A metal wheel composed of a hub, a rim, and spokes connecting said hub and rim, said sub being composed of two tubu-

lar members on which is placed a sleeve by which said members are connected, said tubular members being provided at their outer ends with integral spokes the outer ends of which are secured to the rim, the inner ends of said spokes being enclosed by annular discs or washers which are secured thereto and to each other and to the hub members.

949,000. Distance and Speed Indicator and Recorder. George S. Maxwell, Washington, D. C. Filed Sept. 17, 1908. Serial No. 453,537.

1. The combination, with clock mechanism to feed a record sheet forward at a uniform speed, of a recording pencil mounted to move transversely of the record sheet movement, a drive shaft, an eccentric driven by said shaft and arranged to rotate once for a given number of rotations of the drive shaft, a transmission member having one end adjustably connected with the pencil and the other end engaged by the eccentric and yielding means to hold the pencil against the record sheet and the end of the transmission member in engagement with the eccentric to prevent any lost motion and to produce a continuous accurate record on the sheet.

949,060. Vehicle Tire. William J. Courtney, New York, N. Y. Filed Nov. 23, 1908. Serial No. 463,964.

In a resilient tire, a main body part, a tread of elastic material secured to said body part comprising an integral base and a comparatively thick exposed crown, said crown having comparatively deep intersecting grooves to form spurs in its face, layers of fabric incorporated in the base of the tread, a rubber diaphragm interposed between the body part and the tread, studs passing through said spurs and the laminated base of the tread, enlarged heads on the outer ends of the studs embedded in said spurs, and enlarged bases on the inner ends of said studs interposed between said diaphragm and the inner face of the tread.

949,112. Vehicle Spring. Dorr R. Close, Chicago, Ill. Filed Feb. 25, 1907. Serial No. 359,043. Renewed April 12, 1909. Serial No. 489,523.

1. The combination with a vehicle running gear member, and a frame member, of a leaf spring structure connected with the running gear member, having an uninterrupted leaf at its extremity curled back upon itself, and a coiled spring interposed within the curled portion between the extremity of the curl of the leaf spring and the vehicle body.

949,129. Engine Indicating Apparatus. Frederick Purdy, Kenosha, Wis., assignor of one-half to Foree Bain, La Grange, Ill. Filed Jan. 19, 1909. Serial No. 473,142.

1. In an engine indicator, the combination of a receptive surface and an applicator for directing a tracing medium upon said surface, one mounted for rotation relative to the other to produce a circular indication by the tracing medium, and one mounted for movement to produce radial displacement of the indicating trace, and pressure responsive means for effecting such movements of the appropriate element to produce the radial displacement.

949,156. Reinforcement for Pneumatic Tires and Method of Forming Same. Charles F. Murray, Detroit, Mich. Filed July 2, 1908. Serial No. 441,655.

1. The herein described method of re-

inforcing pneumatic tires, consisting of injecting within the pneumatic tube elastic fluid material, then inflating the partially filled tire, rotating the tire to distribute the fluid material over the inner surface of the tread section, and heating the tire while rotating to solidify the fluid material.

949,179. Driving Axle. Royal H. Gilbert, Lakewood, Ohio. Filed April 8, 1907. Serial No. 366,957.

1. In a motor vehicle, in combination, a driving member, driving wheels, an axle co-operating with said wheels, forward and reverse coupling devices between said axle and each of the driving wheels whereby the latter may be driven by the former in either direction, and a plurality of cams between said driving member and said axle for bringing about the coupling of the latter to the wheels.

949,190. Appliance for Preventing Side Slipping of Wheels on Motor Vehicles. Alfred A. Mansell, London, and George Smith, Chelsea, London, England. Filed March 30, 1908. Serial No. 424,104.

1. The combination with a wheel of a vehicle, of a separate strip of material, means for supporting said strip at its two ends so that the middle is near the ground, transverse strips, and means securing said transverse strips at right angles to the suspended strip in close proximity to the wheel.

949,229. Device for Supporting Shaft-Hangers. Emil Gruenfeldt, Cleveland, O., assignor to The Baker Motor Vehicle Company, Cleveland, Ohio, a Corporation of Ohio. Filed Nov. 15, 1907. Serial No. 402,330.

1. In mechanism of the class described, the combination with a motor vehicle frame; of a shaft hanger comprising a part fixedly secured to the frame, together with a second part removably suspended from said fixedly secured part, and having a horizontal axis of oscillation; said second part being further formed with a lower portion provided with a hollow sleeve split on its under side and adapted to receive and support a shaft housing whose axis is transverse with respect to the axis of oscillation; a shaft housing in said sleeve; bolts through said lower portion to fixedly secure said shaft housing within said sleeve.

949,246. Vehicle Brake. Herbert E. Penney, Minneapolis, Minn., assignor to Nott Fire Engine Company, Minneapolis, Minn., a Corporation. Filed June 17, 1909. Serial No. 502,660.

1. In a brake, the combination with a hub having a clamping plate at its inner side, of a casing member secured thereto, a second casing member connected thereto and forming in conjunction therewith an annular chamber, a socket provided on the latter member, a fixed horizontal pin engaging loosely in the socket to allow horizontal but prevent rotary movement of the casing member, an expansion ring supported in the chamber by the stationary casing member, an expander for spreading the ring to frictional contact with the rotating casing member, and brake lever devices for actuating the expander, substantially as set forth.

949,308. Vehicle Spring. William I. Smith and Jacob H. Klassen, Los Angeles, Cal. Filed June 25, 1908. Serial No. 440,266.

1. A vehicle spring construction, comprising in combination with a spring, an



axle bearing, said bearing being provided on its upper face with a raised block, said spring being bent and fitting over the raised block, and securing means for the spring on each side of the best portion.

949,422. Automobile. John E. Gable, Evanston, Ill. Filed July 27, 1908. Serial No. 445,459.

In an automobile the frame and a front and rear tubular axle fixed thereto, in combination with a tubular wheel spindle arranged at the outer ends of each of said axles, knuckle joints connecting said spindles to said axles, wheels mounted on said spindles, a drive shaft arranged in each of said axles, a short shaft arranged in each of said spindles and connected to the wheels, universal joints connecting each of said drive shafts with the respective short shafts, a brake housing on each of said spindles upon its respective spindle portion of the knuckle joint, a pair of arms rigidly fixed to each of said housings, one of said arms extending inwardly and the other parallel with its respective wheel, a rod connecting the inwardly extending arm of each front wheel with the inwardly extending arm of the rear wheel on the opposite side, drag links connecting the parallel arms of the front wheels, and the parallel arms of the rear wheels, a steering rod connected to one of said inwardly extending arms, a centrally pivoted draw lever at the forward end of said frame, said lever having an eye at its forward end and provided with a fork at its rear end whereby it is secured to the forward drag link, substantially as described.

949,433. Automobile Signal, James T. Johnson, Memphis, Tenn. Filed Dec. 19, 1908. Serial No. 468,401.

1. A device of the class described, comprising a signal, a compressed fluid storage tank, a valve casing provided with inlet ports and an outlet port, a tubular passage between said tank and inlet ports and between said outlet port and signal, an auxiliary casing smaller than and positioned within said valve casing, aligning ports through said auxiliary casing and one of said ports in communication with one of said inlet ports, a movable valve member within said casing and a finger projection carried thereby and closely fitting said auxiliary casing, said projection having a transverse port therethrough and the valve casing having an exhaust port, said valve member provided with a transverse port adapted to make and break communication between the other inlet and the outlet port.

949,503. Headlight. Henry L. Schuler, Cleveland, Ohio. Filed March 8, 1909. Serial No. 481,921.

1. The combination with a source of light, and a mirror, of a diaphanous pane having a portion provided with a series of horizontal ribs with inclined faces, said ribs extending continuously from one side of the pane to the other and increasing in angular divergence from the central portion upwardly, the rib-provided portion of the pane extending downwardly at least as far as the source of light.

949,634. Combined Magneto Electric Generator and Engine. Frank I. Remy and Benjamin I. Remy, Anderson, Ind., assignors to Remy Electric Company, Anderson, Ind., a Corporation. Filed March 22, 1909. Serial No. 484,875.

1. The combination of a combustion engine having a crank shaft with an opening into the same, a magneto electric generator provided with a base plate adapted

to removably close said opening in the crank shaft case, and a driving connection between the parts of the engine and magneto that is in operative condition when the magneto is secured in place on the crank shaft case.

949,654. Shock Absorber. William B. Knapp, Stoneham, Mass. Filed June 10, 1909. Serial No. 501,317.

1. A shock absorber comprising a cylinder and a piston contained therein having holes through it and having valves, and a movable closing plate arranged in said cylinder, in the downward path of movement of the piston, for closing one or more of the holes therein, whereby further downward movement of the piston is restrained, substantially as described.

949,704. Attachment Plug for Engine Cylinders. Nevil M. Hopkins, Washington, D. C., assignor to The Electric Speedometer and Dynamometer Manufacturing Company, Washington, D. C., a Corporation of Delaware. Filed June 23, 1909. Serial No. 503,779.

1. A spark plug comprising an insulating bushing, an electrode wire passing therethrough, said bushing having an opening therethrough of different diameters, a packing between the thus formed shoulders on the bushing and tube, and a spring for holding the parts in place.

949,746. Tachometer and Odometer. Neville M. Hopkins, Washington, D. C., assignor to The Electric Speedometer and Dynamometer Manufacturing Company, Washington, D. C., a Corporation of Delaware. Filed March 24, 1909. Serial No. 485,470.

1. In a tachometer consisting of a direct current magneto having a commutator and an electric meter in circuit therewith, the combination with the magneto of a substantially water and dust proof case therefor, a shaft extending through said case and adapted to be driven at high speed, and reduction gears in said case between said shaft and the magneto commutator shaft.

949,833. Shock Absorber. Robert G. Mueller, Yonkers, N. Y., assignor of one-half to Frederick Geh, New York, N. Y. Filed May 1, 1907. Serial No. 371,220.

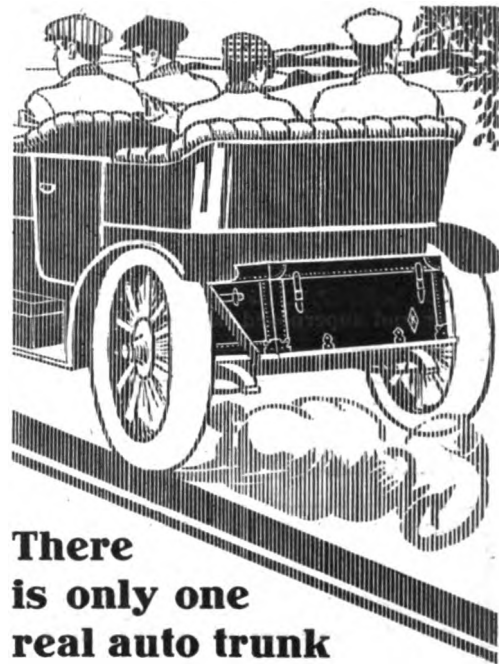
1. The combination of two members one movable relatively to the other, and a shock absorber comprising a cylinder secured with the other member by a universal joint, and a piston connected with the piston rod and fitted into said cylinder, the piston having a solid face at the end adjacent to the cylinder head.

949,846. Automobile Lamp. Charles J. Schmalzried, Knoxville, Pa. Filed Jan. 14, 1909. Serial No. 472,360.

1. In an automobile lamp, the combination of a swiveled lamp body, connections between said lamp body and the steering gear, and a gas burner extending up within said lamp body and supported independently thereof whereby the burner remains stationary.

949,858. Controlling Device for Internal Combustion Engines. George C. Sweet, Waterloo, and Carl W. Weiss, New York, N. Y. Filed Jan. 22, 1909. Serial No. 473,627.

1. Controlling mechanism for internal combustion engines, comprising an air valve to supply or cut off air only to or from the



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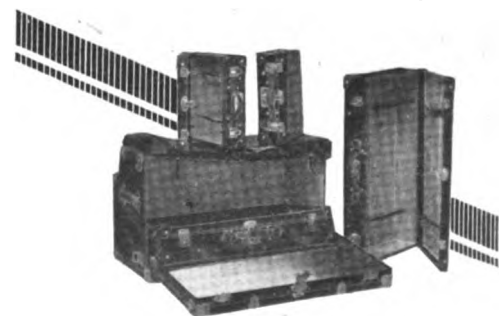
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949,888. Rubber Tire for Vehicles. Richard J. Evans, Franklin, Pa. Filed May 27, 1908. Serial No. 435,232.

1. A hollow tire composed of vulcanized rubber and superposed layers of woven as-

bestos cloth incorporated with the rubber during the vulcanizing operation.

950,172. Tire Repair. Device. John C. Herman, Chicago, Ill. Filed Dec. 14, 1908. Serial No. 467,364.

1. As a new article of manufacture, a tire repair device consisting of a shoe adapted to conform in shape to a section of the tire, the said shoe being formed of a plurality of superposed layers of rubber fabric secured together and gradually increasing in size from the outermost to the innermost layer, and means for securing the shoe to the inner face of an outer tire.



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## **PUSHES DECREE AND FILES SUITS**

**Licensed Association Busy in Federal Courts in New York and Detroit—Action Against Eleven Makers.**

On Monday of this week Judge Hough, of the United States Circuit Court for the Southern District of New York, held a hearing in New York, at which the Ford attorneys and those for the Licensed Association presented their arguments concerning the entering of the decree in the Selden case, with the name of the Columbia Motor Car Co. substituted for that of the Electric Vehicle Co., as a joint complainant with George B. Selden. The delay in the entering of the decree, following the sustaining of the patent last fall by Judge Hough, has been due to the disinclination of the Ford attorneys to acquiesce in the substitution of the Columbia name.

In presenting the Ford side, Attorney Edmund Wetmore stated the situation and its legal aspects in such a way as to convince the lay visitor that neither George B. Selden nor the Electric Vehicle Co., nor the Columbia Motor Car Co. has any valid legal interest in the Selden patent which would entitle them to a successful complainant's rights in prosecution. Frederick P. Fish, appearing for the complainants, presented the matter in an entirely different light, however, and the hearing lasted so long that Judge Hough finally terminated it and asked the two sides to file their briefs and exhibits within two days, that he might go over them before giving his decision as to whether the Columbia name properly may be substituted without the filing of an original bill and other legal red tape. Henry Ford, George B. Selden and others prominent in the controversy, were present during the day.

Actual filing of suits against automobile manufacturers not licensed under the Selden patent, since the decision sustaining

the patent, commenced in Detroit on the 15th inst. with a list of ten Michigan companies. While it was known that at least five of them were marked for infringement prosecution, the list was larger than had been anticipated. The complainants in each of the suits are George B. Selden and the Columbia Motor Car Co., although in a practical sense it is the Association of Licensed Automobile Manufacturers that is prosecuting.

The list of defendants in the Detroit cases is as follows: Paige-Detroit Motor Car Co., Anhut Motor Car Co., Warren-Detroit Motor Car Co., Carhartt Automobile Corporation, Abbott-Detroit Motor Car Co., Owen Motor Car Co., Demotcar Co., all of Detroit; W. A. Patterson Co., Flint Wagon Works, both of Flint, and the Imperial Motor Car Co., located in Jackson, Mich.

In the advance hints as to the bringing of the suits against "independents," it had been indicated that the Parry Auto Co., of Indianapolis, Ind., and the Velie Motor Vehicle Co., of Moline, Ill., likewise were to be made defendants in actions for infringement. Suit has been filed against the Parry company, but that against the Velie apparently is still in preparation.

### **Grabowsky with United States Motor.**

Morris Grabowsky, who was one of the founders of the Rapid Motor Vehicle Co., of Pontiac, Mich., but who recently resigned his connection with that enterprise, has been given the management of the commercial vehicle division of the United States Motor Co. The latter has the Alden-Sampson plant at Pittsfield, Mass., as the nucleus for commercial vehicle plans of considerable magnitude.

### **Owen Becomes Reo Vice-President.**

Raymond M. Owen has been elected to the vice-presidency and directorate of the Reo Motor Car Co., of Lansing, Mich., for which company he has marketed the output since 1904. A large interest in the company recently was acquired by Owen from R. Shettler, the retiring vice-president.

## **SUES A. L. A. M. FOR \$500,000**

**Velie Institutes an Attack in Milwaukee, with Licensed Members as Defendants—Alleges "Trust" Conspiracy.**

Action against the Association of Licensed Automobile Manufacturers and its members for \$500,000 damages has been brought by the Velie Motor Vehicle Co., of Moline, Ill., in the circuit court at Milwaukee, Wis., the Sherman anti-trust law being invoked to aid in the suit.

The summons and complaint were filed on Tuesday, 19th inst. The complaint alleges that many of the large automobile concerns of the country, manufacturing more than half the total annual output of cars, have formed a combination in restraint of trade under the name of the Association of Licensed Automobile Manufacturers, and that this association has conspired to put the plaintiff out of business because it would not agree to the association's terms.

It is alleged that overtures were made to the plaintiff by the association that it should become a member, and that the initiation fee be \$14,000; and also that it restrict its output of automobiles in 1910 to 2,500 and in 1911 to 2,000.

Upon the refusal to join the association, it is alleged, the defendant maliciously conspired to ruin the plaintiff's business, and to that end induced prospective purchasers of automobiles to refuse to buy the Velie car; that they induced dealers in automobiles and parts to break their contracts with the plaintiff, and that they induced advertising agents to refuse to advertise the Velie car. To accomplish this end, it is alleged, the defendants threatened the advertising agencies and others that if they should deal with the Velie company they would lose the business of the defendants.

In addition to the members of the A. L. A. M., the list of defendants includes the Kopmeier Motor Car Co., of Milwaukee,

Wis., which, after agreeing to act as the Velie agent, later declined to take the agency, on the ground that the Velie car is not licensed under the Selden patent. In fact, this incident is largely the peg on which the litigation is hung and accounts in some degree for the suit being brought in Milwaukee.

#### Schacht to Expand in Cincinnati.

The Schacht Mfg. Co., of Cincinnati, O., making Schacht motor buggies and "3-in-1" general purpose cars, has decided upon an increase of capital stock from \$100,000 to \$300,000 and has laid plans for a new factory in Cincinnati, instead of removing elsewhere as at one time contemplated. The new building will be on Spring Grove avenue, and will be 600x60 feet, three stories high. It will be of brick, concrete and steel, with the side walls consisting largely of glass, in order to provide a maximum of light. The cost of the improvement is placed at \$90,000, and arrangements have been made for private railroad switches and other special shipping facilities.

#### Detroit Dealers Choose Officers.

Officers for the coming year were elected last week by the Detroit (Mich.) Automobile Dealers Association at its annual meeting, as follows: George E. Lane, president; George D. Grant, vice-president; Robert K. Davis, secretary; John H. Brady, treasurer. The officers, with Frank Craig, will constitute the board of directors. Following a discussion it was voted to omit the annual endurance run this year, and an association run probably will be held later.

#### Troutt to Manage Van Dyke.

George A. Troutt, described as a veteran in the trade and who has been identified with a number of manufacturers, has been appointed general manager of the Van Dyke Motor Car Co., of Detroit, Mich. The concern is putting out a commercial vehicle under a fixed maintenance arrangement.

#### Marburg Moves to Larger Quarters.

Theodore H. Marburg, importer of Mea magnetos and S. R. O. ball bearings, has taken larger quarters than those occupied at 30 Wall street. The new location comprises rooms 353-357 in the Thoroughfare building, 1777 Broadway.

#### Ashtabula Has Plant Visions.

L. H. Heffner, of Cleveland, O., has indicated to Ashtabula, O., that he has selected that city as the location for an automobile plant. He proposes to organize the Heffner Motor Car Co., with \$200,000 capital.

#### Winton Enlarging Its Factory.

The Winton Motor Carriage Co., of Cleveland, O., has awarded contracts for an addition to its plant on Berea road. It will be a three-story structure, 308x70 feet.

## HEWITT CONTROLS "RECTIFIERS"

### His Patent Battle with General Electric Results in Victory—Discovery which Simplified Current Transforming.

Because of the relation of mercury arc electrical "rectifiers" to the electric vehicle field, through the fact that it is the "rectifier" which transforms alternating current into direct current so that it may be used for charging accumulators, no small importance resides in the issuance this week of two patents to Peter Cooper Hewitt, of New York, covering devices of this character and marking his ultimate triumph in establishing his patent rights, after a long and bitter battle in the Patent Office and the courts. The General Electric Co. has been his persistent opponent in his efforts to obtain basic patents on the mercury rectifier, certain vital principles of which were evolved during the development of the Hewitt mercury vapor lamp.

The patents which signify Hewitt's success in proving himself the discoverer and inventor of the mercury rectifier are No. 955,459, covering construction, and No. 955,460, the method patent. Probably the broadest and most significant of the claims is the fourth claim in the latter patent, as follows:

4. The method of obtaining a continuous flow of current in one direction from a source of alternating currents, which consists in utilizing a negative electrode reluctance for preventing the flow of current in another direction, and maintaining a condition of comparatively small reluctance at the negative electrode.

In his experiments with mercury vapor lamps, Hewitt discovered the "reluctance" of the mercury to act as a negative electrode until its surface insulating film had been punctured or the surface resistance broken down, after which it would receive current freely from the mercury vapor. His observations in connection with this phenomenon enabled him to perfect the mercury rectifier. The General Electric Co. had been quick in its development of a mercury rectifier after the appearance of Hewitt's mercury vapor lamp, and although aided by George Westinghouse, Hewitt was given a long contest in the Patent Office and later before the Circuit Court of Appeals for the District of Columbia, before he could establish his priority rights. Having been so thoroughly threshed out already, the patents do not appear likely to be subject to further attack.

#### Will Make Clark Trucks in Lansing.

Taking over Clark & Co., veteran buggy makers, and the Ferguson Motor Co., both of Lansing, Mich., a new concern has been organized in that city, with \$500,000 capital, to be known as the Clark Power Wagon Co. Frank G. Clark, who owned all the stock in Clark & Co., is president,

and will retain control in the new enterprise. R. A. Radle, of Detroit, who has been with the Rapid and Grabowsky companies, is secretary and treasurer, with B. H. Warner as general superintendent, and John Demmler as chief engineer. The factory is at Grand avenue and Washtenaw street, and will produce a 20 horsepower water cooled truck of 1,000 pounds capacity. The expected output is to be marketed by a separate corporation, styled the Radle-Clark Sales Co., with \$50,000 capital. The latter will make its headquarters in the Majestic building, Detroit.

#### Lewis Doubling Its Present Capacity.

The Lewis Spring & Axle Co., of Jackson, Mich., of which the American Distributing Co., Jackson, is the sales representative, is arranging to double its capacity for 1911. To this end the five plants of the company making springs, axles and parts, will be added to and expanded in the near future.

#### Hyatt Resigns from Columbia.

F. S. Hyatt, purchasing agent of the Columbia Motor Car Co., Hartford, Conn., has resigned, after three years connection with the company. He was tendered a farewell dinner on the 14th inst., H. W. Nuckols, vice-president, acting as toastmaster.

#### Rubber Continues at Record Prices.

Rubber has continued high for the past two weeks, the chief activity being in London. The price for plantation raw rubber of a grade almost corresponding to the best Para has several times reached the record figure of \$3.12 per pound.

#### Thomas Decides to Build Sixes Only.

Only six cylinder cars will be made by the E. R. Thomas Motor Co., of Buffalo, N. Y., for the coming year, according to an official announcement. The change in manufacturing policy will go into full effect on May 15.

#### Hartford Rubber's "K. C." Branch.

New and elegantly appointed salesrooms just have been fitted up for the Kansas City (Mo.) branch of the Hartford Rubber Works Co., at 719 East Fifteenth street. A complete line of Hartford tires will be carried.

#### Chicagoans to Sell Dart Output.

The Car Makers Selling Co., of Chicago, Ill., in addition to its other lines, has taken over the exclusive sales agency of the Dart light delivery wagon. The vehicle is of 700 pounds capacity and sells for \$650.

#### Jeffery-Dewitt Moving to Detroit.

The Jeffery-Dewitt Co., making spark plugs, will move from Newark, N. J., to Detroit, Mich., on May 1. A large factory has been equipped for the company in the latter city.

**VERBAL REPAIR CONTRACTS VALID**

**Heavy Damages Against Repair Shop as Result of Suit Brought by an Owner—The Court's Decision.**

That the owner of a repair shop is compelled not only to make repairs for a price not exceeding the sum verbally agreed upon, but also held responsible for damage or loss in case he keeps the car beyond a reasonable time for repairs, was decided in the Supreme Court of New Jersey last week. The decision is of importance to garage and repair shop owners, as it establishes a precedent which may be followed in other states.

E. B. Dunn, a manufacturer of vacuum machinery, took his automobile, valued at about \$3,000, to the Greenhalgh Engine and Machine Works, at 552 Central avenue, Newark, N. J., to be repaired. The engine people, after looking over the car said that the job would cost between \$200 and \$250, and the court held that a verbal contract was entered into to put the car in shape for this sum. When Dunn went to get the car, he was told that the bill was \$287.95. He objected to the charge, but tried the machine; he then found that it would not run at all satisfactorily, he alleges, so he returned it and the company tinkered with it further.

After several experiences of this kind, the repair people declared that they would not let the car go out again, even for testing, until they had been paid. Dunn offered to leave the decision as to whether the car had been put in good running order to a third party, an expert, with the agreement that if the expert said the machine was all right, he would pay the full amount. This proposition the repair people declined. Pending a settlement of their differences the latter held on to the car.

In the suit of replevin which Dunn instituted for the recovery of his machine, Justice Adams charged the jury that if the defendants had agreed to overhaul the car and put it in good condition for a certain amount of money and had failed to keep the contract, and refused to deliver the car, plaintiff should recover. If the jury found that the defendants had submitted a bill for a greater amount than was agreed upon, this amounted to a waiver of their lien.

The jury decided that not only should the plaintiff have his machine back, but granted him damages to the amount of \$1,032.21, which includes interest on the value of the car since its retention by the defendants. To make things still more disagreeable for the repair people, Dunn's lawyer instructed him to let them sue him for the \$250 originally agreed upon, and that if the machine now does not run all right he can have it repaired and sue the engine company for the bill, and finally, if

the car has in any way deteriorated, while held by the repair people, he can sue them for damages on that score.

**"Demonstrates" to Detroit Makers.**

A complete demonstrating shop is being installed in Detroit, Mich., by the Modern Machinery and Engineering Co., of Cleveland, O., for the purpose of making plain to automobile manufacturers the capabilities of the automatic machinery which the Modern Company offers in its capacity as western representative of the Potter & Johnston Machine Co., of Pawtucket, R. I. The company, of which Thomas F. Ahearn is general manager, hereafter will make its headquarters at 1514 Ford building, Detroit, instead of in Cleveland.

**Wabash Loses the Standard Plant.**

The plan whereby Wabash, Ind., was to win a St. Louis motor car manufacturing enterprise, the Standard Automobile Co., has fallen through. Although a number of Wabash citizens bought lots in the land sale that was devised to raise money for the company, the scheme was not entirely successful, and according to local authorities the automobile project "is considered past resurrection." A committee has been appointed to protect the interests of the subscribers to the subsidy fund.

**U. S. M. Officials on Western Trip.**

For the purpose of making a western trip of inspection, twenty officers and members of the board of directors of the United States Motor Co. left New York on the 16th inst. in a private car attached to the St. Louis Limited. The first stop scheduled is at the Maxwell-Briscoe plant in Newcastle, Ind., after which factories and branch houses in other localities will be visited.

**More Licensed Dealers Organizing.**

Organization of the Licensed dealers into associations in their respective cities has extended to Philadelphia and Baltimore, along the lines of the associations already in effect in Los Angeles, New York and Boston. Philadelphia has 35 dealers handling licensed cars and there are 24 in Baltimore.

**American Tube Adds a Factory.**

The American Tube and Stamping Co. of Bridgeport, Conn., which manufactures rims and other components for motor cars, has purchased an additional factory and ten acres of land on Hancock avenue, owned by the Bridgeport Copper Co. The factory has a floor space of 125,000 square feet.

**To Make Motors in Muskegon.**

Automobile motors are to be one of the products of the Central Machinery Co., which has commenced operations in Muskegon, Mich. The company has taken the plant formerly occupied by the Muskegon Laundry Co.

**"BUTTS IN" WITH A MORGAN YARN**

**General Motors Receives Free Publicity in Connection with United States Motor's Purchase of Columbia's Stock.**

Exchange of shares of the United States Motor Co. for those of the Columbia Motor Car Co., now in process, has been made the means for the General Motors Co. intruding into a situation whereby it obtained newspaper publicity without cost to itself and which may assist in the disposal of the beautifully engraved stock certificates which it is so ready to exchange for investors' money.

The terms on which the United States Motor Co. is buying the Columbia majority stock provide that for one share of Columbia common stock there shall be issued 1.0755 shares of United States common, in addition to which the United States company will issue certificates, countersigned by the Central Trust Co., giving holders of the Columbia stock their share of revenues under the Selden patent royalties. The time for the holders of Columbia stock to deposit and receive the new shares at the Central Trust Co. has been extended to May 1.

The disclosure of the terms was made the occasion for the appearance of a story in a number of newspapers to the effect that General Motors was somehow linked with "the Morgan interests" and pointing to a \$400,000,000 merger which might include General Motors, the Studebakers and the United States Motor Co., so that the public might receive the impression that the General Motors was graced by Morgan support. The papers that "fell for it" were even innocent enough to publish a list of General Motors "properties" and to swallow the glowing tributes to its "aggressiveness," while in some cases it was referred to as "another of the units" which it was assumed Morgan is preparing to coalesce. J. P. Morgan, Jr., who as his father's chief lieutenant, may be supposed to know the firm's affairs, has made an absolute denial of the yarn.

**Swinehart Opening a Boston Branch.**

The Swinehart Tire & Rubber Co. of Akron, O., has opened a branch in Boston at 727 Boylston street. The branch is in charge of A. J. Greene, who has been connected with the automobile trade in New England for several years. A complete stock of Swinehart pneumatic and solid tires will be obtained.

**New Home for Fisk Branch in Boston.**

The Fisk Rubber Co.'s Boston branch shortly will be housed in a new five story structure at Boylston and Fairfield streets. The company has taken a 20 years lease on the building, which is about to be erected.

**THE WEEK'S INCORPORATIONS.**

Davenport, Ia.—Klemme Automobile Co., under Iowa laws, with \$10,000 capital.

Maurice River, N. J.—More Gasolene Co., under New Jersey laws, with \$100,000 capital.

Muskegon, Mich.—Muskegon Auto Body Co., under Michigan laws, with \$10,000 capital.

New York, N. Y.—Black's Garage Co., under Delaware laws, with \$25,000 capital. Corporators—I. C. McKeever, H. W. Miller, W. P. Wainwright, New York City.

Chicago, Ill.—Knight Equipment Co., under Illinois laws, with \$2,500 capital; motor cars, etc. Corporators—W. D. Jones, Vincent Bendix, R. J. Jacker.

Kansas City, Mo.—Kansas City Real Auto Co., under Missouri laws, with \$20,000 capital. Corporators—B. C. Howard, R. E. Fair, H. R. Stewart and others.

Minneapolis, Minn.—Beek Auto Co., under Minnesota laws, with \$40,000 capital. Corporators—R. H. Beek, Lakota; Gus Lamb, John Kerwin, Michigan City.

Philadelphia, Pa.—Hess-Bright Mfg. Co., under Delaware laws, with \$1,000,000 capital. Corporators—F. R. Hansell, G. H. B. Martin, S. C. Seymour, Philadelphia.

New York, N. Y.—Eastern Auto Distributing Co., under New York laws, with \$1,200 capital. Corporators—Stephen C. Riero, Brooklyn, and others.

Hartford, Conn.—E. J. Todd Rubber Co., under Connecticut laws, with \$2,000 capital. Corporators—E. J. Todd, New Haven; A. P. Gunn, J. W. Keating, Hartford.

Tulsa, Okla.—Tulsa Auto Truck Co., under Oklahoma laws, with \$75,000 capital. Corporators—S. C. French, Marshall, Mich., and others.

Kansas City, Mo.—C. L. Taylor Motor Car Co., under Missouri laws, with \$5,000 capital. Corporators—E. N. Highley, Grace J. Taylor.

Baltimore, Md.—Maupin Motor Co., under Maryland laws, with \$8,000 capital; general automobile business. Corporators—J. S. Ditch, E. T. Boswell, F. B. Maupin, John Waters, J. M. Taylor.

Toledo, O.—Toledo Garage & Supply Co., under Ohio laws, with \$5,000 capital. Corporators—Charles A. Langdon, Alvin C. Jones, George T. Browning, F. M. Bushong, E. E. Sheppard.

Cleveland, O.—Motor Truck Service Co., under Ohio laws, with \$50,000 capital. Corporators—C. J. Whipple, W. H. Smith, John H. Price, E. C. Darust, J. E. McIntyre.

St. Louis, Mo.—Prescott Motor Co., under Missouri laws, with \$2,000 capital; general automobile business. Corporators—J. A. Prescott, W. W. Gardiner, W. W. Aubuchon.

Warren, Minn.—Warren Auto Co., under Minnesota laws, with \$20,000 capital. Cor-

porators—Nels Johnson, August Lundgren, L. M. Oleson, E. J. Johnson, R. B. Taralseth, Justice Carlson, Charles Wittenstein.

Bridgeton, N. J.—Hann Automobile Co., under New Jersey laws, with \$50,000 capital; to manufacture automobiles, etc. Corporators—H. L. Howell, C. D. Stowell, C. A. Hann.

Bronxville, N. Y.—General Garage Co., under New York laws, with \$60,000 capital; to deal in and rent and store automobiles. Corporators—A. H. Johnson, E. E. Beyer, H. A. Bemis.

Brooklyn, N. Y.—Abbott-Detroit Sales Co. of Brooklyn, under New York laws, with \$4,000 capital; to deal in automobiles, etc. Corporators—Bertrand Ettinger, William T. Sandall, Brooklyn; Albert G. Jennings, Rockaway Beach.

Brooklyn, N. Y.—Family Automobile Service Co., under New York laws, with \$1,000 capital; to manufacture and deal in motors, engines, automobiles and other vehicles. Corporators—John N. Williamson, Eliza De Mott, William G. Cooke.

New York, N. Y.—Correja Motor Car Co., under New York laws, with \$10,000 capital; to manufacture and deal in motors, repairs, etc. Corporators—J. Mora Boyle, Bronxville; James W. Boyle, X. E. Boyle, New York City.

New York, N. Y.—Apthorp Garage Co., under New York laws, with \$10,000 capital; to manufacture, deal in and rent automobiles, etc. Corporators—Samuel Marion, Roger M. Drury, William Rekersdress, New York City.

New York, N. Y.—C. W. Kelsey Mfg. Co., under New York laws, with \$250,000 capital; to deal in motor vehicles and bicycles of all kinds. Corporators—J. L. Robinson, Brooklyn; W. B. Barker, New Rochelle; W. L. Glenney, Plainfield, N. J.

New York, N. Y.—Hydro-Tele-Motor Co., under New York laws, with \$25,000 capital; to manufacture and deal in power transmission machinery. Corporators—J. W. McKay, Brooklyn; H. F. Fisher, New York City; E. E. Cole, Hoboken, N. J.

Corinth, Mo.—Pan-Chrone Press Mfg. Co., under Missouri laws, with \$100,000 capital; to manufacture printing presses and automobiles. Corporators—H. C. Moore, M. A. Candler, G. A. Hazard, L. C. Steele, H. O. Caffey, George Cox.

Newark, N. J.—Electrolytic Products Co., under New Jersey laws, with \$250,000 capital; to manufacture radiators and other automobile parts. Corporators—A. Goertz, Newark; A. Behrend, E. H. Green, New York City.

New York City, N. Y.—Protective Mfg. & Sales Co., under New York laws, with \$50,000 capital; to manufacture and deal in motors, engines, automobiles, carriages and supplies for same. Corporators—C. E. Terrell, C. A. Tilly, H. Smith.

New York, N. Y.—James L. Gibney &

Bro., under New York laws, with \$100,000 capital; to manufacture and deal in tires, rubber goods and automobile accessories. Corporators—J. L. Gibney, J. L. Gibney, Philadelphia; J. H. Fargis, New York City.

Jersey City, N. J.—Bearings Co. of America, under New Jersey laws, with \$1,000,000 capital; to manufacture bearings, balls, ball retainers, magnetos, carburetters, etc. Corporators—W. B. Greeley, J. W. Hertzler, A. L. O'Shea, E. F. Roehm, New York City; C. V. Tuthill, T. A. Henwick, Jersey City.

**Moving Day for the Chicago Trade.**

May 1 will be emigration day for several members of the Chicago motor colony. Among those who will change their present addresses is the Speedwell Motor Car Co., which handles the Speedwell and Staver-Chicago, and will take possession of its new home at 2411 Michigan avenue. With the vacating of the present Speedwell domicile at 1407 Michigan avenue, it will be occupied by H. E. Halbert, who shifts with the Grout from the west side. The Chicago Pneumatic Tool Co., another newcomer on the "row," will install its commercial vehicle branch in the old Kisselkar quarters at 1337 Michigan avenue.

**Olds Doubles Its Broadway Space.**

With the acquisition of the adjoining store, at 1653 Broadway, the Oldsmobile Co. of New York now has twice the floor space which was afforded in the original quarters at 1651. A spacious passage has been cut through the dividing wall, converting the two stores into one large showroom.

**Studebaker's New Minneapolis Home.**

Invitations soon will be sent out for the formal house warming of the new Studebaker wholesale and office building in Minneapolis, Minn., at Second avenue south, and Sixth streets. The new establishment, which is a model of its kind, will carry the entire Studebaker line of products.

**Maxwell Building in Buffalo.**

The Maxwell-Briscoe Automobile Co., Buffalo, N. Y., now located at 29 Goodrich street, is to have a new home which is in process of erection on the same thoroughfare, near Main street. It will be a three story brick structure, 50 by 60 feet, and will represent an expenditure of \$20,000.

**Twin City to Put Up a Garage.**

The Twin City Taxicab Co., Minneapolis, Minn., is preparing to erect a new garage at Eighth and Cedar streets. It will cost \$35,000.

**Increases in Capitalization.**

Detroit, Mich.—Anhut Motor Car Co., from \$150,000 to \$300,000.

Chicago, Ill.—Clark & Co., reorganized as the Clark Power Wagon Co.; capital increased from \$50,000 to \$500,000.



## IN THE RETAIL WORLD.

The Wichita (Kan.) Garage Co. now is "at home" in its new garage on North Lawrence avenue. The establishment is of the modern class.

R. R. Kimball, Omaha, Neb., is to have a new garage, to be erected on Farnam street, opposite his present establishment. The edifice will be one story, 50x120 feet, and will cost \$10,000.

The Brooke Automobile Co., Kansas City, Mo., has opened a branch sales office in Omaha, Neb., at 2318 Harney street. Lexington cars will be exploited, and Paul C. Gee, will be in charge.

The McIntyre Automobile Co., Omaha, Neb., has taken possession of its new home at 2203 Farnam street, the local "automobile row." The structure ranks with the best in the local colony.

The Maupin Motor Co., Baltimore, Md., is the style of a new firm just formed and which will introduce Klinekars to Baltimoreans. Work soon will be commenced on a garage which will cost \$25,000.

Work is going forward rapidly on the new garage being erected for the Houston (Tex.) Motor Car Co., at the corner of Preston and Caroline streets. The building is expected to be ready May 1.

The Vigo Auto & Electric Co., Terre Haute, Ind., has taken possession of a new garage just completed at 1255-57 Lafayette street. It is a concrete block structure, one story, 40x80 feet. The concern handles the Inter-State car.

E. J. Sprague and O. O. Hamilton, Wichita, Kan., who have had considerable experience in repair work, have embarked in that line for themselves. They have opened a shop in the rear of the Overland agency, 137 North Market street.

The Independent Auto Repair Co., Omaha, Neb., which still is in its infancy, is having a garage built for it on Farnam street, near Twenty-fourth. It will be a fireproof building, 66x125 feet, and will include a large repair shop.

Thirty-nine cars were burned in a fire which destroyed the Owner's Garage, Bakersfield, Cal., on the 7th, entailing a loss of \$150,000. Neglect to extinguish the pilot light of a steam car which was being washed is said to have caused the fire.

Fred A. Cornell, Los Angeles, Cal., local distributor of the Falcar, has taken new quarters at Pico and Main streets, where much additional "breathing space" is afforded. The commodious garage and repair rooms have entrances on both streets.

James T. Kennedy and R. D. Van Brunt, Buffalo, N. Y., believing that there was room for another motor car firm in the Bison City, have filled the breach and opened sales rooms at 728 Main street. They will have the territorial distribution of Regal cars.

The Buick Motor Car Co., Kansas City,

Mo., now owns its own home, having purchased the building which it occupies at the northwest corner of Admiral boulevard and McGee street. It is a three story brick structure, 95x72 feet, and changed hands for \$69,700.

The Morris Motor Car Co., Waterloo, Ia., just organized, has taken over the Peters-Rockwell Auto Co. establishment on East Fifth street, which will be operated by the new firm, of which C. A. Morris is the head. The concern has the Cadillac representation.

Two motor car dealers of Detroit, Mich., the Grant Bros. Auto Co., and the Winton branch, are to have new quarters, in a new sales and service building which will be erected on the east side of Woodward avenue, near Warren avenue. The building will be 97x230 feet.

To better serve its coast trade the Regal Motor Car Co., Detroit, Mich., has opened a branch in San Francisco, Cal., at 460 Golden Gate avenue, which will operate as the Regal Motor Sales Co. H. W. Brown, who comes from the factory will preside over the new concern.

Upon the completion of its new garage at 2012-18 Harney street, which is expected to be ready for occupancy soon, the Paxton-Mitchell Co., Omaha, Neb., will remove from its present quarters, 2318 on the same thoroughfare. The new establishment will be up-to-date in every respect.

Construction is under way on a new sales and garage building for the Powers Motor Car Co., Lawton, Okla., adjoining their present establishment on Fourth street. The structure will be two stories, with 75 feet front and will be built of concrete. E-M-F and Flanders cars constitute the lines handled.

Upon removing the filler cap of a gasoline tank on a car in Toman Bros. garage, North Warren street, Trenton, N. J., last week, Earl Adams was severely burned about the face by a mysterious explosion of gas which had accumulated in the tank. The gasoline did not take fire, nor was the tank damaged.

John Moore & Co., representing the Brush Runabout in New York City, have arranged to give the cars representation in the so-called "automobile district," as well as at the company's downtown store at 57 Warren street. For this purpose a retail establishment for the Brush has been opened at 1876 Broadway.

A pretentious sales and garage building is nearing completion for the Demack Motor Car Co., New Orleans, La., at 923-29 Lafayette street. It is two stories, 60x100 feet, built of concrete and steel, and is equipped with the latest appliances throughout. It will be the Crescent City headquarters for Knox and Detroit electric cars.

The Kissel Motor Car Co., Hartford, Wis., which heretofore has had agency

representation in Los Angeles, Cal., has decided to establish a branch in the Angel City, which will be located at 1246 South Flower street. Clyde Leppo, a factory man will be installed as manager, and the branch will supply the Southwestern and Mexican trade.

A. W. Hooknay, formerly secretary of the California Electric Garage Co., has disposed of his interests to President I. H. Stratton, and severed his connection. R. C. Holbert, formerly sales manager, has assumed the secretaryship. The company handles Columbia and Detroit electrics and maintains establishments in Los Angeles and Pasadena.

Pending the erection of a new building at Thirty-first street and Gillham road, the L. C. Motor Car Co., Kansas City, Mo., has taken temporary quarters at 3324 Main street, vacating its old premises at 3816 on the same street. The new building will be 50x108, three stories above ground and two below. Palmer-Singer and Baker electrics are handled.

Under the corporate title of the Broadway Garage & Sales Co., R. B. Edwards and H. D. Biggs, Kansas City, Mo., have "opened up" at Thirty-fourth street and Broadway boulevard, and will market Clark cars in that territory. The new firm is introducing an innovation in car selling by placing sample machines in show windows in different sections of the city.

The Auto Repair & Supply Co., Grand Rapids, Mich., is the title of a new concern just formed in the Furniture City. It has located at 882-84 Wealthy avenue and will devote itself to the construction of models for other makers, and repair work. E. J. Strong, E. L. Quackenbush and James A. Owen, comprise the firm, the latter having had considerable experience in the field.

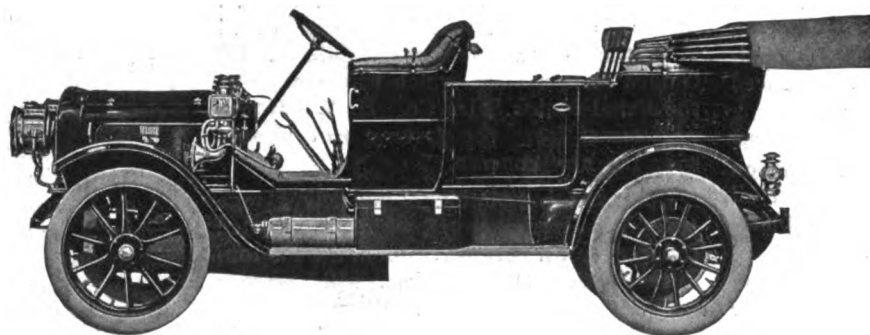
Miller & Miller, of San Francisco, and James A. Brown, who operated vehicle establishments in Santa Rosa and Healdsburg, Cal., have amalgamated under the style The Consolidated Vehicle Co., which has been incorporated with \$75,000 capital. The new concern has added automobiles to its other vehicles and intends to open stores in several California cities and to do a jobbing business in San Francisco.

The H. E. Frederickson Automobile Co., Omaha, Neb., which suffered a \$35,000 loss by fire recently, again is doing business at the old stand, 2046 Farnam street, the sales rooms having escaped serious damage. The garage, which was destroyed, will be rebuilt and the sales rooms renovated and in the meantime temporary garage quarters will be maintained elsewhere. Although carrying \$45,000 insurance, it was discovered after the conflagration that most of the policies covered tornado loss only, and that fire protection was only \$10,000. The firm handles the Chalmers, Hudson, Thomas, Pierce-Arrow and Fritchle electric.

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During the last nine months—from July 1st to date—more White Steamers have been made and delivered to customers than in the corresponding period of any previous year.

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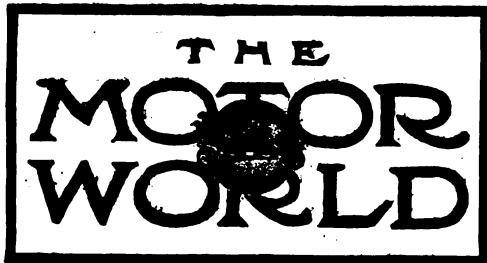
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#### Surveying the First Three Months

"What is the condition of the trade?" and "What has been taking place in the last three months?" are questions that are being asked quite generally by those who like to know the current of affairs outside their individual experience. By making broad generalizations from a multitude of particulars, it is possible to indicate what has taken place and what the present conditions are.

Business has been big since the first of the year. It has been almost as big as the most violent optimists have predicted, and a cool estimate might place the volume of business actually done, at something like \$50,000,000 that the manufacturers have received for their wares in the first 90 days of 1910.

Every factory has in some degree felt the pressure of trying to produce at maximum capacity, and the parts chasers are out in full force speeding up the production of drop forge concerns and others who supply

the car makers. The compulsions of time are making night work very general, and almost every plant is considering or executing as rapid expansion as is possible.

Freight cars are exceedingly scarce, and not the least of the manufacturers' worries is the difficulty of effecting the rapid transportation of materials as well as cars. In many instances special details of chasers have been put to work on the quick transportation problem alone, in addition to which there has been an enormous expenditure in express shipments.

A temporary lull in the Southwest trade was felt as a result of lack of rain, but a subsequent plentiful supply relieved the anxiety of the agricultural districts as to the success of their forthcoming crops, with the result that telegrams, long distance telephone messages, special delivery letters and personal representatives, in addition to the regular mail, brought hurry-up orders from the Southwest agents for big quantities. The reaction from the crop scare more than made up for the previous meagerness of Southwest orders.

In most districts the spring opened early, resulting in a clamoring on the part of retail purchasers for deliveries in advance of their specified dates. The early rush of business also caught the tire companies some two or three weeks sooner than they had calculated on. Hardly a tire factory can be found which is not working to capacity both night and day. It also is common for all manufactured tire stock to be moved from the factory toward final distribution within 48 hours after its completion and inspection approval.

Accessory business has been flourishing. Manufacturers and jobbers are under much the same sort of pressure for prompt deliveries that prevails in the car making field, and the business is bringing a rich harvest to the big quantity producers.

Considerable significance attaches to the increasing number of orders which the parts makers are receiving on specifications for commercial vehicles. Many car makers who heretofore have not been identified with commercial vehicle manufacture give evidence of an interest in this field by modest orders for parts for such machines.

Already there is a rounding up and preparation to commence making cars for what is termed "1911" business. Such changes as are to be introduced in the models will be incorporated in new lots of cars which are to be started in May or

June. Staggering profits swell the coffers of the more prominent makers, and all the established concerns in the trade are making money now if at any time. A certain cautious feeling prevails as to future expansions, but no halting or hesitating in this general direction is manifest, though its rapidity is moderated by good sense.

#### Second Hand Cars and Their Market.

What has become of all the old cars, that ever fruitful topic for speculation, furnishes less real cause for thought than the corresponding inquiry as to what is likely to become of the discarded machines of the future. What is the present state of the relics of former years of automobile production may be considered as of trifling significance as compared with a very real issue in the problem surrounding the disposal of the second-hand products of today and tomorrow. This problem is accentuated not a little by the rapid increase in the quantity of cars produced and the lack of any indications that the rate of increase is likely to diminish during the next two or three years.

It is important to bear in mind that the trade in used cars has assumed far different proportions from those which ordinarily rule in the marketing of property which has passed the stage of first ownership. Many well-established branch stores maintain carefully conducted used car departments, in which vehicles are offered for sale only after being subjected to a thorough overhauling and put in practically as good condition as on the day they first left the factory. They are priced on a rational basis which allows for a fair margin of profit on the investment over refitting expenditures, and in many cases offer the purchaser nearly the same value as a new car, but at a very moderate figure.

Outside this second-hand business of the first order, as it may be termed, there are the two lower branches of the market; that conducted by wholesale operators who maintain large repair establishments, handle a wide range of products and cover almost unlimited territory, and the more limited enterprises conducted by smaller second-hand dealers and regularly established garagemen. In general, only the used cars obtained from branch houses and agencies which make a specialty of refurbishing their own returned products are to be accepted without question as to their actual market value. Establishments which specialize

either to overcharge or deceive the purchaser fortunately are the exception rather than the rule.

The fact that the outlet for used cars lacks organization and established procedure, both in respect to method of administration and definite segregation from the market for new cars is bound to react more or less unfavorably upon the manufacturer and dealer as time goes on. At present, probably not more than 20 per cent. of the new cars sold go to buyers who are new owners. The remainder of the buying class is made up of those who are adding to their equipment or are replacing one or more cars with new ones. What percentage of new sales actually represents augmentation to the second-hand market, and how the actual turnover of used cars compares with movement in new stock, it is impossible to tell even at the present time; what is destined to be the relative turnover in old and new cars in the future is equally impossible to predict.

It has been suggested that the business of refitting used cars properly should go to the carriage makers; many garage men and local dealers see present possibilities in it; and there are the ever-ready specialists whom nature has endowed with the ability to turn a profit out of anything which presents opportunities to buy and sell. The business in second-hand cars has all the characteristics and potentialities of a stable and more or less successful industry. Its present unacknowledged power and unknown strength as an element to be reckoned with by the manufacturing end of the automobile, however, lends it certain rather disquieting aspects.

#### Seeking Experienced Chauffeurs.

Of the many angles which the chauffeur problem presents, one which is of extreme interest to many motorists at this time of year, is as to the most direct and satisfactory method of securing a suitable candidate. As for applicants, almost anyone who has a decent "berth" to offer, finds himself flooded with applicants as soon as he chooses to make known his wants. But it is by no means an easy matter to make selection with any degree of assurance that the man chosen has had the necessary training and experience. Sometimes, it may be added, ample experience is guaranteed, but a certain reserve on the part of the candidate when questioned, leads to the suspicion that not all of his experience has been

of the sort which will tend to enhance his value to the owner who desires to preserve his car for a decent length of time.

Various organizations of professional drivers are wont to promise many things in the way of filling such vacancies, though it is not always possible to choose from their offerings men who are willing to work for the moderate wage which the average owner feels justified under the circumstances. Chauffeurs' schools, correspondence and otherwise, are very much in evidence at all times, but their neophytes are not always accepted with absolute confidence.

Such being the case, it would seem that the taximeter cab might offer ample resources as a training medium, both in manipulation and the exercise of such economy in operation as is bred of the desire to increase wages by reducing the expenditures which the average cab operator demands in the way of fines, and deductions for fuel and supplies used. Saving that they are not taught the arts of cleanliness and coachmen's etiquette, cab drivers of experience ought to make pretty good private chauffeurs, it would seem. Many of them, doubtless would gladly forsake the daily grind of answering "calls" for the more varied and supposedly less exacting duties incident upon "driving private," although some of them may not be over-anxious to become "servants" instead of "employees."

#### A Garage Fire and Its Moral.

Accounts differ as to the precise manner in which the \$25,000 garage fire which Hartford, Conn., suffered recently had its origin, but they agree in one point—namely, that the combination of a taxicab chauffeur, a newly filled tank and a pair of oil dash lamps were involved in some way. The danger in connection with the refilling of fuel tanks is so obvious; the moral has been pointed out in so many cases, that the wonder is such an accident ever should happen. Garage-men are fully aware of the peril both of the vapor itself and of the combination which is apt to arise at any time when heedless manhood is given the handling of liquids which yield inflammable vapors. Such accidents, as a rule, do not occur where there is strict enforcement of certain obvious regulations in regard to the filling of tanks, nor are they apt to occur where cars are electrically lighted—two conclusions which it is well for the motor cab manager to ponder wisely.

## COMING EVENTS

April 28, Chicago, Ill.—Chicago Motor Club's 200 miles economy run.

April 30, Philadelphia, Pa.—Quaker City Motor Club's third annual roadability run to Atlantic City.

April 30, Kansas City, Mo.—Automobile Club of Kansas City's hill-climb on Dodson hill.

May 2, Denver, Colo.—Start of Flag-to-Flag endurance and reliability contest to City of Mexico for Wahlgreen trophy.

May 3, Trenton, N. J.—Trenton Automobile Dealers' second annual 300 miles endurance run.

May 5-7, Richmond, Va.—Richmond Times-Despatch endurance run.

May 5-7, Atlanta, Ga.—Opening spring race meeting on Atlanta motordrome.

May 9-11, Harrisburg, Pa.—Motor Club of Harrisburg's fourth annual reliability contest.

May 10-11, New York City—Motor Contest Association's reliability contest to Atlantic City and return.

May 11, Birmingham, Ala.—Birmingham Police Relief Association's race meet at state fair grounds.

May 13-14, New York City—Motor Racing Association's 24 hours race at Brighton Beach track.

May 14, Vicksburg, Miss.—Vicksburg Automobile Association's hill climb on Mackey's hill.

May 18, Cheyenne, Wyo.—Cheyenne Motor Club's race meet on motordrome.

May 18-19, Norristown, Pa.—Norristown Automobile Club's third annual endurance run to Scranton and return.

May 19-21, Hartford, Conn.—Automobile Club of Hartford's All-Connecticut reliability contest; 600 miles.

May 21-22, Brooklyn, N. Y.—Crescent Athletic Club-Long Island Automobile Club amateur touring contest on Long Island for Pardington trophy.

May 25, Columbus, O.—Columbus Automobile Club's reliability run to Indianapolis, Ind.

May 25, Buenos Ayres, Argentine Republic—Sociedad Sportiva Argentina's 375 miles international road race.

May 27, 28 and 30, Indianapolis, Ind.—Grand Circuit meeting and national championship races on Motor Speedway.

May 27-31, Washington, D. C.—Washington "Post" five days endurance run to Richmond, Va., and return.

May 28, White Plains, N. Y.—Amateur Automobile Contest Association's hillclimb.

May 29-30, San Francisco, Cal.—San Francisco Motor Club's two days race meet at Tanforan.

## HARROUN STARS AT LOS ANGELES

**Hoosier Wins Thrice and Shatters Records  
—Oldfield and DePalma See-Saw, but  
"Amateur" Twice Trims Oldfield.**

After a two days intermission, made necessary by the ruling of the American Automobile Association Contest Board that no sanction shall be issued for a meet extending over three days, racing was resumed on the Los Angeles (Cal.) motordrome on Wednesday, 13th, and with an idle day intervening, continued until Sunday, 17th, when the greatest and most brilliant motor racing carnival ever held in America and probably in any other country, came to a

The 601-750 class, which is the highest division in the A. A. A. category, and which heretofore has been devoid of any records listed under that heading, came into its own when DePalma opened an account by whipping off 10 miles in 7:38.23. Caleb Bragg, the other performer in the Fiat camp, distinguished himself on Friday by wiping out Kirscher's figures of the previous week for 4 miles in a time trial. Bragg was clocked in 2:40.70, which displaces the Dutchman's mark by .06 second, a pretty close margin. Kirscher, by the way, broke into the ranks of the honor men on Friday, when he pushed the Darracq around three times against time, and rung up 1:57.71, which betters Robertson's 1:58.90, recorded at Atlanta. Among the local talent Joe Nickrent, with a Buick, was

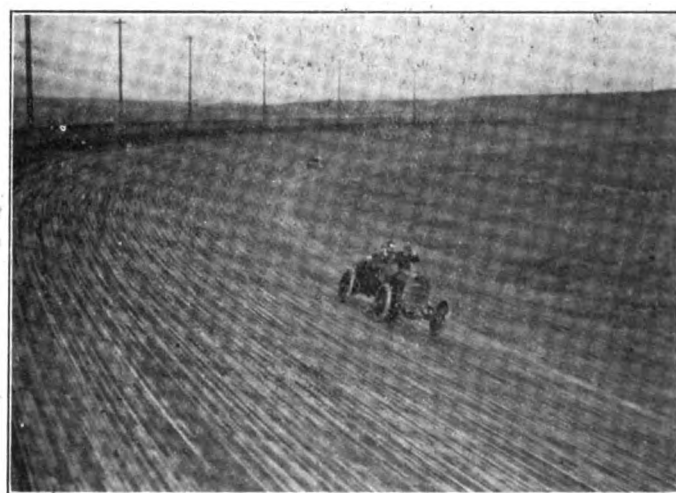
Wednesday—April 13th.

Four thousand people, which although the largest mid-week crowd ever present at a Los Angeles meet, seemed small in comparison with the throngs of the previous Sunday, came out for the second installment on Wednesday. The weather was ideal for racing and was responsible for some new insertions on the record slate.

Time trials were the first offering and furnished some sizzling dashes, but the only ones to alter the existing figures were Kirscher, who hammered down the 3 miles record of George Robertson from 1:58.90 to 1:57.71, and Bragg, with the Fiat, who essayed to shatter the time for three circuits, but quit in the last mile after appropriating the 2 miles record which stood to Kirscher's credit. Bragg flashed the dis-



SHOWING CARS IN PADDOCK, AND SCOREBOARD



VIEW OF STERN CHASE ON LOS ANGELES TRACK

close. The second half of the meeting was marked by even more remarkable performances characterized the opening.

Without question the star performance of the meeting was made on Saturday, 16th, by Ray Harroun and his Marmon stock car, when he won the two hours free-for-all race against a classy field, and reeled off 148 miles without a stop, establishing a new American record. The Indianapolis combination also shone prominently on the final day, by winning the 100 miles event for cars in the 451-600 class, in 1:16:21.90, and establishing a new class record for the distance. Harroun further distinguished himself by placing to his credit the 50 miles record in the 301-450 division, registering the half century in 39:53.55, as against 40:32.03 turned by Chevrolet at Atlanta last November.

Although the star bill on the card, the DePalma-Oldfield match again was declared off owing to the breaking of pistons in the Fiat in practice, DePalma scored twice in the class events. His first killing was on Wednesday, 13th, in the 50 miles free-for-all, which he melted without a stop in 37:55.53, new figures which supersede George Robertson's mark of 40:14.03, hung up at Atlanta.

the top notcher, and cut his 10 miles figures of 7:35.87 in the 301-450 class to 7:26.61. Nickrent also transferred to his account the 5 miles mark in the same class substituting 3:52.68 for the 4:45.50 which the late Borque achieved. "Me and my Car" Oldfield made several attempts to accumulate a few more records, but only succeeded in hitting the bullseye once, when driving a Knox in the 451-600 class, he lowered his figures for 10 miles from 7:22.92 to 7:20.66. This resume covers the record breaking performances at the last half of the carnival. It is expressed in tabular form as follows:

Distance.	Time.	Driver.	Car.
3	1:57.71	Kirscher	Darracq*
4	2:40.70	Bragg	Fiat*
5	3:52.68	Nikrent	Buick†
10	8:40.17	Nikrent	Buick‡
10	7:38.23	DePalma	Fiat§
10	7:26.61	Nikrent	Buick
10	7:20.66	Oldfield	Knox‡
50	37:55.53	DePalma	Fiat*
50	39:53.55	Harroun	Marmon¶
100	1:16:21.90	Harroun	Marmon*
148	2:00:00.00	Harroun	Marmon‡

† Record for cars 161-230 cubic inches.

‡ Record for cars 301-450 cubic inches.

§ Record for cars 451-600 cubic inches.

|| Record for cars 601-750 cubic inches.

\* Record regardless of class.

tance in 1:15.96, as against 1:18.52 made by Kirscher. Joe Nickrent, handling a Buick, was the only one to try for the 10 miles record and he got it by making the trip in 7:35.87. The old figures were 8:10.61, which were credited to Tom Kincaid in a National, and were made at Indianapolis on December 17 last.

DePalma and Oldfield both tried to get under the track record of 36.22, which the latter established in the initial session, but both failed to hit the mark. DePalma went around in 37.67, and Oldfield made the trip in 37.38. Oldfield's attacks on the half mile and kilometer were equally unsuccessful despite the statements of the local press that he broke the existing figures. His time for the half was 17.91, and the kilometer was reached in 22.88. The records stand at 14.76 and 17.76, both made at Brooklands by Hemery with the same car. In the half mile trial, however, Oldfield attained the highest speed ever made on the track, the Warner horograph indicating a gait of over 105 miles an hour. DePalma and Kirscher were the only contestants in the 10 miles free-for-all and put up a rattling good race, although the Dutchman's car outclassed the Fiat. DePalma made three efforts to go by, but on each attempt was



repulsed by Kirscher, who won easily by  $1\frac{1}{2}$  lengths. The time was 7:01.92.

Handicapper McMurty had figured close in the five miles handicap free-for-all, and it proved a hair raiser. Five started, Vogel in the Cole getting the limit, 50 seconds. Barney Oldfield was on scratch with the Benz. Harroun, in the Marmon, who had 10 seconds, and Livingston in the Stoddard-Dayton, with 12 seconds allowance, fought it out for first, the latter getting it by 32 seconds. Marquis, with 11 seconds, landed the Isotta in third place. Oldfield crept up slowly on the field, but never had a look-in for place. The time for the five miles was 3:50.55.

chivalrously declined, saying that there would be no glory in such a one-sided contest. However, Oldfield and DePalma got together in the 600-750 class, the former using a Knox, and DePalma trimmed the premier barnstormer, winning in 7:38.23, a new American record. Harroun took third with the Marmon. This race was marked by a sensational accident, which fortunately caused injury to no one. While leading, Kirscher's Darracq threw a tire and the car commenced to cut up capers, but was brought to a stop before harm ensued either to car or crew.

DePalma and Bragg, both in Fiats, were the chief contenders in the ten miles free-

Oldfield spun a half mile in 18.57 and made a complete circuit of the saucer in 36.99. Kirscher clipped off two miles in 1:25.88 and this wound up the festivities for the day.

Saturday—April 16th.

By all odds the best race of the meet was the two hours grind on Saturday when Harroun and his Marmon made a beautiful and consistent non-stop run registering 148 miles in the two trips of the minute hand around the clock. Harroun led DePalma and the Fiat at the finish by six miles, and smashed all records from 55 miles up. Livingston and the Stoddard-Dayton fin-



AL. LIVINGSTON, THE STODDARD-DAYTON PILOT



RAY HARROUN, WINNING MARMON DRIVER

The best race of the day was the 50 miles free-for-all, which had five starters. DePalma went to the front in the second mile, and with the pack at his heels, held it to the 21st, when Kirscher jumped and led for half a mile, and DePalma again got in front. Kirscher trailed him until the 39th mile, when he was put out by tire trouble and DePalma won easily. Livingston nosed out Harroun for second. The time, 37:55.53, was a new class record.

Friday—April 15th.

There was another lapse in the schedule on Thursday, as required by the rules, and the third and final instalment began on Friday and continued until Sunday. DePalma was the star performer on Friday and brought joy to the hearts of his admirers by trouncing Oldfield in decisive fashion. It was the first meeting on the new track of the two headliners, and although they did not drive their big cars, the clash, nevertheless, was of especial interest. In practice earlier in the week the pistons of the Fiat cracked for the second time—a similar accident having disabled the car at the time of the Florida meet—and as there were no spares available, the match was called off, causing great disappointment, as it was expected that this would be the red letter event of the meet. Upon the disabling of his big flier DePalma offered to race the big Benz with his 90 Fiat, but Oldfield

for-all, and finished in that order. The time was 7:11.62. Oldfield and DePalma met again in the ten miles for stock chassis, 451-600 class and this time the Pickens protege turned the tables on his rival and finished first in 7:22.92, a new American record. DePalma was second. Nickrent and the Buick came into the ascendancy again in the ten miles for stock chassis 161-230 cubic inches, and won easily, clocking 8:40.17—a new record, and a substantial reduction from the mark of 9:03.25, which Endicott had placed to the credit of the Cole the week previous.

A pair of Marmons, a Chalmers and a Buick took the word in the half century grind, the best thriller of the day. The first ripple of excitement occurred in the second mile when a steering knuckle on the Buick let go and the car careened down the track. Nickrent applied the brakes and came to a stop right side up without damage. In the meantime Harroun and Wade, in the Marmons, had been making a runaway, and when the Chalmers retired in the 36th mile the last vestige of opposition was removed. Harroun made a non-stop run, finishing in 39:53.55, a new class record which displaces Chevrolet's figures of 40:32.03, established at Atlanta. Bragg was the chief producer in the time trials and succeeded in clipping .06 second from Kirscher's time for four miles, making the trip in 2:40.70. His other effort at a kilometer netted him 25.13,

ished a good third with 137 miles to their credit. Harroun averaged 74 miles an hour, the best showing ever made by an American car in a long distance race. Eight started in the event, but three, the Corbin, Dorris and Oldfield's Knox, retired early. The fight for first was between Harroun and DePalma, with Wade in the second Marmon worrying the latter. Wade ran out of gasoline near the finish, allowing Livingston to take third easily.

The Marmon pair and Nickrent, in the Buick, met in the five miles stock chassis, 301-450 class, and after a spirited battle the Angeleno outpointed his eastern antagonists, finishing in 3:56.68. Harroun and Wade were placed in that order. DePalma and Oldfield came together for another round of their prolonged battle for superiority in the ten miles stock chassis 451-600 cubic inches, and Oldfield took first honors. Livingston landed the Stoddard-Dayton second. The time was 7:22.92, a new record and a substantial cut in the previous figures of 7:47.71, which Robertson hung up at Atlanta.

Much interest was evinced in the match between Oldfield in the Benz and Bragg with a "90" Fiat at two miles, which was run in heats. It replaced the abandoned match between Oldfield and DePalma, but the first heat was rather tame, Bragg winning easily in slow time, 1:28.73. The deciding heats were run on Sunday.

Sunday—April 17th.

A large crowd turned out for the windup on Sunday, chief interest centering in the finals of the Bragg-Oldfield match. On Saturday the men were sent away from a standing start, but Sunday the getaway was a rolling one. Again Bragg drew the pole, but the Benz went to the front early, and led by a length at the halfway pole. It looked like Oldfield's heat, but on the far side of the track the Benz swerved and Oldfield "pulled" her slightly. This was enough to let Bragg close up, and at a mile and three-quarters he was leading. Oldfield tried to "come back" in the last quarter, but it was too late, and Bragg led him at the tape in a blanket finish. The heat was much faster than the first, being run in 1:19.20. Second in importance to the match was the 100 miles stock chassis for cars in the 451-600 cubic inches class, and Harroun, who seems to be at his best in long distance events, repeated his usual performance by making a non-stop run and finishing first. He also set a new class record for the distance, 1:16:21.90. Nickrent in the Buick, who took second, threw a tire early in the race and the car hit the outside rail and then slid down the track. After losing several miles, Nickrent returned to the grind. Oldfield, in the Knox, lost much time by tire trouble and had to be content with third place. For his defeat by Harroun in the long distance event, Nickrent got a little consolation by trimming his rival in the 10 miles race for cars in the 301-450 class. He was clocked in 7:26.61, which materially bettered his mark of 7:35.87, made a few days previous.

Ford cars finished 1, 2, 3 in the only price event on the card, the class of cars selling between \$801 and \$1,200, three miles to go. Pratt, the winner, finished in 4:07.20, and Stearns and Olden followed in that order. Endicott added another feather to his cap in the 10 miles race for 161-230 class cars by winning handily in 8:46.74. Miller, Warren-Detroit, beat out Linthwaite, Firestone, for second.

The summaries:

Wednesday—April 13th.

Time trials—Half mile, Oldfield, Benz, 17.91. One kilometer, Oldfield, Benz, 22.88. One mile, Oldfield, Benz, 37.38; DePalma, Fiat, 37.67. Two miles, Bragg, Fiat, 1:59.96. Three miles, Kirscher, Darracq, 1:57.71. Ten miles, Nickrent, Buick, 1:35.87. (The 3 and 10 miles are world's and class records, respectively.)

Ten miles free-for-all—Won by Kirscher, Darracq; second, DePalma, Fiat. Time, 7:01.92.

Five miles handicap, free-for-all—Won by Livingston, Stoddard-Dayton (0:12); second, Harroun, Marmon (0:10); third, Marquis, Isotta (0:11). Time, 3:50.55.

Fifty miles, free-for-all—Won by DePalma, Fiat; second, Livingston, Stoddard-Dayton; third, Harroun, Marmon. Time, 37:55.53. (Record.)

Friday—April 15th.

Time trials—Half mile, Oldfield, Benz, 18.57. One kilometer, Bragg, Fiat, 25.13. One mile, Oldfield, Benz, 36.99. Two miles, Kirscher, Darracq, 1:25.88. Four miles, Bragg, Fiat, 2:40.70. (Record.)

Ten miles stock chassis, 161-230 cubic inches—Won by Nickrent, Buick; second, Endicott, Cole; third, Miller, Firestone. Time, 8:40.17. (Record.)

Ten miles stock chassis, 601-750 cubic inches—Won by DePalma, Fiat; second, Oldfield, Knox; third, Harroun, Marmon. Time, 7:38.23. (Record.)

Ten miles free-for-all—Won by DePalma, Fiat; second, Bragg, Fiat. Time, 7:11.62.

Ten miles stock chassis, 451-600 cubic inches—Won by Oldfield, Knox; second, DePalma, Fiat. Time, 7:29.2. (Record.)

Fifty miles stock chassis, 301-450 cubic inches—Won by Harroun, Marmon; second, Wade, Marmon. Time, 39:53.55. (Record.)

Saturday—April 16th.

Five miles stock chassis, 301-450 cubic inches—Won by Nickrent, Buick; second, Harroun, Marmon; third, Wade, Marmon. Time, 3:52.68. (Record.)

Ten miles stock chassis, 451-600 cubic inches—Won by Oldfield, Knox; second, Livingston, Stoddard-Dayton; third, DePalma, Fiat. Time, 7:20.66. (Record.)

Two hours free-for-all—Won by Harroun, Marmon, 148 miles; second, DePalma, Fiat, 142; third, Livingston, Stoddard-Dayton, 137. (Record.)

Two miles match, first heat—Won by Bragg, Fiat; second, Oldfield, Benz. Time, 1:28.73. Deciding heat run on following day.

Sunday—April 17th.

Ten miles stock chassis, 161-230 cubic inches—Won by Endicott, Cole; second, Miller, Warren-Detroit; third, Linthwaite, Firestone. Time, 8:46.74.

Three miles, stock cars costing between \$801-\$1,200—Won by Pratt, Ford; second, Stearns, Ford; third, Olden, Ford. Time, 4:07.20.

Ten miles stock chassis, 301-450 cubic inches—Won by Nickrent, Buick; second, Harroun, Marmon; third, Wade, Marmon. Time, 7:26.61. (Record.)

Two miles match, second and deciding heat—Won by Bragg, Fiat; second, Oldfield, Benz. Time, 1:19.20.

One hundred miles, stock chassis, 451-600 cubic inches—Won by Harroun, Marmon; second, Oldfield, Knox. Time, 1:16:21.90. (Record.)

#### New York-Atlanta Tour to be Repeated.

With the Glidden tour confined to the middle west and southwest this year, the East seemed to be left in the cold, as far as a touring contest of any size was concerned, but the untoured section is to be rescued from its forsaken condition by the generous intervention of the disinterested promoters of the New York Herald-Atlanta Journal good roads tour of last fall, which,

it now is announced, will be repeated early in June. The tentative dates selected are May 31-June 7, and application has been made to the Contest Board of the American Automobile Association for its official approval and sanction. Reversing the custom followed in the first run, the contest, it is hoped, will start from Atlanta, Ga., and finish in New York.

#### How to Locate Engine Pounding.

In endeavoring to locate an engine pound, a good scheme is to cut out the ignition in all but one cylinder, running on one at a time until each unit has been tried separately. A loose connecting rod or wrist pin bearing, or even a loose crank shaft bearing in the vicinity of one of the cranks will be located as soon as that particular cylinder takes up its work. Final determination as to the exact nature and location of the fault should be made with the aid of one of the several sounding rods which are on the market.

#### Plugs for Repairing Inner Tubes.

Tire plugs, of the sort most commonly associated with the repair of single tube bicycle tires, may be made to serve a useful purpose in connection with the automobile tires of the same classical nature as that for which the remains of the late imperial Caesar have been suggested innumerable times. Inner tubes of the sort applied to the larger sized automobile tires are nearly as thick as single tube bicycle tires, and will be found to take the plug repair much more readily than the more familiar patch.

#### French Touring Club Does Good Work.

The excellent work accomplished by the Touring Club of France is best illustrated by the fact that this association of motorists alone has spent over \$500,000 on road improvements in France, and this in a country whose roads are acknowledged the best in the world. The club at present is constructing, with state and other aid, a big alpine road from Lake Geneva to the Mediterranean, a distance of over 400 miles in an unbroken line.

#### American Motor to Take Up Racing.

Herbert H. Lytle, the well known racing driver, will have a new mount this season, having signed up with the American Motor Car Co., Indianapolis, Ind., which contemplates an extensive racing campaign. Lytle now is engaged in tuning up a machine which he will use for racing, and is credited with having made some remarkably fast workouts with it on the Motor Speedway.

#### Rules Against Motors for Marathons.

Because of the injurious effects which the gasoline fumes are said to have upon running athletes, the Athletic committee of the Illinois Athletic Club ordered the previous custom of having automobiles follow the marathon runners on their 26 miles jaunt to be discontinued.

**"PROS" RUSH FOR REGISTRATION**

Nearly 100 Now on A. A. A. List—Amateurs Are Few and at Least One is Not Above Suspicion.

Registration of racing drivers, the first direct attempt which the American Automobile Association has made to carry out the control of automobile competition along the lines which obtain in the government of other branches of sport, now is in full swing. In accordance with the new requirements, 83 professional drivers already have registered and been assigned official numbers by which they will be identified. A smaller number of drivers—13, to be exact—have registered as amateurs, but by the terms of the peculiar definition which the A. A. A. has established, no men who are in any way engaged in the trade will be permitted to register as amateurs, although their trade connections will not bar them from competition with amateurs and professionals, in the ordinary sense of the word. For unlike the amateur rulings in all other lines of sport, amateur automobile drivers may compete with professionals and still remain amateurs.

It was in consequence of this peculiar construction that Caleb S. Bragg was permitted to compete with Barney Oldfield and other well known professional drivers at Los Angeles, without impairing his standing on the registration list. Despite the fact that Bragg is known to have desk room in a New York automobile establishment, and that he drives a certain make of car, the agency for which is housed in the same building where he has his "office," he is said to have no official connection with the agency concern, and it therefore follows that he is a "simon pure" amateur—of the A. A. A. variety. The full list of registrations to date is as follows:

**Professional Drivers.**

Name.	Number.
Almond, A. B.....	80
Basle, Charles L.....	23
Brown, A. R.....	70
Brown, David L. Bruce.....	4
Buckman, C. H.....	12
Cleignot, Louis.....	67
Cobe, Harry H.....	14
Cohen, H. L.....	60
Conneret, R. E.....	83
Darby, J. E.....	62
Dearborn, Frank H.....	49
DePalma, Ralph.....	2
Dial, T. B.....	68
Disbrow, Louis A.....	6
Dunn, Walter L.....	71
Dustin, Lee.....	17
Endicott, W. N.....	36
Fain, L. E.....	77
Fell, A. L.....	81
Free, Frank L.....	35
Fullerton, S. W.....	38
Gelnaw, J. F.....	46

Grant, Harry A.....	56
Grosjean, Auguste.....	53
Hanshue, H. M.....	41
Harroun, Ray W.....	19
Hartman, Harry B.....	48
Hart, Peter W.....	55
Hildebrandt, Edward A.....	52
Haupt, Willie.....	8
Howard, Robert C.....	65
Jones, Charles E.....	74
Jones, Edgar E.....	79
Kersch, Ben.....	54
Knipper, William H.....	10
Kussman, George.....	39
LaCroix, Paul.....	26
Lavin, Jack.....	15
LeBlanc, L. W.....	61
Lescault, Frank L.....	3
Livingston, Al.....	34
Luce, Morton H.....	47
Lund, C. H.....	40
Lytle, Herbert H.....	45
McEldowny, Wendell L.....	44
McKinney, K. T.....	78
McLarty, L.....	33
Martin, Stanley A.....	58
Marquis, J. B.....	22
Miller, D. R.....	85
Mulford, Ralph K.....	5
Munn, J. W.....	21
Nickrent, Joseph A.....	28
Nickrent, Louis F.....	29
Oldfield, Barney E.....	51
Orndorff, Harry C.....	50
Owen, Wallace.....	11
Parker, Edwin H.....	7
Parmalee, P. O.....	76
Peckham, R. T.....	69
Purcell, McDonald.....	37
Raffalovich, Louis.....	16
Roberts, Montague H.....	57
Robertson, George H.....	1
Rooney, C. C.....	72
Schluchter, Ubert.....	25
Schwarzenberger, Frank.....	9
Schultz, P. C.....	66
Seibel, Bruno.....	30
Seymour, W. J.....	20
Siefert, F. E.....	31
Stone, H. A.....	32
Strang, Lewis.....	18
Stickney, J. H.....	27
Tolts, Delavan.....	63
Toole, John F.....	73
Trekus, Noel.....	13
Whalen, Neil.....	24
Woodell, F. E.....	87
Wall, J. B.....	84
Woolfe, C. F.....	82
Yarbray, T. T.....	64
Young, Roy G.....	75

**Amateur Drivers.**

Allen, J. H.....	28A
Aultman, M. B.....	25A
Bond, R. M.....	27A
Bragg, Caleb S.....	1A
Brown, H. H.....	2A
Candler, Walter T.....	6A
Davis, W. E.....	26A
Kirk, A. W.....	8A
Oldknow, William.....	7A
Peters, W. H., Jr.....	29A
Siebrecht, S. W.....	4A
Stoddard, W. J.....	9A
Venable, M. W.....	5A

**Bridgeporters Forced to Find New Hill.**

Because of the insurmountable opposition to the event which was manifested by a property owner on the course, whose ideas

of sportsmanship are regarded locally as being on a par with the antique furniture in which he deals, the Automobile Club of Bridgeport, Conn., has abandoned its hill climb on Sport Hill which was carded for May 30 and was one of the classics on the New England motor calendar. However, Bridgeporters will not be deprived of their customary Memorial Day motoring treat, for the local dealers' association has stepped into the breach and will promote a climb on Snake hill, in the town of Fairfield, a suburb of Bridgeport.

The hill is situated about two miles from Fairfield, and, while not as long as Sport hill, it is much steeper and has several abrupt turns. In the make-up of the card a departure from former custom will be made, in that all events will be for stock cars only, and there will be no free-for-all class. Timing will be by electrical apparatus. Work on putting the road in shape soon will be commenced, and efforts will be made to secure the militia to patrol the course.

**Chicago to Hold Floral Parade.**

Instead of holding a carnival week, with its attendant expense and volume of effort necessary, by the dressing up of salesrooms, the holding of open house and a card of varied contests, to officially mark the opening of the selling season, but which really began months ago, the Chicago Automobile Trade Association has decided that a floral parade on Saturday, May 7, will suffice to induce "prospects" to produce their check-books. Although the Windy City has had floral parades before, and good ones, too, the tradesmen plan to make the coming function eclipse all former efforts. Valuable prizes will be offered for the best decorated cars, both among the private owners and dealers, and from hints that have leaked out it is promised that there will be some novel and startling artistic ideas expressed in the decorative line. It is expected that over 300 cars will be in line, the parade committee already having booked 63 dealers who will enter cars, and it is planned to send out 6,000 invitations to private owners.

**Uncle Sam Reiterates His Ruling.**

Automobiles are not to be admitted free of duty as household effects, according to a ruling which has been promulgated by the Treasury Department. Heretofore there has been confusion and question as to whether foreign cars imported with household effects should be required to pay duty, but the judicial decisions on the matter having been recently adverse to the automobiles, the Treasury Department has instructed its agents accordingly.

**More Money for Spokane Taxicabs.**

New financial blood has been inculcated into the Spokane (Wash.) Taxicab Co., which has been reorganized and has considerably increased its equipment of rolling stock. Work soon will be started on a new three story garage to cost \$30,000.

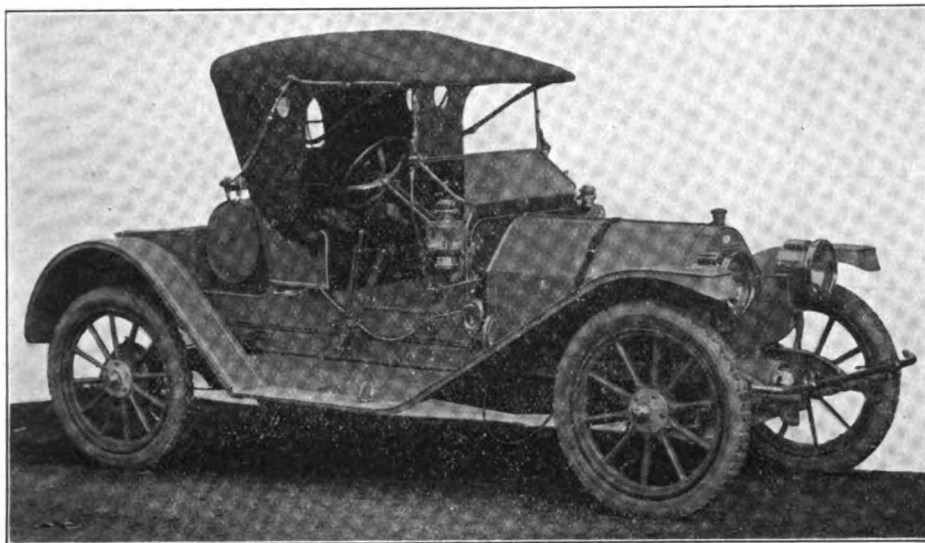
## AN OWNER'S IDEA OF EQUIPMENT

Pennsylvanian's Order as an Example of Desire for Special Conveniences—Their Arrangement on His Car.

It used to be considered quite "the thing" by a certain class of motorists to deck out their cars with a wealth of trappings such as added no end of glitter to their appearance, and not a little labor for the man

The seats are upholstered in blue, full hand buffed leather, to correspond with the general finish of the car.

As for the special equipment, the lighting is electrical, served by storage batteries mounted under the seat and constantly kept charged by an Apple dynamo which is mounted under the hood, as shown in the smaller of the two illustrations, and directly driven by the motor. For starting, an automatic spring tension device of the Ever Ready type is installed in front, which



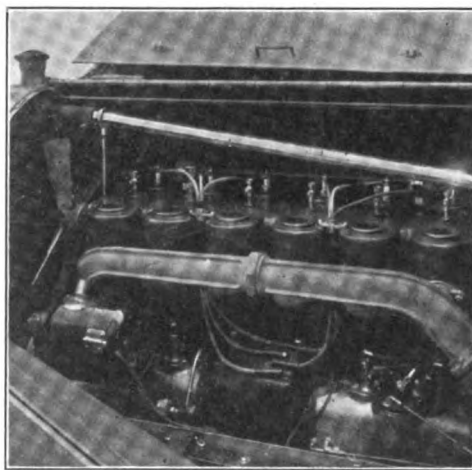
KLINE CAR SHOWING SPECIAL FINISH AND EQUIPMENT

to whom it fell to keep the brasses polished and in order. Altered views of the proper position of the motor vehicle in the social and business system have put an end to the extravagant addition of needless accessories; it is now considered proper to add nothing to the car save what is in the line of direct and obvious utility. How far the addition of useful luxuries may go without rendering the car of cumbersome appearance is well illustrated by the accompanying pictures, which show the Kline car which has just been supplied to H. C. Dodge, of York, Pa., by the B. C. K. Motor Car Co., of that city.

The car is a stock model 6-40 runabout, which is distinguished by such standard Kline features as cylinders independently cast but assembled in unit form by the method of flanged water jackets and through bolts, seven crank and five cam shaft bearings in the crank case; 123 inch wheel base, 36 inch tires, three-quarters scroll rear, and semi-elliptic front springs, flat tube cellular type radiator, I-beam front and full floating rear axles, leather faced cone clutch, shaft drive, three speed selective gearset, and dual ignition.

The car is finished in "battleship gray" with white mouldings with a blue stripe edged in goldleaf on the mouldings and a fine line of goldleaf inside; the seats are striped vertically with fine lines of blue and gold alternating. The gasoline tank is mounted back of the seat and over the deck.

in connection with a Crone gasoline pump connected to the carburetter, enables the motor to be set in motion merely by pressure on a button set in the foot board.



DYNAMO AND MAGNETO ARRANGEMENT

An Ever Ready speedometer, equipped with 75 miles lead and maximum hands and odometer attachment is used, as are the Kline receding glass front or wind shield and a Sager bumper. All the accessories are nickel plated, as are the lamps and metal trimmings, affording the vehicle a rather unusual and decidedly pleasing appearance.

## BABCOCK DEFINES ESSENTIALS

Syracuse Factory Man Sketches the Factors Involved in the Manufacture of the Modern Automobile.

While the average motorist possesses a fair idea of the construction of his car, few, if any, are familiar with the many details that have to be taken into consideration by the manufacturer who desires to put out a reliable product. In a lecture delivered before the Brooklyn Y. M. C. A., Mr. Babcock, of the H. H. Franklin Mfg. Co., Syracuse, N. Y., called attention to the many things necessary for the production of a satisfactory car, dealing in a popular manner with the various processes involved. These include not only the making and forging of the metal parts, the building of suitable bodies, and the proper assembling of the many parts, but also the careful chemical and physical tests of the materials used.

As the three features which include all the essentials of motor vehicles, Mr. Babcock names: Reliability, comfort and economy. Simplicity, which to some people may seem a distinct feature, Mr. Babcock considers merely a modifier of reliability and comfort.

When designing a motor car, it is absolutely necessary to know precisely what stresses certain parts will have to bear, and what stresses certain metals to be used in these parts are capable of withstanding. From this simple statement it follows that a thorough understanding of the physical and chemical qualities of a metal must precede any attempt to design a new car model. And as metals, such as steel, bronze, cast iron and aluminum, bought in the open market, are rarely, if ever, exactly up to specifications, it follows that the careful manufacturer must have his own testing and work shops in which all metals can be chemically analyzed, before they are incorporated in the mechanism of a motor car.

"In the early years of the development of the car," explained the speaker, "a great amount of material, such as the market offered, was gathered together by chemical analysis—heat treatments and mechanical tests—the many different kinds of steels which could be secured, and which had been developed to a great extent due to bicycle manufacture, were inspected and selected for their suitability in fulfilling the service intended. It became evident at an early time that a greater variety of steels would be needed than could then be secured. Therefore, automobile engineers working in conjunction with the engineers of the steel mills, gradually developed a line of steels that fulfilled all of the conditions required, and today we have a variety of nickel, vanadium, tungsten and chromium steels, which have been extremely useful in securing the reliability of the motor car. Sim-

ilar investigations were made of all other materials of construction. With these materials secured, and by a considerable further amount of work in our physical and chemical laboratories and design room we gradually developed the essential parts for particular uses.

"To eliminate weight which, for various economic reasons later explained, was desirable for us to do, the greatest attention was given to selecting the lightest parts made from the strongest material that would fulfill the purpose for which it was intended."

Pointing out how much each part depends upon correlated parts, the speaker called attention to the necessity of inserting entirely new material in certain engine parts, because a slightly harder steel is substituted for intermeshing parts. Should the old parts be retained it would develop in the course of a short time that the new and harder steel destroys the surface of the old parts which had not been designed with any reference to such hard steel. He laid particular stress upon the relation of weight and strength of supporting parts as is shown in Franklin practice, by a light engine supported on a light sill, which is supported on light axles running with light wheels, and causing but a light load upon the tires—all very necessary features in the elimination of undue strains. An increase in weight of any of these parts would necessitate a similar increase in weight and strength of all the other parts, in order to obtain the same co-efficient of safety.

Speaking of the purchasing of materials for manufacturing cars, Mr. Babcock stated that it is not only necessary to obtain suitable materials, but also to see that they can be secured in production quantities according to specifications. It always should be the policy of any successful company to purchase only the best of materials from the leading manufacturers. Cheap materials secured on low purchase prices cannot stand close inspection, or chance of rejection, while in addition to these drawbacks, uniformity is lacking in a high degree. All purchases should involve with them the understanding that specifications must be met exactly or rejections will occur.

Mr. Babcock then named a few of the important tests which should be applied to all parts, and which are absolutely necessary, in order to carry out high-class work. To insure the receipt of materials, as specified, exacting inspection is required, such as:

"Fracture tests for hardness, toughness, flaws, etc. Dimensional tests by instruments and jigs, general measurements, etc., for cylinders, pistons and like parts. Color and weight by comparison, for bronzes, aluminum, etc. Chemical analysis of steels, bronzes and oils. Sound tests by hammering, for concealed flaws. Comparison by samples and for fibrous structure, such as leathers, cloths, etc. Submersion tests for carburetter floats and oil cans, for leakage.

Valve, elliptic and clutch springs for strength at various openings. Electrical and leakage tests of spark plugs. Electric sparking and timing tests of magnetos. Tire pumps for compression and suction. Torsion tests of drive shaft steels. Tests for the strength of gear teeth. Maximum capacity, and check valve operation in the oiler."

Turning from the testing of parts to the mechanical equipment of a modern automobile factory, Mr. Babcock mentioned as chief factors to be considered in the choice of a plant: Building, power, light, precision tools, testing machines, inspection tools and jigs of the greatest possible accuracy, and the necessity of carrying out all processes if possible under the shop supervision.

"It is very important," he said, "that the mechanical equipment of a shop be so selected and arranged that the exactness of the work as specified can be secured. It is essential that such machinery and workmen who operate it can be housed in a manner that will encourage the workmen to fulfill the instructions of the specifications. This involves the building. In the present home of the Franklin, which is a gradual development from the early shop where the first model was built, the building and equipment growth has kept pace with its production growth. We have demonstrated that a comfortable and clean factory is the best equipment agent that can be secured.

"The buildings are laid out with reference to light, and the factory both by day and by night is well illuminated throughout for this particular work. Illumination during the dark hours is provided by the largest installation of flaming arc lamps in this country; 70 in all, giving a combined candle power of 210,000. This in addition to about 3,500 incandescent lamps. The effect of this illumination has a marked beneficial influence upon the character of the work, and throughout the full year there is no perceptible difference in this work due to a change in light.

"Every piece that goes into the Franklin car must pass the approval of an inspection corps, which is separate from the control of the shops, but controlled and directed by the engineering department. The inspections and tests here made are:

"Dimensional by jigs, such as the test of the transmission gear case as spoken of. Hardness tests with the file. Fly wheel tests for static balance. Leakage tests for gasoline tanks. Tests for the adjustment of the steering device. Weight tests of the piston rings. Gasolene level and possible leakage in the carburettors. Rear axle, noise and general operation. Transmission noise, strength and general running operation.

"Engines as worked in on motor jacks where they are driven for a number of hours by electric motors. They are then tried out under full rated load for power, speed and compression, on testing jacks with fan

absorption dynamometers. After these rigorous tests the engines receive a general inspection before they are sent to the car assembly.

"Chassis are tested for: General inspection, power, control, speed and noise. They are driven as great a distance under their own power and with heavy load in hill climbing tests as may seem best, in order to prove that their qualities are exactly as specified.

"The final test and inspection of the completely assembled car includes all the elements of the chassis itself, and in addition, finish and appearance of bodies and all body details. After such tests and inspection by the engineers, the cars must pass a satisfactory inspection by representatives of the sales department. They are accepted for shipment only upon such approval."

That not all the efficiency is due to good machinery and good materials, was admitted by the speaker. He maintained that the personal element had a good deal to do with the character of the work accomplished, and that a satisfied working force was another essential in the turning out of reliable and good cars. With this end in view, good wages paid to the men employed, and inducements given for extremely accurate work and discovery of faults in materials or design during the processes, are means to an end much valued by the manufacturer.

#### Lists Wide Range of Motor Supplies.

With descriptions of motor car, motor boat and motorcycle parts, fittings, sundries, tools, clothing and novelties closely packed in its 256 pages, the 1910 annual catalog of Charles E. Miller, of New York City, makes its appearance in bright yellow covers, blazoned with red. Miller, whose headquarters are at 97-103 Reade street, boasts 11 stores scattered in eight states, and in the role of manufacturer, jobber, exporter and importer, offers an astonishing range and diversity of articles, as the catalog makes manifest. The latter in addition to the general run of standard goods, naturally gives conspicuous space to a number of specialties of which Miller is either the exclusive importer or the manufacturer, including Brampton chains, Pan-American lubricants and metal polish, Miller plugs and vulcanizing substitute, and the like, while a unique minor feature of the book is the presence of two pages devoted to old fashioned steam car supplies, such as boilers, Klinger gauges, tubular burners and other fittings such as few jobbers now carry.

#### Inspection for the Torsion Member.

In overhauling a shaft driven car after a long tour, attention should be paid to the condition of the torsion member. If disaligned, the fault will throw added weight upon the universal members; if the shackling arrangement is defective in any way, it may lead to a serious or even fatal accident.



**FINDS PLANTS SADLY MISMANAGED**

**Startling Discoveries of a Factory Expert  
Visiting the Car Makers—Guessing  
at the Product's Cost.**

Almost without exception every automobile factory of importance in the United States is guilty of appalling wastefulness of method and shocking mismanagement in its manufacturing processes, according to a professional manufacturing expert who in support of his contention cites some of the startling conditions he found on a recently completed investigation trip to plants in Michigan, Ohio, Indiana and New York. He maintains, further, that few makers know the cost of a completed car, let alone the detail cost of its individual parts. His experiences and conclusions, although affected by a strictly professional viewpoint, are illuminating and suggestive in relation to a subject which is of rapidly increasing concern to the makers and the trade in general.

The critical observer who so freely and caustically finds fault with the present loose and extravagant systems that obtain in motor car manufacture is A. E. Lawson, factory expert for Suffern & Son, of New York, the latter being a firm of certified accountants. With a view to interesting some of the makers in the possibilities of improved factory systems and cost accounting, he called upon a selected list of the more prominent manufacturers, and even in those cases where his professional services were not immediately enlisted, he was given the opportunity of going through the factories and viewing at first hand the methods in use.

"Here and there among the smaller makers," said Lawson, in telling the Motor World man about his trip, "I found men who apparently had absolutely no conception of what a factory cost system is or of what its purpose is, but practically all of the larger manufacturers present the wholly different aspect, of knowing the value of and necessity for an improved system, but of being so swamped in the turmoil and stress of expansion and increased production that they have been unable to give proper attention to the practical economies of their business.

"With all due courtesy to the manufacturers who permitted me to go out into their factories and make such observations as I chose, I am constrained to say that the conditions I found are a disgrace. Only the fact that motor car manufacturing has expanded so rapidly and with so little chance to do anything but produce the greatest number of cars in the shortest possible time, can in any way excuse the terrible waste and costly laxity that is so obvious.

"In one factory, for instance, the manager

told me that he employed anywhere from a dozen to twenty private detectives in the guise of porters, window washers, helpers and assemblers, for no other purpose than to prevent tools from being stolen by the workmen, and that despite this precaution he could hardly keep enough tools in the factory to have work go on. When I suggested a central tool room, with a system of making each employee responsible for whatever tools he drew from it, the manager actually was surprised to learn that such systems are in smooth and practical effect in every other line of manufacturing where tools must be supplied to the men.

"At another factory I asked as to the method of determining the actual cost of a car. With a smile I was told that the cost of the various parts were figured out from the invoices, where they were bought outside, and guessed at if made in the factory, after which all the items that the makers happened to remember were added together and the result multiplied by two. The result thus obtained was again multiplied by two, to provide a safe margin for unseen costs, and the answer stood for the cost of the completed car.

"Upon asking permission to go through the factory of a manufacturer who has been in business a little over two years, I was refused. The refusal struck me as odd, because I had been given permission freely everywhere else. But after refusing my request, the head of the concern hastened to explain that conditions were so enormously bad in his factory that he was positively ashamed to have anybody see how bad they were. He explained that in the strain and confusion of increasing his production, he has become so tied up in knots that the whole factory was in horrible shape, and that there were so many things about his system that could be improved that he intended putting the whole improving job over until next fall.

"Just as a minor point I happened to ask, at another plant, why the men in the soldering department did not use gas or electric heaters for the soldering irons, instead of the old fashioned plumbers' stoves with charcoal. The superintendent, who was my guide, said that perhaps it would be a little cleaner, but that it would probably be more expensive and that it hardly seemed worth while to make the necessary installation to supplant the charcoal stoves. I therefore stopped and timed some of the workmen, and showed the superintendent that for every 1½ minute a man spent in actual soldering, he spent almost 4 minutes in poking at his charcoal and heating his irons, so that about two-thirds of the payroll in the soldering department was being thrown away.

"But such a point in factory economy is trifling compared with some of the big matters which are fairly groaning for attention, to stop the drains of wasted material, labor and power and the losses in efficiency due

to the men being handicapped and interrupted in their really productive work. In one factory, which has been held up as a model in its organization and system, I made a suggestion which has been adopted and which is resulting in a saving of from \$12,000 to \$15,000 a year."

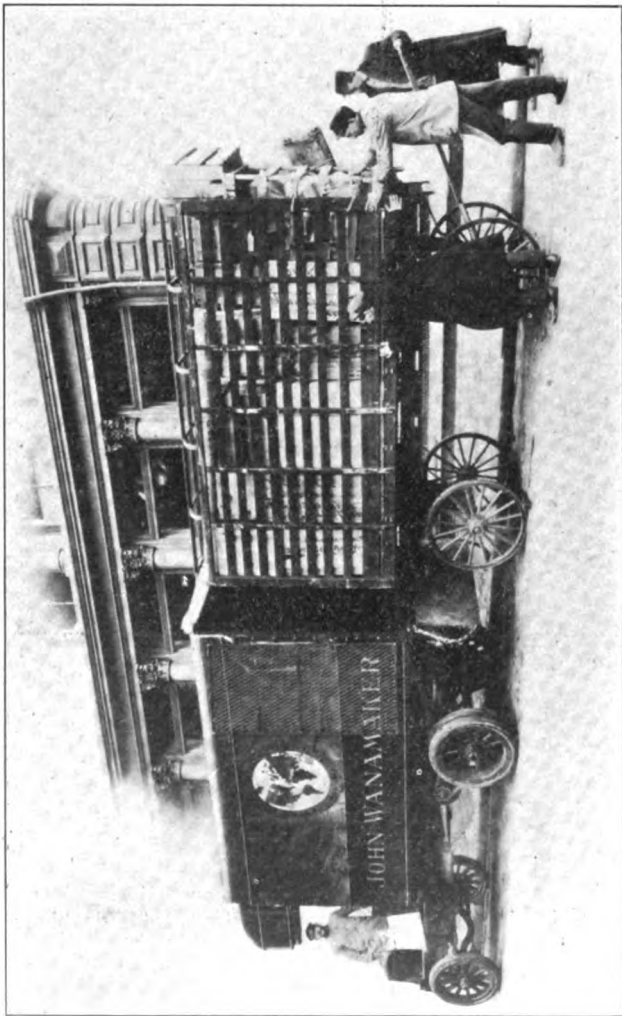
"Upon visiting a plant in Indiana," continued Lawson, "I found a factory where the cars are what might be termed a purely assembled product, inasmuch as the manufacturers buy all of their parts outside and simply put the cars together. This plant had a fairly efficient cost system, and the head of the company was frankly happy in the realization that he had an advantage over the manufacturers who make their own parts, because he knew what every part cost him, and could figure his freight and assembling costs very accurately, while the other makers in most instances could only vaguely guess at their detail manufacturing costs. I was inclined to agree with him that those manufacturers who confine themselves purely to assembling have a distinct advantage in this respect, until proper cost finding methods are applied to the factories making their own parts.

"As a matter of fact there is no reason why a manufacturer should not know the exact cost of every minutest part of his car, as well as the cost of the various groups such as the power plant, the change gear mechanism, the rear axle and the complete body. And such cost finding does not necessarily mean turning the whole plant over into a bookkeeping establishment instead of a producing factory.

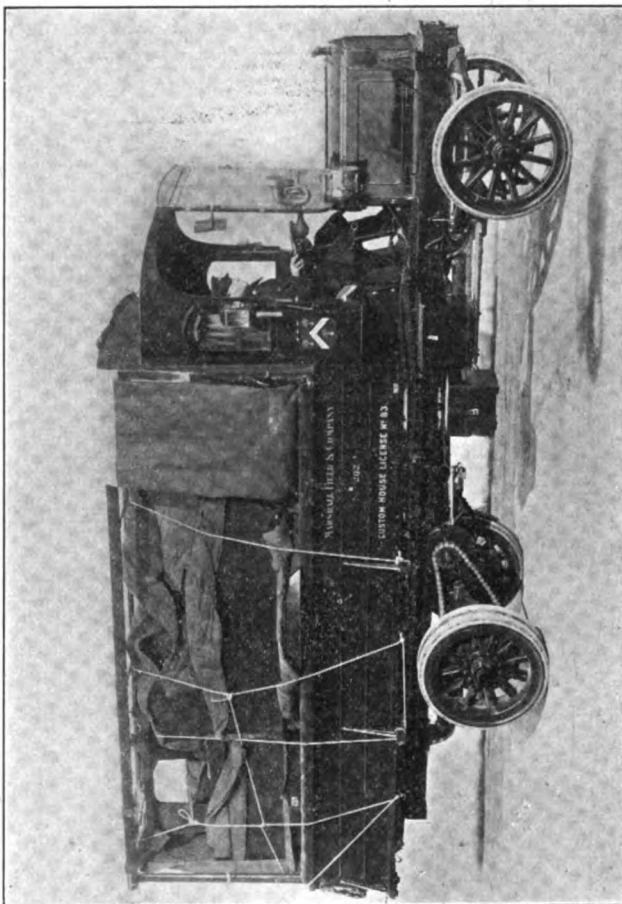
"Competition conditions are certain to compel motor car makers either to know their actual costs, and exercise the legitimate and important economies that prevail in other lines of manufacture, or to go into bankruptcy. In one large factory I was told that it has not been necessary to split hairs to ascertain the cost of the product, and that while profits are satisfactory and the demand so great, it would be foolish to waste the time necessary for the obtaining of such figures.

"Unquestionably the main point with the makers has been to produce the goods, without regard to petty details of expense, but a proper cost system, instead of hampering production, is the very key to raising it to the maximum, with any given equipment. No business can be expected to stand on the foundation of extravagance in manufacture. There is a difference between throwing money away and paying a high manufacturing cost for speed in production when the speed is worth the price. If the maker is paying extra for speed, he should know just how much he is paying, and should not let his money flow off in rivers of unseen costs and almost criminal mismanagement, in the complacent idea that he must stand such losses in order to meet the exigencies of his manufacturing rush."

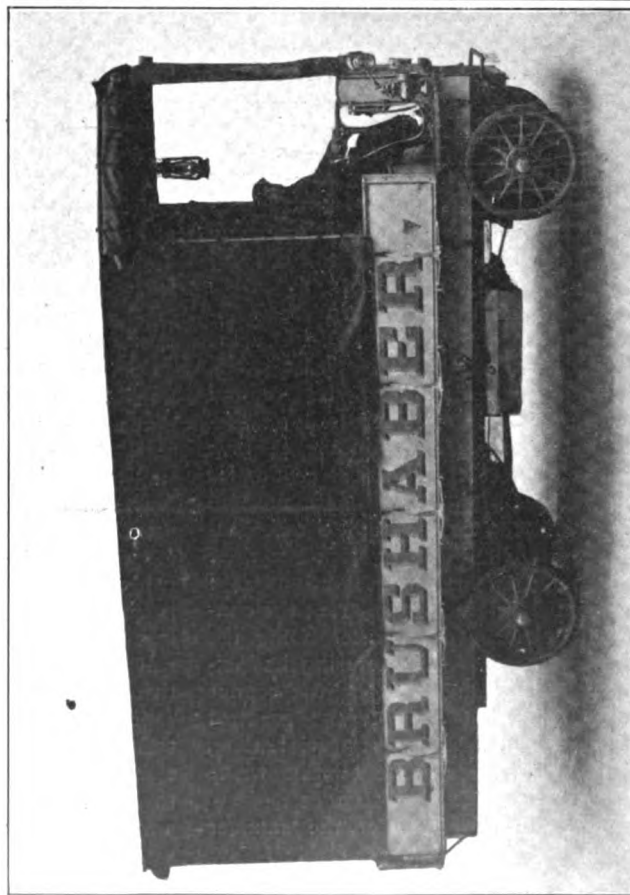
A SPECIAL PHASE OF THE COMMERCIAL PROBLEM—HAULAGE OF BULKY LOADS.



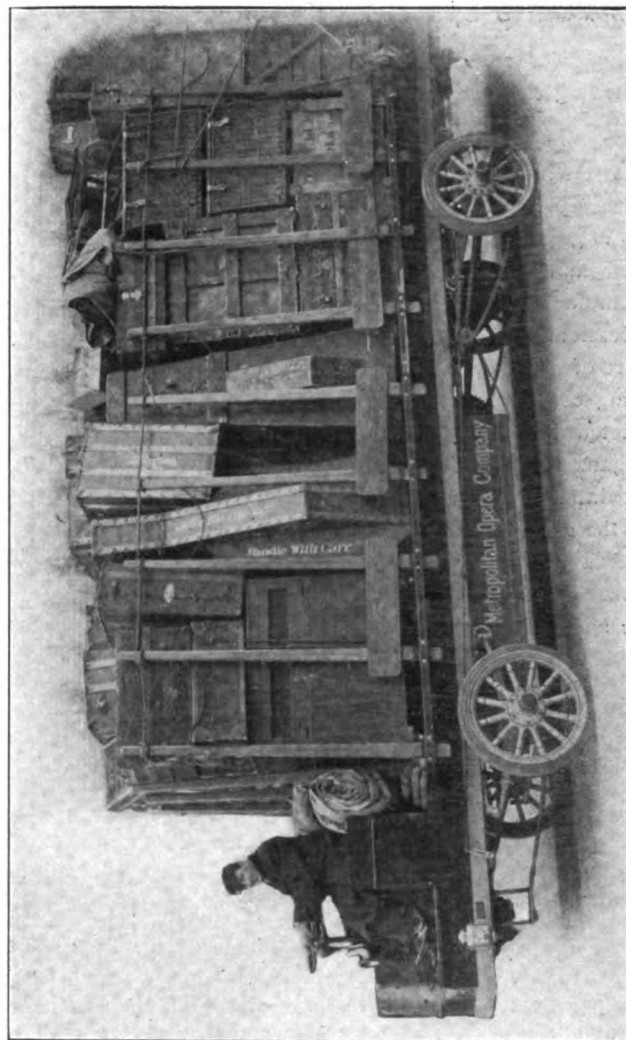
SHOWING RAPID METHOD OF LOADING WHICH ASSISTS DELIVERY WORK



SHOWING HOW BIG LOADS ARE HANDLED IN CHICAGO SERVICE



RAPID VAN THAT WILL CARRY FURNISHINGS OF A SIX ROOM HOUSE



LANSDEN PROPERTY TRUCK IN METROPOLITAN OPERA CO. SERVICE

**CHALMERS REVIEWS CONDITIONS**

**Points Out Detroit's Position and in Same Speech Discusses Present and Future of the Industry.**

"The automobile business has been built up so rapidly, and particularly in Detroit, that the people of Detroit generally do not realize what the automobile industry means," said Hugh Chalmers, president of the Chalmers Motor Co., in a speech delivered at Detroit College on Thursday last. "They take it as a matter of course. Visitors from outside marvel, and other cities envy Detroit.

"In order to realize what a tremendous industry it is, and how Detroit is affected by it, it is necessary for me to give you some facts and some figures, which I shall do as briefly as possible:

"It is estimated that there are 150 automobile companies in the United States. There are 35 companies in Michigan, with a total capacity of 140,000 cars annually. Twenty-three of these 35 companies are in Detroit, with a total annual capacity of 85,000 cars and a total capitalization of \$30,000,000.

"There are 39,000 people employed by automobile manufacturers in Detroit, and 19,000 employed by accessory manufacturers, making a total of 58,000 altogether engaged in automobile work in Detroit. This means that more than 200,000 people in Detroit are dependent upon the automobile business. Nearly \$1,000,000 weekly are paid out in wages here in Detroit by automobile and accessory manufacturers.

"Nearly \$10,000,000 is invested in automobile factories in Detroit. The total value of Detroit made cars this year will be about \$200,000,000. Detroit manufactures about 60 per cent. of the national output of automobiles. The automobile industry is now the most stupendous of all manufactured products.

"Detroit formerly was proud of the fact that it made more stoves, more pills, more paint and more freight cars than any other city in the country. The volume of the largest of these products in dollars and cents—freight cars—amounts to about \$18,000,000 annually. The product of any two of the more important automobile companies in Detroit will easily total \$20,000,000 a year. Detroit produces any kind of a car that anyone can want, from a \$500 runabout to an \$8,000 limousine.

"We are so used to speaking of automobiles in quantities of a thousand, and have become so familiar with them on the streets, that we forget that each represents a good deal of money, and that a few thousands of automobiles means the expenditure of a fabulous sum.

"The automobile business has raised the standard of factory conditions because it is

a business which calls for good factories, because expert work must be done, and these factories must have the maximum amount of light and air. On account of its being a new business, it has called for the erection of new factories, and most of these factories have been built along the most up-to-date lines. Our state factory inspectors say that the new, light, healthful and convenient buildings which the automobile manufacturers have erected have led to better factory conditions in other lines of business.

"The automobile business has made Detroit a great hotel town, and it also makes business better in every line. Think of the retail sales establishments and garages which the automobile business has brought into existence. Do you know that the automobile garage is the only new thing in architecture in several generations? Some of our new combination sales rooms and garages are among the most handsome buildings in the city.

"The fortunes that have been made and are being made in the automobile business come rather through great volume of business than through the large profits that are made on the individual car. Most of the big manufacturers today are making their money largely through the volume of output.

"People naturally ask, how long will the automobile business continue, and isn't it likely to be overdone? Now I am not a prophet and cannot tell just what is going to happen, but I believe that the automobile is not subject to any other comparison, because the automobile is the first improvement in individual transportation in centuries. The automobile has replaced the only thing in our civilization that has been the same throughout centuries, and that is the horse; so that I think the automobile will be with us as long as the horse has been with us. But whether or not the public can take the output of some 200 automobile companies is another and more difficult question.

"The automobile business is subject to the same laws and rules of business that any other business is subject to. It will, of course, result in a survival of the fittest. Those who have built the best cars at reasonable prices, and take proper care of the owners, have nothing to fear, in my opinion, from any question involving overproduction provided they do not over-produce themselves. After all, the question of success or failure in the motor car business is the same as in any other business—the matter of personal equation constitutes about nine-tenths of it.

"People used to think that any man who could lead a horse to water could run a farm, but they have changed their minds on that point. Some people seem to think now that any man who can build a motor car that has four wheels, that will run three blocks, can sell all the automobiles that he can build. This has been partly true in the

past, but will not be in the future. Only those companies that make an honest car to sell at a fair price, and who are in the business to stay, can hope to succeed.

"We are more or less confounded nowadays by a vast amount of advertising matter, and you could paste almost any name at the bottom of these advertisements and you could not tell whose 'ad' it was, but the buying public is fast learning that advertising does not create value in motor cars any more than in anything else—it merely tells of it—and I think that the companies that are building cars today, will be the companies that will be in business three years from now.

"This is the day when the smart business man tells only the truth in his advertising, and then makes good all the claims of his advertising when he sells to the customer. A man may for a few months succeed in fooling people by his advertisements as to the value of the goods he has to sell, but, mind you, I say only for a few months, because no one at this time of doing business can continue to succeed unless he is truthful in what he tells the people and then is honest in living up to these statements in his dealings with the people who are buying his goods.

"I have no patience or use for the advertiser who lies in his advertising, be he automobile manufacturer or any other manufacturer. It is not necessary that a man should tear down another to build up himself. It is not necessary nowadays to sell automobiles to claim to make the best car built and sell it for \$1,200. People know this is not true. I know it to be a positive fact that most standard manufacturers of automobiles today are giving value for the money, whether they are marketing a car for \$600 or selling one for \$6,000. The good manufacturer is today giving the buyer what he is paying for—a good car for a low price, or a better car for a fair price, depending upon the attention which is given to details entering into the construction of motor cars.

"Many people may get the idea that the automobile business cannot last because they read the advertisements of so many companies who claim big production, but most of these people do not begin to build the number of cars that they advertise they are building. Personally I never could see any advantage in such gross exaggeration of facts in advertisements, but of course each company must run its own business according to its own ideas; but it is fortunate for the public, and also for the companies, that they are not building the number of cars that they advertise they are building.

"I believe that the automobile business will be the leading industry of Detroit for more years yet than any of us will live, and I am not so fearful of a reaction in the present situation, because there are so many companies that are building good cars located here. Of course, many people fig-

ure that where money has been made, it still can be made, and the danger ahead of us is that too many people will get to thinking that way. Personally I would not take much stock in any new company that was just starting, because I believe the competition in the future is going to be keener by far than it has been in the past, and competition of course means the elimination of those who are unable or unfit to withstand it.

"The automobile business requires more capital in the conduct of it than most people realize, and while the profits to successful automobile manufacturers have been quite large in some instances, yet it must be remembered that the risks have been great in the automobile business, and where large sums have been made it must also be remembered that equally large sums have been lost.

"A company starting to manufacture automobiles must first be sure that the model it expects to market is all right and will meet with the approval of the buying public. After this is done, it must make a guess as to how many of these cars the public will buy the first year, and then it must start buying materials anywhere from six months to a year in advance and begin to turn out cars according to the model. Now if a company decides to build 2,500 cars, and would only succeed in selling 1,000 cars, it is a far more serious thing to have 1,500 automobiles left on hand at the end of the year's business than anything else I know of, and the disaster that would follow any company's unsuccessful attempt to sell its product in such quantities would be tremendous.

"The people who buy automobiles are, as a class, better informed about the thing they wish to buy than any other class of people on earth. They can ask more questions about the construction of an automobile, and can talk more intelligently about it, and have given more thought to it, than to anything else they have ever bought. Why? To a very large extent an automobile is a man's toy. It is his plaything. It is the thing he plays with like the boy plays with his hobby-horse. He talks about it at the club, and he likes to let his friends know that he knows something about the thing he is discussing, too. Hence, the increased knowledge on the subject on the part of buyers, and this very fact of knowledge will in time eliminate all companies and cars that don't deserve the public confidence. A man might own a typewriter or an adding machine for 50 years and never know or care what it was made of; but he doesn't own an automobile for 50 minutes until he wants to know what 'makes the wheels go round.'

"But this seeking after information on the part of automobile buyers has made all motor car makers improve their cars. It has brought more improvement in the construction of automobiles than anything else except, of course, races and contests."

## CHANCES FOR CARRIAGE BUILDERS

### They Are to be Found in Refurbishing and Selling Second Hand Cars—The Opportunities Presented.

Having been particularly active in discovering loopholes through which carriage builders might seek fame and fortune in the automobile industry, a well-known exponent of that trade recently has hit upon another expedient from that of assembling motor buggies and motor trucks, which it formerly recommended to its clients. The new opportunity is presented in the battle-scarred guise of the used or second-hand car, which after passing through a brief process of renewal is pictured as subject to ready sale at good profits.

"The thousands of local carriage builders throughout the country have of late been coming into a very lucrative branch of business in the shape of overhauling used automobiles and selling the same to those who are desirous of obtaining first-class mechanical equipment and good finish, but who are not prepared to pay the full price of the new high-grade cars," says the authority in question. "Thus on the one hand, the demand for remodeled cars, and, on the other hand, the large number of used cars discarded by those who feel that it is necessary to purchase a new car each year has opened up this very profitable branch for the carriage builder, and as long as fashion's decrees require a new motor car each year, these conditions will continue. And even after this practice of buying new cars each year has become less habitual there will always be a large number of second-hand cars on the market, and always be buyers for remodeled second-hand cars."

It is further explained in the same connection that, "This rapidly growing supply of used cars is creating the need for new channels of distribution. The regular agents, who occasionally take second-hand cars as part payment, cannot do so indiscriminately, as the disposal of the second-hand cars would soon claim too big a portion of their attention, taking up time and effort that could better be exerted in pushing the sale of new cars. Besides, the second-hand cars would actually kill many new car sales, because prospective buyers would often decide to take a remodeled car instead of a new one if the remodeled cars were in sight to divert their attention from their original quest.

"This condition of affairs, which is growing in importance as a factor in motor car retailing, has created a new line of business—the remodeling and re-selling of used cars. A few concerns have gone into this business on a large scale. For overhauling the cars they maintain shops which surpass in mechanical equipment many a motor car factory. They buy, overhaul or rebuild

and re-sell cars from all over the country, and even employ agents to represent them, just as manufacturers maintain agency forces for the distribution of new cars.

"In view of the fact that many local carriage builders are as yet unable to secure agencies for the particular cars they desire to handle, or are still undecided as to which make would best meet the requirements of their trade, the opportunity of entering the motor car trade opened by the situation in the second-hand field is worth attention. The carriage builder who realizes the desirability of getting into the motor car business, but who, for one reason or another, is not prepared to handle new cars, will find the second-hand car proposition an inviting subject for careful study and investigation.

"He can establish a selling agency for used cars to be sold 'as is' and work in conjunction with the motor car dealers of his vicinity, providing an outlet for the cars they take in exchange; or he can work independently and buy and sell outright or on a commission basis, maintaining a repair shop or not, just as he prefers.

"On the other hand, a carriage builder can act as a local agent for one of these large remodelers and distributors of used cars. In this case he holds the same relation between buyer and distributor as the agent for a new car holds between buyer and manufacturer.

"With facilities for coach work, upholstery and painting, the carriage builder has a decided advantage, as in many cars the mechanical parts need no overhauling, but a change of the body lines is desirable as bringing the car more up to date."

### "Licensed" Literature for Owners.

The campaign of "education" which the Licensed Association already has commenced with the public, by way of bringing the Selden patent situation to the latter's attention, has advanced to a point where individuals listed as prospective customers are receiving an explanatory booklet, bearing on its cover the title, "What is the Selden Patent on Gasoline Automobiles?" Especial emphasis is laid on the fact that "No bond is required when you buy a car licensed under Selden patent," this point being regarded as so important and suggestive that it not only appears as a chapter heading, but is also put in a "display box" on the front cover, and is again repeated toward the last of the book, in a paragraph set in capital letters. Another emphatic heading declares that "Licensed dealers decline to take unlicensed cars in trade." Recurring to the matter of bonds, and stating that some unlicensed manufacturers will give bonds, the booklet reveals an example of psychological and subtle artistry by stating that "it should be borne in mind that such a bond does not permit the owner of a car to use his machine if an injunction is issued, and that an unlicensed car may be difficult to dispose of."



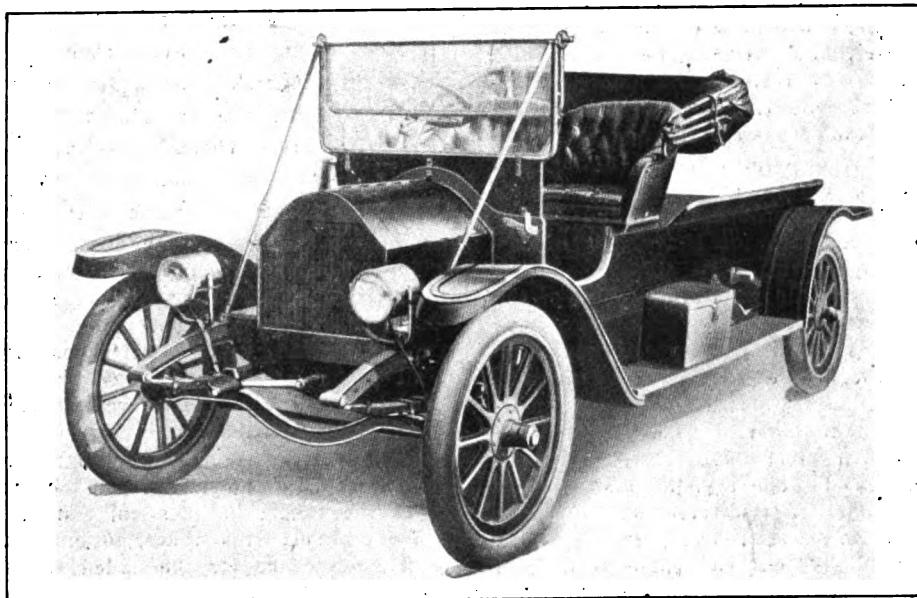
**EMPLOYS DIFFERENTIAL PISTONS**

**Readily Convertible General Utility Vehicle with Distinctive Features—Ingenious Two-Cycle Power Plant.**

No more useful conception has been developed in connection with the commercial vehicle movement than that of the small or medium sized vehicle which is designed to fulfil a variety of purposes, according to the monetary requirement of the owner. For this purpose a number of machines already

The most original element of the machine, and in many respects the best suited to commercial vehicle requirements, is the power plant, which comprises a two-cylinder, two-cycle motor, shaft drive and axle-mounted planetary change gear. The motor is of the differential piston order arranged in a manner at once suggestive to steam engineers of the Wolf type of compound engine. The engine is valveless without crank case compression, and is rated at 20 horsepower.

The cylinders are counter-bored and fitted with two-diameter pistons. Induction draws the gas into the lower annular chambers



TEMPLETON-DUBRIE, CONVERTIBLE PLEASURE AND COMMERCIAL, CAR

have been put upon the market, among them a recent recruit in the Templeton-DuBrie, which is made by the Templeton-DuBrie Car Co., one of Detroit's newer concerns.

Besides being constructed with an open chassis, to which any one of a number of utility bodies may be attached, the regular stock equipment is of the convertible order. For farmers and other users requiring the plain delivery type of body, the open tray is useful. For passenger haulage, the sideboards may be removed and one or two seats set up behind the driver's seat, thus making a vehicle capable of carrying eight or nine persons without inconvenience. For more special requirements, the makers are prepared to install special bodies suitable for ambulance, piano, casket wagon, hearse, dry goods, catering, or creamery transportation purposes.

From the accompanying illustration it will be noticed that the general design of the vehicle has been worked out with a view to keeping the center of gravity as low as possible. The wheel base is 124 inches; platform springs and semi-elliptics in front render the suspension easy; and the I-beam front and live rear axle equipments, mounted on ball and roller bearings, the latter equipped with two sets of brakes, are of the conventional order.

surrounding the pistons during the down stroke. On the up stroke it is compressed to a tension of 40 pounds per square inch and is transferred to the opposite cylinder in each case, the piston of which is then at the bottom of its own stroke, and therefore ready to receive the fresh charge. Simultaneously in the compression chamber surrounding the lower part of the second piston a second charge of gas has been induced, which subsequently is compressed and transferred to the combustion chamber of the first cylinder. The pistons, connecting rods and crank shaft comprise the only working parts of the motor. Lubrication is by the conventional oil bath in the engine base. Cooling is effected by water, a geared pump being used for circulation purposes.

**Saving Tires at the Differential.**

Keeping the differential casing clean and filled to the proper height with a suitable grade of lubricant has a direct bearing on the wear of the rear tires. If the differential does not work freely a certain amount of cross slip between the tires is bound to result on curves. Besides tending to prevent this evil, frequent inspection of the differential gear ensures its being kept in good condition and prevents undue depreciation.

**HOW MOTOR CARS CONSUME COTTON**

**Industry Uses a Million Bales a Year, According to a Tradesman's Calculations—His Statistics.**

How very extensive has become the influence of the automobile industry in numerous lines which in one way or another have become tributary to it, is just beginning to be realized. Indeed, the very magnitude of the business of building motor vehicles is reflected by the breadth of its inductive effects. Thus, the rubber, steel, leather, and other markets and the industries which they feed already have manifested the effects of its growth in more or less important degrees, while now a big increase in the consumption of raw cotton is attributed to the same cause by F. L. Holmes, general manager of the Jackson Automobile Co., of Jackson, Mich.

"Automobiles require about a million bales of cotton annually," says Mr. Holmes. "of which 300,000 bales are used in the manufacture of automobile tires and protectors, 35,000 bales for the manufacture of 'leather' seats and cushions, 10,000 bales for the stuffing and upholstering, while the remainder is used for the manufacture of auto clothing, slip covers, insulating of copper wires, tool bags, tool rolls, waste and mercerized rain clothes. Take the question of automobile lubricating oils alone, millions of yards of duck 40 inches wide are used annually for the purpose of filtration, while mostly every car owner has a canvas cover to put over his car while standing in the garage, and the lamps and other bright parts are covered in rainy weather with enameled waterproof covers. All this uses up countless bales of cotton so that the automobile uses as much, if not more, cotton than the railroads and other allied industries, and has helped to increase the world's demand for the commodity by three million bales in hardly more than five years."

**Tests that Argue for Large Wheels.**

Rather a remarkable argument in favor of the use of large wheels and tires has been developed by Thomas B. Jeffery & Co., manufacturers of the Rambler car, in connection with a series of experiments to determine the relative longevity of tire equipments of various sorts. These experiments have developed an altogether unexpected difference in the wearing qualities of tires differing only slightly in size. Comparing the performance of a number of cars equipped with 36 by 4½ inch tires with that of others equipped with tires of two inches smaller diameter of wheel, and ½ inch less small diameter, it was found that the larger tires lasted just twice as long. Owing to their greater weight, it is to be presumed, the larger wheels also showed greater resistance than the smaller ones.



## DEPRECATES MOTOR FLEXIBILITY

Foreign Expert Champions the "One-Speed Engine"—Emphasizes the Necessity for Variable Gear Ratio.

At present there is a general movement among automobile designers to render the engine as flexible as possible, thereby relieving the transmission of as much of the burden of accomplishing changes in vehicle speed as is possible. While this has been the general rule in this country, there has arisen in England an unexpected champion of the "one-speed engine," who, for reasons which he sets forth in logical order, has arrived at the conclusion that the only proper solution of the problem of obtaining varying rates of vehicle propulsion is that of the infinitely variable speed change gear. While his reasoning is not calculated to appeal to the average motorist who is familiar with what has been accomplished in the way of engine flexibility, as applied to pleasure vehicle construction, it may, however, be considered suggestive of economical developments in the line of commercial car work, and therefore is well worth considering.

Flexibility in an engine, a contributor to the Autocar defines as the ability to deal equally well with a light load rapidly or a heavy one slowly; "that is, an engine worthy to be called flexible should be capable of yielding its full power irrespective of interchanges in value between the weight and distance factors of the load.

"It is exactly here," he continues, "that the gas engine falls short. A man may have a 10 horsepower engine under the bonnet of his car which will propel him at 30 miles an hour on the level, but should the negotiation of a hill increase the load sufficiently to reduce speed, then the output of power from the engine will fall also unless there be a change in gear ratio sufficient to allow of the maintenance of engine speed. To fulfil the requirements of flexibility the power available for moving the vehicle over a given distance should increase in proportion as the distance is reduced.

"Obviously, to couple such an engine rigidly to a load whose speed fluctuations may cover a wide range is to cripple its best possibilities, which is exactly why the one-speed car is not likely to establish itself. There is nothing impossible or even difficult about the production of a car whose engine is connected to its load without the interposition of change speed gearing. It is simply a question of under gearing or over-powering, or both. While the car is running fast the speed of the engine enables it to give good service, but when contrary conditions enforce a drop in road speed, then the engine is limited accordingly and must be sufficiently large and powerful to develop the required output through labor-

ing under the handicap of a low rate of revolutions. Do away with the inflexible connection and give the engine freedom to maintain its speed (and therefore power) irrespective of the changing nature of the load, and nothing better than the gasoline motor is to be had for a prime mover."

Comparing the gas engine with its two rivals, steam and electricity, he discovers that the first named is in a favorable position, but that it alone of the three can make no pretensions whatever as to flexibility. "Reduce the speed of a steam engine by overloading it," he says, "and the thrust on the crank will continue when revolutions have fallen to zero. Electricity goes one better, and yields more power with less speed, for if an electric motor be limited in its revolutions there will be an increased flow of current through the armature and a consequent rise of torque, and this action and reaction will continue until excess of load produces heating of the windings due to a too heavy flow of current through them.

"Ever since the general adoption of the internal combustion engine makers have chased this will-o'-the-wisp of flexibility. 'Spark advance' was thought to be an enormous step in the desired direction on account of the ability it gave to alter the firing point (and consequently period of combustion) to suit varying rates of piston travel. Later efforts have been chiefly in the direction of carburettors, and the patent records of the last ten years or so form eloquent testimony to the amount of inventive energy that has been expended. The result of all this work is the production of the present day engine which, in its best form, is capable of running satisfactorily at great differences of speed, and whose power of output is very nearly proportionate at any speed. That is to say, if reduced to half the speed at which an engine is designed to give full power it will give very nearly half its normal horsepower, or nearly all that is justified by the less amount of fuel consumed. The unfavorable difference is due, of course, to a slight accentuation of mechanical and thermal losses when running at a speed less than that intended by the designer."

Tracing the indicated line of progress further, the writer concludes that the only way in which the gasoline engine can reach its ultimate development is as a one-speed motor, coupled flexibly to its load by something in the way of reduction gearing, which shall enable engine speed always to be maintained whatever alterations there may occur in the nature of the work to be performed.

### Freedom in the Brake Equalizer.

When overlooking the braking system care should be taken to see that the equalizing device works freely. If for any reason it does not, it means that the brakes will be unevenly applied and that serious skidding results may follow.

## FOUR WHEEL BRAKING EQUIPMENT

Effects that Must be Reckoned with Concerning the Front Axle—Obtaining Maximum Efficiency.

While there are a number of commercial vehicles on the market, in which all four wheels are provided with brakes, as well as driving gear, the practice as yet has not extended to pleasure cars in this country. At least one foreign maker already has adopted the practice, as applied to light cars, and it has been proposed to equip heavy touring cars with a set of brakes acting on the front wheels in addition to the regular two sets fitted to the rear wheels. An English expert, to whom the proposition was submitted, called attention to the fact that the attaching of brakes to the front wheels would, first of all, require a complete re-designing of the front axle, as the enormous twisting stresses put upon an axle to which a strong brake is attached, would in all probability tear it away from the chassis unless special means were taken to prevent such a mishap.

Front axles, as at present designed, do not possess sufficient strength, in the opinion of the expert in question, and to fit the front wheels with brakes, without making due allowance for the added stresses put upon the axle, would mean to risk a fracture just at the moment when such an accident would be most disastrous. Not only the axle, but also the steering mechanism will be subjected to stresses from which it otherwise is free.

The braking power exerted on the axles depends upon the position of the center of gravity. Maximum power is obtained when the center of gravity lies a short distance behind the wheels which are braked. In an ordinary runabout where the center of gravity is about one-third the length of the wheel base behind the front wheels, the power exerted by front brakes would be considerably greater than that effective on the rear axle. The farther back the center of gravity is moved, the greater becomes the effectiveness of the rear brakes, with a proportionate decrease in that of the front brakes. The maximum braking effect is reached when the center of gravity is .178 of the wheel base behind the rear wheel. In this case, however, the car could only be kept level with the brakes applied, and would tip over backward as soon as it had lost its forward momentum and the brakes were released. If the center of gravity should be placed .1 of the wheel base behind the front wheel, application of the front brakes would result in an immediate tipping forward of the whole car. All of which conclusions are reached after a close mathematical study of the braking problem.

**WHY GARAGE IS NOT A NUISANCE**

**New York Supreme Court Lays Down the Law on the Subject—Objecting Neighbor Loses His Case.**

In many cities there has been friction between those proposing to establish garages in so-called "residential" districts and the property holders in those districts, the latter taking the ground that a garage is a "nuisance"; but the decision handed down by Judge Merrell, sitting in the Appellate Division of the New York Supreme Court in the case of *Sherman vs. Levengston*, puts a public garage in the light of a necessity and not a nuisance, and is calculated to discourage property owners from applying for injunctions against their erection or maintenance.

Considerable additional prominence was given to the case because of the fact that Richard W. Sherman, the complainant, is a relative of Vice-President Sherman, but despite the legal talent in the family, his attempt to secure a permanent injunction to prevent the Central Auto Sales Co. from building and operating a garage at Plant and Hart streets in Utica was unavailing.

Judge Merrell has handed down a voluminous memorandum of his opinion, showing with what thoroughness the court went into the law of the matter. After reciting the circumstances of the case, in which Harry M. Levengston, the president of the Central Auto Sales Co., was made defendant as owner of the land on which the garage is to be built, the court finds, first, that the objectionable features of the garage, if any, will be of a temporary nature and may cease at any moment.

What are referred to as objectionable features are chiefly noise and bad odors, which, if they ever come can only offend the occupant of the plaintiff's premises under the lease. The plaintiff is but a reversioner, and can have no present cause to complain. If objectionable conditions hereafter occur the relief of the courts may be invoked by the tenant. *Miller vs. Edison Electric Illuminating Co.*, 184 N. Y., 17. In that case Judge Cullen said: "Landlord and tenant have separate assets and each, if injured therein, may have redress, the one for injury to the reversion, the other for the injury inflicted in diminishing his enjoyment of the premises." Judge Cullen is quoted at some length, and his opinion is referred to by Judge Merrell as "entirely applicable to the case at bar."

Secondly Judge Merrell holds that the plaintiff's action is prematurely brought, not against an existing evil, but against one which is feared, and that if the defendant is once permitted to establish his garage he might acquire some rights and the nuisance, if any, would be entrenched. This, of course, is erroneous, as no user of how-

ever long standing can bestow any right to conduct a nuisance.

"To be entitled to injunctive relief at this stage of the proposed enterprise," the court continues, "plaintiff must establish the fact that a public garage must inevitably prove a nuisance—that it cannot be maintained except it violates the rights of those residing in its vicinity. There can be no speculation or uncertainty about it. It must be shown that the business proposed to be conducted is a nuisance per se. This it seems to me, the plaintiff has failed to do. Upon all the evidence I am convinced that a public garage may be so conducted that its objectionable features may be eliminated or at least minimized to an extent that its operation will not unduly annoy or inconvenience those who reside near by. . . ."

It is quite likely that many people for sentimental or other reasons might object to the location of a public garage or indeed any public business near their homes, but so long as the business to be carried on is legitimate, fanciful objection should not be permitted to prevent its operation. Undoubtedly there may be of necessity some noise from the proposed enterprise, but it must be borne in mind that what might be considered out of place and quite unbearable in a rural community or a country hamlet could hardly be so regarded in a busy city. Assuredly, a public garage may be kept clean and free from oil upon its floors. It may be so ventilated that noxious gases and odors will pass off and not be offensive, and proper rules may be promulgated and enforced whereby the noises incident to the garage, the testing of engines, the blowing of horns and other noises, may be reduced to a minimum. Indeed, it appears from the evidence that much of the noise from automobiles can be avoided and is due to a great extent to green and inexperienced drivers and crude machinery of the earlier type of cars. As time passes it is fair to assume that these objectionable features will be greatly reduced." The cases cited are *Heaton vs. Packer* 131 App. Div., 812; *Morgan vs. City of Binghamton*, 102 N. Y., 500.

In the *Heaton vs. Packer* case the plaintiff sought to enjoin the conducting of a hospital for the insane near his dwelling, and the injunction was denied upon the ground that the objectionable features which the plaintiff in that action apprehended were not inevitable and that the institution might be so constructed and managed that none of the evils anticipated by plaintiff might ever come. The rule sanctioned by the authorities and the text books with respect to the restraining of an apprehended nuisance by temporary or permanent injunction is that an injunction will not be granted unless it is apparent or inevitable that the proposed use of the property will actually result in a nuisance.

The case of *O'Hara vs. Nelson*, 71 N. J., Equity, 161, is cited and shown to differ

from the case at bar. In the New Jersey case the plaintiff's building was of wood and four or five feet distant, while in this case the plaintiff's building is brick and 70 feet distant, and the point in the New Jersey case was that the plaintiff intended to store large quantities of gasoline there. Finally, the business of conducting an automobile garage is not a nuisance per se, but is a legitimate and necessary industry. *Stein vs. Lyon*, 91 App. Div., 592.

"It is an oft-repeated expression that the automobile has come to stay," the opinion goes on to say. "They have ceased to be the plaything for the use exclusively of the idle. They have now become an important adjunct to our business and commercial life and are fast rivalling in general use the horse drawn vehicle. With them long distances may be covered with nearly the speed of the railroad train, and remote localities are reached where the railroad is unknown. Their use is not limited to a steel track nor governed by time schedules. In this era of good roads with the constant improvement of the highways, the use of the automobile as a means of transportation is bound to increase accordingly. The mechanism of motor cars is complicated, repairs must be made by skilled machinists and cars must be housed. Public garages have become a necessity. . . ."

"So far as the evidence before me discloses I do not think that the proposed use by defendant of his property is unreasonable, nor that he should be restrained therein, at least until the evils which plaintiff apprehends are shown to exist. Entertaining these views, I am constrained to deny plaintiff the injunction which he asks."

**Rowdiness Closes a Private Park.**

That the sins of the individual usually are visited on the whole community once more is proven by the action of James B. Duke, a millionaire resident of Somerville, N. J. The semi-public park of the Duke estate, with its fine driveways had been kept open for years to automobile owners, but the rowdyish behavior of certain motorists has caused Mr. Duke to bar automobiles from his park hereafter.

**To Permit of Special Roadways.**

In an endeavor to improve and regulate traffic conditions in Greater New York, Senator Schultz introduced a bill in the New York legislature, which amends the charter by authorizing each park commissioner to arrange public roadways, parks, parkways, boulevards, and certain streets so as to set aside certain divisions of the road for automobiles.

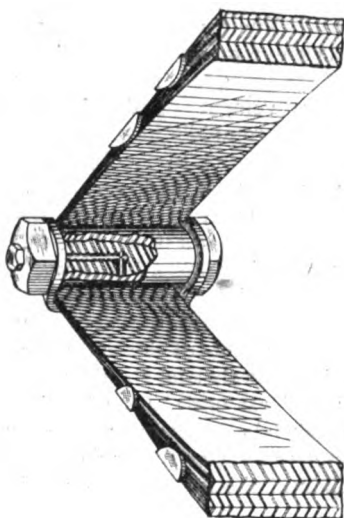
**Feed Piping that Should be Inspected.**

Engine lubricating systems which are provided with sight feed glasses mounted on the dash board, should be inspected occasionally to see that the connections of the piping which leads from the gauge back to the motor is in proper condition.

## LUBRICATION OF THE SPRINGS

**Necessity Born of Motor Car Usage—  
Example of Manner in Which It  
Now is Provided for.**

One point in spring design and construction which the early automobile builders overlooked, frequently to their cost, was the matter of lubrication. So much greater was the work of the motor car spring than that which the ordinary carriage was called upon to perform that entirely new traditions of service were brought into existence. The result was that springs which were not provided with direct and adequate means for preventing the abrasion of the moving parts speedily came to grief in one way or



another. Incidentally, not a little of the hard riding qualities to which some of the early cars were subject were attributable to the fact that the springs were not so constructed as to work freely.

With the modern forms of suspension, adequate provision for lubrication of the articulations is considered essential. Practically no cars are now put on the road which are not equipped with means of one sort or another to oil the spring joints, while the leaves themselves are taken care of by the use of special lubricating compounds in many instances. In the Franklin cars, which are distinguished for their light construction, considerable stress is laid on the use of full elliptical spring equipment. In this, it is to be observed that not only the points of attachment to the axles and frame, respectively, but the points of connection between the upper and lower sections of the springs are provided with means for lubrication.

The accompanying illustration shows how the shackle bolts at the ends of the springs are oiled. The construction provides for freedom of motion under all circumstances and also ensures the complete distribution of the lubricant over the entire working surface of the bolts. Needless to add, not

a little of the free action of the Franklin suspension may be set down to the special means which are taken to ensure the correct mechanical action of the spring members considered as parts of a moving mechanism, rather than as the static elements, which, somehow, they were considered.

### Dealing with "French Type" Cars.

Clear-cut illustrations showing no less than 11 different styles of body mounting, each designed to fulfil a different purpose from all the others, are used in the new catalog of the Croxton-Keeton "French type" motor cars, to demonstrate the broad adaptability of the chassis design which has been worked out for that vehicle. The term "French type," as is well known, is used to distinguish the 30 horsepower chassis from another size and style, which is designated as the "German type." The former, with which the new catalog deals exclusively, is so termed by reason of the fact that it embodies the dashboard form of radiator with gravity cooling circulation and other characteristics which commonly are regarded as of essentially Gallic origin. The chassis is put up with either right or left hand control, and with the levers mounted at the driver's right in either case. The booklet, which affords some useful information about the construction of the cars, is issued for gratuitous distribution by the Croxton-Keeton Co., Massillon, O.

### Furthering the "Live Map" Idea.

Almost as live as the Jones "Live-Map" itself, a highly diverting booklet has been issued by the Jones Live Map Department of the United Manufacturers, New York City. Actual photographic road scenes of the amusing and annoying difficulties of getting correct information from persons encountered on the highways or in the small towns are accompanied by brief and sprightly bits of text explaining the circumstances and results, and showing "what happens without it," while the concluding pages make clear, by word and picture, a full understanding of the "map" and the advantages of its use.

### Rust That Affects Appearance.

Pressed steel running boards of the sort which are composed of strips of metal placed on edge should be kept scrupulously free from rust or they soon will come to look extremely untidy and will cheapen the appearance of the car. Mud which accumulates in the interstices of the metal should be cleaned out with a bit of wood, and at the least sign of discoloration, the metal should be coated with asphaltum paint or some other rough preservative of the sort.

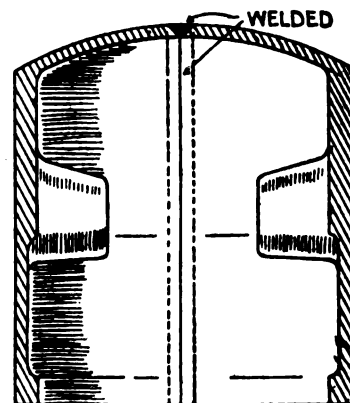
### Motor Police Patrols for Detroit.

Just to bear out its claim of being "the" automobile city of the United States, Detroit voted \$40,000 at a recent meeting of the city council for the purpose of substituting motor police patrol wagons for the horse driven variety.

## STAMPED PISTON AGAIN BOBS UP

**Englishman Revives Old Idea and Evolves  
New Method—Piston Formed in Two  
Halves and Then Welded.**

It is some little time since much has been heard of the steel piston, concerning which high hopes were entertained at one time. A recent development in this line, which has been produced in England, however, is of more than passing interest, because besides affording all the advantages of lightness and strength, which the original conception of the steel piston conveyed, it also combines the properties of low production cost and probably advantageous working results which the more modern processes and better materials render available.



The accompanying illustration shows in a general way the basic idea, which is that of forming the piston in two halves, by the usual drop press method, and afterward joining the sections by an autogenous weld. Each half carries one of the two bosses for the wrist pin, the operations incident to its construction thus being reduced to their lowest terms. After welding, only a single light machine cut is necessary in order to prepare the pistons for the final grinding process. The saving in machining costs thus effected is a considerable offset against the increased cost of the press work as compared with simple casting, as more commonly employed. The material used is a mild steel, well carbon soaked, and is said to work in even better than cast iron insofar as uniformity of texture and freedom from scoring is concerned. The total cost is said to represent an advance of only about 25 per cent. over that of the ordinary cast iron piston and is more than made up by the greater durability of the steel.

The design of this latest steel piston has been evolved by G. R. Gerrard, who is well known locally through his work in developing a British car which has attained some prominence in hill climbing contests. It is being produced by Messrs. Rubery, Owen & Co., of Darlaston.

**MOTOR CAR MAGIC IN THE DESERT**

**Wonderful Transformation in a Previously Desolate Community, as the Result of Co-operative Automobile Operation.**

Motor vehicles have become a power in linking up the farmer with the world which lies beyond his domain, as well as in expediting his labors, that the element of novelty long ago was swept away from most of the opportunities which the automobile presents in this connection. The result of co-operative effort in centralizing the life of a scattered community by the aid of modern transportation methods, however, is presented in an entirely new light in the case of the town of Imperial, which lies in what once was known as the Great American Desert. With the enthusiasm of the professional educator, Edward Hyatt, superintendent of public instruction of the California department of education, tells how an automobile transportation line has been developed there to useful purpose by co-operative means.

"I have just come from an official visit to the schools of Imperial county, a green and fertile region that less than a dozen years ago was the grim and desolate heart of the Colorado desert," he says. "In a night a wonderful civilization has sprung up. More than eighty schools are already in operation. The people in this new world are peculiarly free; free from tradition, free from common prejudice, free to do the best things they know. They can go directly to the newest and best educational ideas at once, without intermediate evolution.

"I have picked out one of these ideas as worth passing on to the school people in other parts of the state. It is worth reflective attention and is illustrated by a huge automobile that is used at the town of Imperial to knit the surrounding country into a strong school organization. Every day it makes its trips into the country, gathering up the older children for the agricultural high school and the younger ones for a strong grammar school in the town. The machine has seats in front and a freight compartment in rear.

"It can carry three tons of freight and can travel 20 miles an hour. It can take 20 people at a load and can haul big bundles of trees, plows, harrows, bales of hay, sacks of grain. It gathers up the milk going to the creamery. The farmers and their wives utilize its regular trips to fetch and carry from the town or to go as passengers themselves; fare two bits. The load of children is brought in 30 minutes. They are usually accompanied by one of the school trustees, who lives in the country and does business in the town.

"It costs the schools about \$100 per month, or less than 15 cents per day per child. The value of the machine is about

\$3,500. Its use compelled the building of good roads immediately. It is a means of communication and an agent of civilization for the community.

"The moral of the story lies in the idea of neighborhood co-operation. Perhaps this particular thing can not be used elsewhere; but it shows that a line of intercommunication can be established in sparsely settled regions that brings strength and life and social feeling to the neighborhood, that unites the weak and dying districts into strong, ambitious, graded schools and high schools adapted to rural life. We shrink from the loss of the little school from our own immediate neighborhood. We hang to it with death-like grip as an adjunct to the value and the attractiveness of our own homes.

"But the idea pictured here shows something better. It shows that an artery of enterprise and social life can be brought directly to our own homes that will give far more of value and attraction than a remote and dying school can ever do."

**Record Breaking Skidding Smash.**

Skidding has been responsible for a good many accidents, but rarely has the force of a skidding car been so plainly illustrated as in Boston, last week. The asphalt was extremely slippery and a heavy limousine was being driven along Beacon street, when the driver suddenly jammed down the brakes as hard as he could in order to avoid collision with several carriages. Before the heavy machine stopped skidding it had demolished two horse carriages, torn through an iron fence and smashed a hole into the brick wall of 117 Beacon street, from which it had to be extricated by a derrick. Luckily no one was injured.

**Automobiles for a Trade Junket.**

While the plan of wholesalers and jobbers making excursions to various towns and cities to visit their customers is not new in other places, Toledo wholesale merchants are utilizing the motor car instead of railroad trains in such expeditions, and thereby contrive to put some novelty and new life into an old custom which had grown uninteresting and perfunctory. Sections of Indiana, Ohio, and Michigan will be included in the trips to be taken from time to time. The whole project is managed by the merchants' and manufacturers' board of the Chamber of Commerce.

**Motors Improve Rural Free Delivery.**

At first thought there seems to be little in common between the rural free delivery and the automobile industry, yet reports in the departments at Washington have shown that the automobile has been a real help in facilitating the system of mail delivery in outlying districts. Wherever the automobile has made its appearance, better roads have followed as a matter of course, and the rural mail carriers have profited by the improvement.

**PECULARITIES OF PORTO RICO**

**Its Special Automobile Conditions Pointed Out by Consul Turner—Queer Ravages of Its Odd Climate.**

Coupling his report from Porto Rico with some very poignant advice, Consular Agent John M. Turner states some useful facts regarding touring, as well as market conditions, on the island. There are more than 1,000 kilometers of splendid roads on the island, and an appropriation has just been made by the legislature to extend many uncompleted roads and join ends of these with completed ones, thus extending the mileage. The island is hilly, and the roads were built for military and heavy traffic with little regard for easy grades. There are several 10 per cent. grades, and even one very stiff climb up a 12 per cent grade.

On account of the unfavorable climatic and topographical conditions, the field would seem a profitable and expansive one for repairmen.

"Some maker of automobiles," says Mr. Turner, "could easily capture the trade of these West India Islands if a machine were made to fit existing conditions. There is no frost here, the heat is uniform, and at times in the sun a machine will run at a continuous temperature of 125 degrees F. It may be that a larger radiating surface for this climate would be an improvement. The climate is hard on rubber, leather and polished surfaces, so that if improvements can be made in any or all of these, big strides will be made toward capturing the trade. Varnish does not last.

"A fine looking automobile will look like a second-hand one after 30 days' use. All exposed iron parts rust in a short time, brass tarnishes quickly, and nickel shows rust streaks after short service. Tops of leather are almost useless for automobiles, the rubber cloth ones do not last any time, and the only kind that seem to wear at all are those made of canvas, treated to make it waterproof. Some varnish or other polishing fluid should be used that would be more permanent. Leather molds quickly and needs constant cleaning. Other material that would not be attractive to moths, such as firm cotton drill, etc., could be used for covering.

"Three different agents have recently gone to New York to arrange for agencies for automobiles, and there are openings for others, so that manufacturers need not think the field is covered. The Porto Rican is a good spender; he is open to argument on machines, is not adverse to new things, and the trade is worth cultivating. Cars that will stand up under the work required will attract many buyers. Anything from a \$250 runabout to a \$5,000 6-cylinder car can be sold in Porto Rico and buyers are open for demonstrations."

## THE TOURING TIDE SETS IN EARLY

**Americans with American Cars Already  
"Doing" Europe—Branch Store that  
Has Become a Tourists' Bureau.**

Early as it is for motor car touring every indication tends to show that more Americans will travel on the roads of Europe this year than ever before. Last year saw all previous records passed, although by far the greater part was during the summer and fall months. But that touring is to become practically a year around pleasure is shown by the fact that up to April 1 of this year nineteen Pierce-Arrow cars had been reported at the European branch of the Pierce-Arrow Motor Car Co., at 22 Avenue de la Grande Armee, Paris. It is thought this number will not be 10 per cent. of the total that will be reported there by the end of the year.

When the branch first was organized in Paris three years ago it was for the purpose of supplying spare parts to Americans who were using their cars abroad. Since then its field of activity has grown until its principal work is to serve as a bureau of information for Pierce-Arrow owners, and to assist generally in avoiding the many little inconveniences that might come through a lack of knowledge of European customs and regulations for tourists. Many Americans consign their cars direct to the Pierce-Arrow branch from their sailing ports on this side of the Atlantic and when they arrive there find the cars uncrated and ready for their use. The branch is also called upon frequently for advice as to routings and employment of couriers. A full supply of spare parts is always kept on hand for any needs of tourists and an expert mechanic, trained at the Pierce-Arrow factory at Buffalo, is on duty at the French capital ready to render any assistance possible. As a result there has come one marked change in conditions, as many Americans who formerly bought or rented foreign-built cars for use abroad now take their own cars from this side with them.

### How France Will Squeeze Tourists.

Automobile people and hotel men in France are more or less up in arms over a new tax on motor vehicles which people who are familiar with French touring conditions say will provoke motorists to avoid the country, and that much more will be lost by their absence than the Government could receive in additional taxes from the measure. The new law, which goes into effect August 1, 1910, provides that automobiles brought into the country for any period less than one year shall be taxed \$1 per horsepower up to 12 horsepower, \$2 per horsepower between 12 and 60, and \$3 per horsepower for machines exceeding 60 horsepower. Cars remaining in the coun-

try less than four months get a slight reduction, but all cars are required to pay in addition to the special tax the regular license fee of from \$10 to \$20. By its terms the law applies to all cars, whether imported for temporary use or not. It is estimated that the revenue obtained from the tax can not amount to more than \$20,000, while nearly ten times that sum would be spent in a single season by motorists in France, who on account of this law would tour in other countries and give France a wide berth.

### Undertakers in Motor Project.

Although individual undertakers rapidly are coming to appreciate the utility of the motor vehicle in the transportation problems peculiar to their melancholy calling, the formation of a company with a capital of \$300,000 in St. Louis, by several undertakers who have no regular livery service in connection with their business, is a distinct novelty. It is the purpose of those interested to build a large garage and there to house four automobile hearses and thirty limousines. The cars are all to be of uniform type, and one of the hearses will be white. The seating capacity of the limousines will be from six to eight and they will probably be rented for \$6 each. The use of the hearse will cost \$10.

Realizing, however, that funerals are not quite frequent enough among those willing to pay for automobile corteges, to pay for the establishment, the company will not limit itself to funerals, but will furnish automobiles for weddings, theater parties and public parades or receptions. Undertakers who are liverymen are not joining the company as it will interfere with their livery business.

### Utah Tires of Mineral Rubber.

Experimental tires of "mineral rubber," or elaterite, are represented as being under test on motor cars in Salt Lake City, Utah, where two laboratories are indicated to be developing the commercial possibilities of the material. Elaterite, which is found in generous quantities among Utah's rich natural treasury of ores, is styled "mineral rubber" not only because its mineral components are almost identical with those found in rubber, but also because considerable success has been met in producing from it a form of synthetic rubber.

### To Save Roads in California.

Realizing at last that automobiles are not the only vehicles to be blamed for destruction of roads, Nevada county (Cal.) officials have passed an ordinance regulating the width of tires on all classes of vehicles, and forbidding the use of narrow tires on county roads. The ordinance is hailed with delight by farmers and automobile owners alike, for it usually was the narrow tread buckboard wheel which proved most destructive to roads by cutting deep-ly into them when they are soft.

## FOR A STATUE TO TIRE INVENTOR

**First Step Taken to Honor J. B. Dunlop—  
Despite Irish Claims, Scotland Prob-  
ably Will Get the Monument.**

Following the presentation to the Royal Scottish Museum in Edinburgh of one of the two original pneumatic tires, a movement to erect a statue to J. B. Dunlop, the now venerable inventor, has been undertaken, a committee having been appointed to further the project.

The subject first was broached at the time last fall when the English trade was doing honor and presenting a silver casket to Harvey DuCros, who first "boomed" the tire and who made millions out of it, at which time Dunlop himself was kept so far in the background that uneasy consciences were led to remark that Dunlop's turn would come next and to suggest that the erection of a statue would be the most fitting honor that could be paid to him by his grateful countrymen.

The movement to this end, which was started in Scotland, where Dunlop was born, has not progressed beyond the appointment of a committee, but already the proper location for the monument is giving rise to discussion. It seems probable that it will be erected in either Dregghorn, Scotland, Mr. Dunlop's birthplace, or in Edinburgh, which already is famed for its notable stonework and where, among others, there is a statue of Prof. Simpson, the discoverer of chloroform. Ireland, however, has voiced a claim for the honor; for very early in life Dunlop moved across the channel and, although he now lives in Dublin, it was in Belfast that, while following the veterinary profession, he conceived and developed and exploited the tire which now plays such a stupendous part in the world's affairs. "It was tested, developed and perfected in Ireland," remarks one of the Irish claimants, "and I therefore contend that the tire is 90 per cent. Irish." Scotland, notwithstanding, appears to have first call on the monument.

### Eggs-traordinary Yarn is Hatched.

Blaming the motor car for almost everything that ails the human animal is a pastime which increases with the popularity of the automobile. To the roster of evils attributed to the automobile, including "naso-motor-rhinitis" and the high prices of meats, shoes, rubber, etc., must now be added the scarcity of eggs. A statistician has just come to the front with the alarming information that each motor car on an average kills two to four chickens every year. As there are about 350,000 cars in use in the United States, he figures it out that automobiles are responsible for the destruction of about 1,000,000 chickens every year, which means a loss of 10,000,000 eggs.



**NEW YORK'S BILL UP TO SENATE**

**Passes Assembly and is Given a Hearing  
by a Committee of the Upper House**

**—Its Features.**

Having passed the lower house of the New York legislature on Tuesday of this week, escaping threatened amendments and eluding attempts to sidetrack it in committee, the Callan automobile bill now is in the hands of the Senate. It was introduced yesterday (Wednesday) by Senator Hill, taking the place of the Hill bill, and again was subjected to crossfire at a hearing which took place in the afternoon before the Committee on Internal Affairs. Charles Thaddeus Terry, counsel for the American Automobile Association, Oliver A. Quayle, of the New York A. A., and others who are active in agitating automobile legal matters, were present and offered subjects for amendment. The point attacked by Senator Hill himself and others was the proposal to insert an amendment which would restrict the power of local authorities so far as the regulation of speed is concerned to the more congested districts.

Edward J. McGoldrick, representing the New York City Corporation Counsel's office, opposed the annual registration fee of from \$5 to \$25, "in lieu of general or local taxation." He said that the New York City authorities objected to the requirement that all fines be paid into the State Treasury, and declared that the provision would mean a loss to the city of something like \$100,000 annually.

In its last stand in the Assembly, a number of efforts were made to alter its provisions. Two points of attack were the provisions for diverting the fees to the state from the communities in which the automobiles are owned, and which was declared to be unjust; and the speed clauses, which are held to be lacking in uniformity and tending to create a complex schedule that no motorist could follow. Besides the attempt to amend the bill on the floor, efforts also were made to sidetrack it in committee again. The several amendments were considered separately, however, and lost by decisive votes, despite the strenuous efforts of their respective authors.

In addition to the reciprocity clause, the bill in its present shape is a radical departure from the existing law in that it wipes out the progressive penalty for successive violations of the speed clause; permits cities of the first class, such as New York and Buffalo, to fix their own speed limits, provided they enact general ordinances prior to the law, if passed, going into effect; provides for the revocation of chauffeurs' licenses upon third offense, and designates a speed of 30 miles per hour as the maximum permissible within the meaning of the definition which requires "careful and

prudent" driving under any and all circumstances.

**Untangles a Park Towing Problem.**

The question of whether or not towing a disabled motor car constituted a "use of the park roads with other than pleasure vehicles" was decided in the negative by a magistrate in Baltimore, Md., as was also the puzzle as to whether a man seated in a motor car which is being towed by someone else is responsible for the speed at which the hauling automobile is being driven. Both questions resulted from the arrest of two men for speeding in Druid Hill park, one of them pulling the other's car at a lively rate over the driveways to the garage near the park. The judge decided that a "motor car that is not running by its own power cannot legally exceed the speed limit, nor can its owner be held responsible for its actions," and dismissed the charge against the owner of the damaged car. The driver of the hauling car was fined \$10. The second charge, that of using the park roads for other than pleasure purposes was dismissed, it being evident that the car had to be towed out of the park, and in order to be towed out, had to use the roads.

**Second Offenders Let Off Easy.**

Although arrested as a second offender, and despite the fact that the cause of his first offense had been the death of a man, "due to the failure of the defendant to adopt ordinary care while in control of a taxicab," James T. Gallagan, a New York chauffeur, was let go under a suspended sentence. Another chauffeur, also a second offender, who was awaiting sentence by the same judge in Special Sessions, was likewise released under a suspended sentence. Several letters addressed to the judge, recommending the two offenders and speaking highly of their abilities, were responsible for this unusual and somewhat mysterious leniency shown by the court.

**Two Years for Stealing Sheriff's Car.**

In an endeavor to stamp out the prevalent practice of "borrowing" motor cars without the owner's permission, a Milwaukee judge sentenced Albert Hermann to two years in the State Reformatory for breaking into the garage of George D. Sheriffs, Milwaukee, stealing the latter's touring car and riding around in it for two days, damaging it considerably. The car was found abandoned in a distant part of the city. This is the heaviest sentence yet imposed for "thefts" of this kind.

**Baltimore Recognizes Red Cross.**

Baltimore has come to the aid of motorizing medics by passing an ordinance permitting registered physicians to break speed regulations when driving to sick bed calls, the same as ambulances, fire engines and police patrols. Policemen will not be permitted to stop them, and trolley cars must

halt, while other wagons and automobiles must make room for them. In order to distinguish the physicians' cars from those of other owners, the Police Department has provided each physician with a sign about five inches square, bearing a red cross on a white background. The signs are to be placed on the front of the radiator. Penalties are provided for the illegal use of these signs by any other person than a physician, while the doctors themselves are supposed to be under a kind of honor system as to the use of their privilege only when answering bona fide sick bed calls. The use of the red cross on motor cars has been greatly abused in many cities, by others than physicians, hence the precaution of providing against its misuse by motorists in the Monumental City.

**Fined for "Roping" an Automobile.**

For having a set of guy ropes stretched across part of a street in Dawson, Ga., where they had no business to be, the owner of a circus was ordered to pay \$50 damages to a motorist whose car came into disastrous contact with said guy ropes. The case was carried to the Appellate Division of the Supreme Court, but the latter held that a petit jury was the best tribunal in the world to solve the questions of negligence and contributory negligence growing out of a transaction ex delicto between a motor car and a circus.

**"Joy Riding" Now a Crime in Canada.**

Following the lead of several of the states of the Union in taking action against so-called "joy riding," the House of Commons at Ottawa, Canada, has amended the criminal code, making it a penal offense for chauffeurs to take out their employers' cars without the latter's consent. Canadian newspapers have been clamoring for such an amendment for a long while, claiming that its passage would be of great benefit to the car owners and the general public.

**Bay State's Compulsory Lights Bill.**

After a good deal of discussion a bill at last has been introduced in the Massachusetts legislature, and favorably reported by the committee, to make it obligatory on drivers of all vehicles to carry a light visible from front and rear. Only slight opposition to it has developed thus far, and that from a few farmers opposed to the bill on the ground that it was absolutely unnecessary, because a horse could find its way even in the darkest night.

**Would Compel Extinguishers on Cars.**

If a bill introduced in the New York legislature by Assemblyman Goodspeed, of Kings county, becomes a law, automobile owners will have to add to their outfit of "accessories" a miniature fire department. The assemblyman wants all vehicles and boats propelled by gas, gasoline, petroleum, naphtha, alcohol or electricity, to carry a "non-liquid chemical fire extinguisher."

## RULES FOR THE GLIDDEN TOUR

**New Regulations Much Sterner than Previous Ones—Heavy Penalties Provided for Obtaining Outside Assistance.**

Although it will be more of an advertising exploit than ever before, the 1910 Glidden tour also will more neatly approach the true reliability contest in point of stiff rules than did its predecessors. It will be the seventh annual competition for the famous trophy, and a survey of the regulations reveals several changes and modifications over those of previous tours. As usual, there will be two trophies contested for, the lesser award this year being known as the Chicago trophy, which, as its name implies, was offered by the Chicago Motor Club.

Only stock cars, which have been examined by the contest board of the American Automobile Association, will be eligible to compete, and will be divided into two classes, touring cars contesting for the Glidden, and runabouts and miniature tonneau cars battling for the Chicago trophy, respectively. The toy tonneau class of former years has lost its identity, and now is embodied in the runabout class. Penalties will be on a point basis in accordance with a prescribed schedule, and the winners in both classes will be the cars finishing with the least number of penalizations.

Fixed penalties are provided, ranging from 1 to 500 points, and a sliding scale of such demerits has been devised for receiving outside assistance in making repairs. This system is very severe, providing double the regular penalties, so that it is unlikely that outsiders will be called on for more aid than is absolutely necessary. Roadside tinkering will be abolished to a great extent, according to the plausible inference conveyed by the rules, and the innumerable roadside stops for "tire trouble," which often were really mechanical ailments, in former tours, largely will be eliminated. Carburettors are to be adjusted only at night controls, which also will be the only official time for changing spark plugs.

Even more strict is the isolation of brakes from the obedient driver's mind. Throughout the tour they may be looked after only twice—at Memphis, Tenn., and St. Joseph, Mo. Engines with voracious appetites for fuel, oil and water will have their gluttonous traits duly recorded and in order that this accurately may be done cars are prohibited from taking on supplies except at the noon and night controls. For the first time hoods and coil cases will be sealed, and tools also must be carried in bonded bags. Accessories which get out of kilter are liable to be penalized, but this judgment will apply to them only and will not count against the car in the final examination.

Fixed running schedules are another innovation this year, and are set at 16, 18 and 20 miles an hour, respectively. In view of the severe penalties provided, it is improbable that there will be any perfect scores, but ties are within the range of possibilities, and in such an event it is provided that medals will be awarded to such cars, and their names will be inscribed on the trophies. Cars finishing with a percentage of 97 of the winning scores in each class will receive certificates attesting to their performances.

Contesting cars must at all times carry full standard equipment as well as four passengers in the Glidden and two passengers in the Chicago classes. An inventory of extra parts must be furnished before starting, and these will be sealed and checked. Tires, rims and chains may be carried without restriction. Tire repairs will be unpenalized, provided the engine is kept running, and time so lost will be added to the running schedule. As a precaution, to obviate a controversy at the finish, cars will be inspected before the start by a technical committee, which will note the condition of the car and seal mechanical parts to prevent adjustments being made undetected.

Drivers may be changed as often as desired, and the only advertising permitted will be the name of the car in letters four inches high, which may be displayed on all sides. Checking stations will be established at desirable points "to prevent speeding" and cars passing the pacemaker, except in the event of the latter being disabled, will be disqualified. Entrants arrested for speeding will be liable to disqualification.

Observers are expected to observe in the full sense of the word everything pertaining to their own and all other cars, and jot down what they see for future use. The competing cars will be divided into seven divisions, according to the 1910 A. A. A. price classification. Four divisions, comprising all cars selling between \$1,601 and \$4,000 and over, will travel on a 20 miles an hour schedule. The \$801-\$1,600 classification embraces two divisions, which are assigned the task of covering 18 miles of road per hour, and the "baby class" for cars selling under \$800 will glide along at the modest gait of 16 miles in one circuit of the minute hand around the dial.

After the cars reach Chicago they will receive a further grilling at the hands of the technical committee, which will put motors, transmissions, clutches and brakes through their paces under actual conditions. Contestants who abandon the contest will incur official displeasure to the extent of an extra 1,000 points, in addition to those already secured.

Starting from Cincinnati, O., on June 15, the contest will traverse 10 states, covering approximately 2,500 miles and will finish in Chicago June 29. The longest day's run will be from Texarkana, Ark., to Dallas, Tex., 230 miles.

## PATHFINDER IN MISSISSIPPI MUD

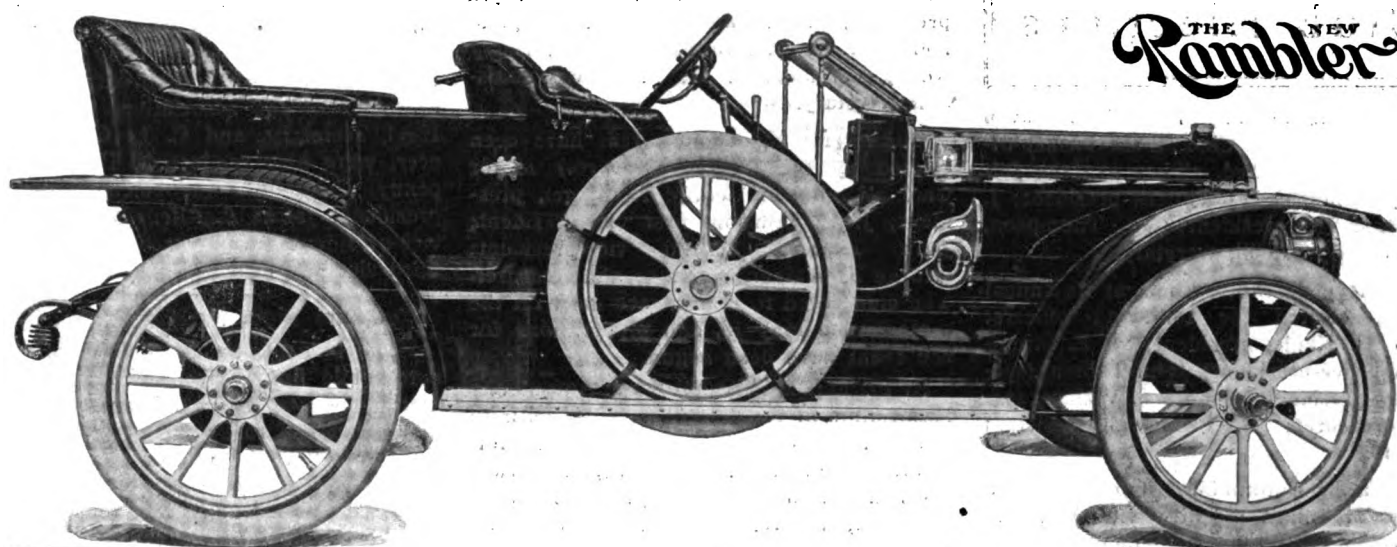
**Glidden Scouts Encounter Fearful Roads and Unbridged Streams—But Finally They Got Into Memphis.**

With the assistance of a double yoke of oxen, which were called on to haul the car out of a mudhole in a Mississippi swamp, the Chalmers Glidden pathfinders arrived in Memphis, Tenn., on Wednesday, 20th, having traversed five states and covered approximately 650 miles. Notwithstanding the adverse road conditions which have been encountered, due to the unusually heavy rains, and which have made the jaunt so far anything but a pleasure trip, it is believed that in June the roads will be in prime condition for the tourists.

Good roads were found on the second day, after leaving Lexington, Ky., and the mileage of the first day was greatly exceeded, the scouts putting up for the night at Louisville. Thursday, 14th, the third day, saw the expedition still in Blue Grass territory, the night rendezvous being Bowling Green. On Friday, 15th, the fourth day out, the first real hard going was encountered between Bowling Green and Nashville, Tenn., which was the night stop, the day's run being 63 miles.

Tennessee's crying need of bridges was well exemplified by the swollen condition of the unspanned streams which were met and forded on Saturday. Slow but sure progress was made until Buffalo Creek, 66 miles from Louisville, was reached, when the pathfinders were compelled to enjoy the hospitality of a mountaineer's cabin for the night, to allow the waters to recede before exploring further. After plowing through red loam and clay roads all day Sunday, which had been converted into fearful condition by the incessant rains, the odometer registered 119 miles and the pathfinder spent the night at Sheffield, Ala.

It is expected that these roads, which are well nigh impassable now, will be in excellent shape when the tour gets under way as the dry season then will be on. The roads still continued bad on Monday and slow progress was made, the night being spent in a squatter's cabin in the Yellow River region 50 miles from Sheffield. For the first time the sturdy Chalmers motor succumbed to the clay swamps of Mississippi on Tuesday and a double yoke of oxen had to be used to haul the car out of a mudhole near Burnside, where it sunk until the wheels were lost to view. That night the party "registered" at a shanty near Grand Junction, where they partook of a sumptuous dinner consisting of boiled pork and corn bread. On Wednesday the pathfinders negotiated the 53 miles from Grand Junction to Memphis, Tenn., which will be the first Sunday stop on the tour.



**T**HE Fifty-four Toy Tonneau is a mid-season New Rambler model. It is an evolution from the Close Coupled model, designed for the same demand, but a little more roomy.

Its advantages are low seats, two inches longer than usual from front to back. Seat cushions tilted and rakish seat-back to correspond. Body smaller and lighter than the touring car but tonneau roomy enough for three people of average size. Three inches more leg room in front than touring car. Rakish steering column.

With five lamps, Prest-o-Lite tank or generator, magneto and storage battery, horn and tools, \$2,250. Top with side curtains, \$100. Wind Shield \$40. Spare Wheel \$85.

**Thomas B. Jeffery & Company**

Main Office and Factory: Kenosha, Wisconsin

Branches: Chicago, Milwaukee, Boston, Cleveland, San Francisco

## Club Elections

At a recent meeting of the New Haven (Conn.) Automobile Club all the former officers were re-elected. They are the following: Thomas G. Bennett, president; J. Goodheart, vice-president; C. E. Thompson, treasurer; W. T. Dill, secretary.

The Cheyenne Motor Club, at its annual meeting, elected the following officers: George H. Nagle, president; J. E. Stimson, first vice-president; John Thomas, second vice-president; George S. Walker, secretary-treasurer; E. J. Sigwalt, assistant secretary.

The Fargo Automobile Club, Fargo, N. D., was organized recently with 35 active members. The following officers were elected for the coming year: President, W. J. Price; vice-president, R. H. Lewis; secretary, Seth Richardson; treasurer, M. A. Baldwin.

At the annual meeting of the Bradford (N. Y.) Automobile Club the following officers were elected for the coming year. L. E. Mallory, Jr., president; A. J. Bond, vice-president; J. H. Rose, secretary and treasurer. The executive committee consists of O. F. Schonblom and W. S. Gaffney.

Chauffeurs of Los Angeles, Cal., have organized, under the name of the Los Angeles Chauffeurs Benefit Association, with the following officers: John H. Hards, president; William Bell, vice-president; George Ferris, secretary. The organization starts with 25 members and will be conducted on fraternal lines.

The annual election of officers of the Automobile Club of Southern California, held at Los Angeles, resulted as follows: Roy P. Hillman, president; Fred L. Baker, vice-president; Cotton A. Smith, secretary and treasurer. Representatives of all counties in the southern part of the state were present at the meeting.

At the recent annual meeting of the Portland (Ore.) Automobile Club \$1,000 was voted to be expended in installing road signs. The following new directors were elected: E. H. Wemme, Elliott Corbett, Julius Meyer, F. B. Riley, Dr. Andrew C. Smith, W. C. Clémens, Bert Mackay, Lewis Russell and M. C. Dickinson.

Devil's Lake motorists got together recently and organized an automobile club with forty charter members. The following officers were elected for the first year: Blanding Fisher, president; Felix Routier, vice-president; Charles Pilsbury, secretary; Howard Whipple, treasurer; Charles Russell, M. A. Dohney and Edward Richardson, directors.

Representatives of a dozen automobile clubs of Nebraska met at the Commercial Club, Omaha, and organized the Nebraska

Automobile Association. The following officers were elected: W. R. McKeen, Jr., president; L. M. Falmadge, first vice-president; Dr. W. J. Phillips, treasurer; Harry Rolfe, secretary; C. W. Y. Loucks, assistant secretary.

Officers for the coming year have been elected by the Cheyenne (Wyo.) Motor Club as follows: George H. Nagel, president; J. E. Stimson, first vice-president; John Thomas, second vice-president; George S. Walker, secretary and treasurer. The club voted to hold a race meet on the motordrome May 18, and preparations for the event have been begun.

At the annual meeting of the Automobile Association of Rochester, N. Y., an entirely new staff of officers were elected, as follows: President, E. G. Strong; first vice-president, William C. Barry; second vice-president, W. W. Hibbard; treasurer, W. W. Drake; secretary, Bert Van Tuyle. The secretary's report showed a membership of 804, an increase of 281 during the year.

At a meeting of the Automobile Club of Troy, N. Y., the following officers were elected: Charles C. Kelly, president; Frank Gilbert, vice-president; Alonzo McConihe, secretary. The board of governors appointed at the same meeting consists of the officers and H. F. Boardman, James Lucey, Jr., John McGlynn, H. S. Ide, E. S. Platt, R. C. Reynolds, W. P. Warren, Jr., and John Paine.

Alvas W. Brown was elected president of the Grand Rapids (Mich.) Automobile Club at the annual meeting of that organization last week. The other officers chosen were O. H. L. Wernicke, first vice-president; Melville R. Bissell, second vice-president; Dr. F. C. Warnshuis, secretary; Dr. W. M. Budleson, treasurer. The officers, Fred Z. Pantlind and Thomas F. Garrett, constitute the board of directors.

Wallingford (Conn.) motorists a few days ago gathered for their annual meeting and elected the following officers for the following year: D. L. Barber, president; Dr. J. H. Buffum, first vice-president; George A. Youlden, second vice-president; F. L. Lathrop, treasurer; W. A. Ingraham, secretary. The following committees were also appointed: Legislative, H. W. Andrews and C. A. Harrison; runs and tours, O. H. Fowler and G. A. Youlden; good roads, Dr. Grainhard and Dr. Buffum; membership, F. E. Burchfield, W. H. Dunn and J. E. Hall.

Dallas (Texas) automobile owners, following the example of the dealers, organized a club at a recent meeting at the Oriental Hotel. The following officers were elected: George W. Baker, president; Lee Newbury, first vice-president; W. A. Fraser, second vice-president; C. C. Slaughter, secretary; C. B. Gardener, treasurer. The board of trustees comprises Judge E. B. Perkins, George A. Folk, I. Dreeben, A. J. Knight and James Berry.

According to reports made at the recent annual meeting of the Ohio State Automobile Association in Columbus, the clubs affiliated with the state body have 1,773 members. Harry L. Vail was re-elected president of the association, while A. B. Heyl, secretary, and C. L. Colter, treasurer, were also re-elected. P. B. Money-penny, Columbus, was elected first vice-president; James A. Allen, Kenton, second vice-president, and Cyrus E. Mead, Dayton, third vice-president.

### New Fire Truck for Middletown, Conn.

Middletown, Conn., is to lose its artistic automobile fire engine. Not because the motor did not work satisfactorily, or the pumps refused to be pumped, but because the "truck" (if the artistic creation can be designated by this vulgar name) was so remarkably constructed that only four very slender members of the energetic and willing volunteer department could ride on it at one and the same time. Before going to a fire, the eager members gave a good imitation of a class rush at near-by Yale university in the valiant endeavor to get a ride on the artistic contraption, with the net result of scraps and squabbles galore, while the fire burned its merry way through the flimsy frame buildings. Mayor Fisher, who is a Reformer (with a capital R) now is advertising the fire truck for sale, and is going to buy one which has no engraved name plates, silver-plated trimmings, and hand buffed leather seats, but which will accommodate at least a dozen of the valiant fire-fighters.

### Denver Petitions for Motor Mail Cars.

The great success of the automobile mail wagons in the various cities in which they are used, has caused Denver (Colo.) post office officials to petition Washington authorities for several of these motor cars to be run in that city. Both the large mail wagons now used for hauling mail to the Union station and the one horse gigs employed in the collecting service will be dispensed with if the automobiles can be secured.

### Hot Springs Has Warm Welcome for Cars.

Hot Springs, Va., which hitherto has kept out automobiles as much as possible, has changed its attitude and the motor car henceforth will be an important factor in the life of that resort. The Hot Springs Hotel Co., departing from its former policy of barring motorcars from its sheds, has built a roomy garage that will accommodate forty machines, and is otherwise catering to the needs of the motorists.

### Ohio Registrations Rise to Record Level.

Registration of automobiles in the state of Ohio reached a new high level on April 1, with a total of 17,477, for the three months of this year. The revenue from motor cars alone has been \$88,664.50 for the same period.



## The Tire That's Oversize

Each Goodyear Detachable Automobile Tire is considerably larger than its rating. So in Goodyear Tires you get extra size plus extra quality. Larger tires mean increased mileage, less punctures and blow-outs and more satisfaction.

Because of this Over-size feature and the other Trouble-Saving and Extra Service-Giving features to be found only in Goodyear Tires, we have been awarded contracts from 44 Automobile Manufacturers to equip 36% of the estimated 150,000 cars to be made in 1910. The contracts total up to the greatest number of tires ever ordered from a single tire maker in the history of the automobile industry.



# GOOD YEAR

### Straight-Side Automobile Tires

are guaranteed against Rim-Cutting, Creeping and Coming Off. The outer sides of the tire are straight, permitting the use of a rim with a wide rounding lip where it holds the tire in place. There are no sharp edges—nothing to cause a rim-cut, even though the tire be ridden flat. 64 tapes of piano wire are vulcanized into the base of each tire (see white spots in section). These contract with inflation until the tire grips the rim so tightly that it can never creep, even though but partially inflated. No tire bolts need to be used. Goodyear Tires are supreme in resiliency and are easiest removed and replaced. Send for our valuable book, "How to Select an Automobile Tire." It's brimful of "Tire Sense" and is free for the asking.

**THE GOODYEAR TIRE & RUBBER CO., Main Office and Factory, Arthur St., Akron, O.**

Branches—Atlanta, 90 North Pryor St.; Boston, 669 Boylston St.; Buffalo, 719 Main St.; Chicago, 80-82 Michigan Ave.; Cincinnati, 317 East Fifth St.; Cleveland, 2005 Euclid Ave.; Dallas, 111 North Akard St.; Denver, 1721-1723 Arapahoe St.; Detroit, 251 Jefferson Ave.; Kansas City, 16th and McGee Sts.; Los Angeles, 949-951 South Main St.; Memphis, 181 Madison Ave.; Milwaukee, 188-192 Eighth St.; Minneapolis, 915 First Ave. South; New Orleans, 706-716 Baronne St.; New York City, 64th St. and Broadway; Omaha, 2020-2022 Farnam St.; Philadelphia, Broad St. and Fairmount Ave.; Pittsburgh, 5988 Centre Ave.; Providence, 366 Fountain St.; Salt Lake City, 105-107 West Second South St.; San Francisco, 535-539 Golden Gate Ave.; St. Louis, 3935-3937 Olive St.; Washington, 1026 Connecticut Ave.



A.P. Warner in Curtiss-Herring Biplane in practice flights at his Wisconsin farm

### When You Tell It at the Club—

When you say, "I had the car up to sixty miles this afternoon," just add—

"That's what the Warner Auto-Meter registered."

That'll settle it.

For among motorists everywhere, the Warner Auto-Meter is acknowledged to be the absolutely accurate, dependable speed indicator. It's "always all right." Right in principle, right in performance. Built like a fine watch, and just as reliable.

**WARNER INSTRUMENT COMPANY, 864 Wheeler Ave., Beloit, Wis.**



Branches: Atlanta, 116 Edgewood Ave.; Boston, 925 Boylston St.; Buffalo, 720 Main St.; Chicago, 2420 Michigan Ave.; Cincinnati, 807 Main St.; Cleveland, 2062 Euclid Ave.; Denver, 1518 Broadway; Detroit, 870 Woodward Ave.; Indianapolis, 330-331 N. Illinois St.; Kansas City, 1613 Grand Ave.; Los Angeles, 748 S. Olive St.; New York, 1902 Broadway; Philadelphia, 302 N. Broad St.; Pittsburgh, 5940 Kirkwood St.; San Francisco, 36-38 Van Ness Ave.; Seattle, 611 E. Pike St.; St. Louis, 3923 Olive St. (64)

# FOX

## Anti-Skid Chains



1 2

Here is the side of the FOX cross chain which goes against the road and ABSOLUTELY prevents skidding.

**No. 1.**—Note the square gripping surfaces here which grip the road—there are twelve gripping places on this one link—contrast this with the ordinary chain with its ONE gripping point. These four-square gripping surfaces on the Fox, hold the car from skidding in ANY direction while other chains exert such efficiency as they may have in only one direction.

**No. 2.**—Note how the link of the chain which passes through another link is inside a little box at the point of contact so that this angle cannot touch the tire nor be broken by striking stones.

### THE FOX SAVES TIRE BILLS.

In the Fox, no edge, no cutting surface of any kind comes against the tire. Nothing except a broad, flat, perfectly smooth metal surface **without edges**, touches the tire. The broad flat links fit the shoe as harmlessly and as closely as a piece of tire tape. If you should swing a heavy sledge hammer against the links of the Fox Cross Chain, not once, but **many times**, you could not make it cut into the tires. If you should do this with other chains, you would quickly drive the links into the rubber and cut a great hole perhaps with the very first blow.

Send for Free Booklet.

### FOX METALLIC TIRE BELT CO.

1999 Broadway,

New York City



## RECENT PATENTS.

950,191. Gearing for Motor Vehicles. Charles Schmidt, Detroit, Mich., assignor, by mesne assignments, to Packard Motor Car Company, Detroit, Mich., a Corporation of Michigan. Filed Feb. 6, 1905. Serial No. 244,437.

1. In a motor vehicle, the combination with the gear case, of a shaft rotatably mounted in said case, a driven gear on one end of said shaft and a driving pinion on the other end thereof, a bearing for the shaft intermediate said gears, and a bearing for the end of the shaft beyond the driving pinion, said latter bearing comprising an outer ring secured in a bracket of the casing, an inner ring upon the shaft, and intermediate balls.

950,206. Starting Device for Internal Combustion Engines. Robert J. Gibbon, Chicago, Ill., assignor, by mesne assignments, to International Device Company, a Corporation of South Dakota. Filed April 17, 1908. Serial No. 427,607.

1. A single stroke internal combustion motor comprising, in combination, a cylinder, a reciprocable piston therein, an exhaust port in the side wall of the cylinder adjacent each end thereof, the outer port being uncovered by the "out" stroke of the piston, the inner port being covered by the piston at the end of its "in" stroke, and a valve for the last named port, openable only during the "in" stroke of the piston.

950,276. Carburetter. Percy J. Dasey, New York, N. Y., assignor of one-half to Thomas J. Wetzel, New York, N. Y. Filed Jan. 2, 1909. Serial No. 470,394.

1. A carburetter having a valve and a seat from which said valve may rise to admit air, a member adjacent to said valve and having an opening through which the air flows in passing from said valve, the edges of said opening diverging from each other and forming an angle widening in the direction in which the valve moves in opening, and means for admitting a liquid fuel at the vertex of said angle in the path of the current of air flowing through said opening.

950,339. Sparking Device. Thomas H. McQuown, Cambridge, Mass., assignor, by mesne assignments, to Arthur Atwater Kent, Philadelphia, Pa. Filed July 28, 1905. Serial No. 271,583.

1. In a device of the class described, a stationary contact, a rotary member carrying a movable contact which is adapted to engage the stationary contact as said member rotates, means tending constantly to rotate said member forward with an accelerated motion, and a rotary restraining device to restrain the movement of said member until the movable contact is about to engage the stationary contact, said restraining device releasing said member just prior to the time when the movable contact engages the stationary contact whereby the movable contact is accelerated in its movement as it engages the stationary contact.

950,423. Carburetter. Lars Anderson, Chicago, Ill., assignor to Henry S. Morton, Cranford, N. J. Filed Feb. 13, 1909. Serial No. 477,600.

1. In a carburetter, the combination of an air induction passage, a throttle for controlling the air passage, a valve for controlling the supply of liquid to the nozzle, a valve seat with which the valve co-operates, means for adjusting the throttle, and means

whereby the adjustment of the throttle will automatically and simultaneously adjust and rotate the said valve with respect to its seat.

950,615. Automatic Controlling Device for Vehicle Lamps. Henry Ehlen and Charles E. Rudy, Covington, Ohio, assignors of one-third to William B. Meeker, Dayton, Ohio, and said Rudy assignor to said Ehlen. Filed Oct. 30, 1908. Serial No. 460,370.

1. In a construction as described, a vehicle body, a steering apparatus, two pivotally mounted lamps, connections between the said lamps and the steering apparatus including independent radial levers mounted on a common trunnion and adapted to positively control the movement of the lamps, and links extending between the radial levers and the pivotal supports of the lamps, and means to independently actuate the said radial levers by the movement of the steering apparatus whereby one of said lamps will be turned on its pivotal connection in unison with the steering apparatus while the other lamp will remain at rest, substantially as specified.

950,706. Current Distributor and Timer. James M. Smith, Philadelphia, Pa., assignor of one-half to Wilson D. Craig Wright, Philadelphia, Pa. Filed Jan. 13, 1909. Serial No. 472,098.

1. A current-distributor and timer for the ignition system of explosive engines, comprising a casing, an arbor rotatively arranged in said casing, a gear wheel upon said arbor, a gear wheel provided with a hollow hub rotatively arranged in said casing and adapted to mesh with the gear wheel on said arbor, a sleeve slidably arranged in said hollow hub and adapted to rotate therewith, a shaft or spindle connected with said sleeve and adapted to rotate therewith, a make and break device within said casing, means connected with said shaft or spindle for operating the same, a current distributing mechanism within said casing, a spark-coil arranged within said casing, and means for connecting electrically the said spark coil with the said make and break device and said distributing mechanism, substantially as and for the purposes set forth.

950,773. Spring Check. Bernard B. Mears, Baltimore, Md. Filed Nov. 27, 1907. Serial No. 404,111.

1. The combination with a vehicle frame having side bars, an axle, and means for yieldingly supporting the frame above said axle, of a resilient checking member extending transversely of the frame between said side bars, means carried by the side bars for supporting said checking member, and flexible members connecting said checking member and said axle.

950,847. Spark Plug. Samuel B. Fowler, Lafayette, Ind. Filed April 21, 1909. Serial No. 491,287.

1. In a spark plug for internal combustion engines an outer electrode consisting of a hollow body portion terminating in an annular surface, an inner electrode extending through the hollow body portion of the outer electrode and terminating in substantially the plane of the annular surface of the outer electrode, insulating material filling the space between the two electrodes and terminating in substantially the plane of said annular surface, said inner electrode having its end of greater diameter than its body portion whereby a spark gap is secured of less

length than the thickness of the insulating material between the body portions of the two electrodes.

950,848. Gasolene Engine Starter. Edwin A. Gardner, Chicago, Ill., assignor of one-tenth to Christopher Baldacci, Chicago, Ill. Filed July 12, 1909. Serial No. 507,192.

1. The combination with the motor spring surrounding the engine shaft, of said engine shaft, of a ratchet clutch device for connecting at will the inner end of the spring to the shaft for winding the same, a drum surrounding the spring and to which its outer end is connected, a ratchet surrounding the shaft and carried by the drum, and a pawl plate engaging said ratchet and attached rigidly to the shaft, substantially as described.

950,919. Ball Bearing. Henry Hess, Philadelphia, Pa. Filed April 24, 1906. Serial No. 313,443.

1. A separator for balls, comprising two cups, each adapted to engage a segment of a ball so that a line passing through the centers of the cups intersects the ball centers, a spring connecting the cups and tending to move them apart, and a cage inclosing the spring, the cups and cage being arranged so that in some cases the ends of the cage may engage the balls.

950,949. Automobile. Frederick P. Nehrbas, Buffalo, N. Y., assignor to E. R. Thomas Motor Company, Buffalo, N. Y., a Corporation of New York. Filed June 7, 1909. Serial No. 500,519.

1. An automobile comprising a longitudinal bar and a cross bar, a bracket having upper and lower plates which are secured with their inner parts to the adjacent ends of said bars and form gussets while their outer parts are connected by a vertical web and form a pocket, and a spring seated in said pocket.

950,980. Driving Mechanism for Motor Vehicles. Alexander Winton and Harold B. Anderson, Cleveland, Ohio, assignors to The Winton Motor Carriage Company, Cleveland, Ohio. Filed Nov. 30, 1906. Serial No. 345,691.

A driving and supporting mechanism for motor vehicles, comprising a single piece axle having an integral drop center and short integral longitudinally extending spindle sockets to prevent possible shifting out of alignment, hollow longitudinally extending wheel spindles having their inner ends rigidly attached within said sockets and their outer ends projecting beyond the sockets to receive wheel bearings, a compensating gear housing above and detachably attached to the drop portion of the axle by vertically arranged sockets, driving wheels journaled upon the hollow spindles, and separate shaft connections of less diameter throughout their length than the internal diameter of said hollow spindles to permit them to be attached and removed through said spindles, the ends of the shaft sections detachably connecting the wheel hubs and the compensating gearing, substantially as described.

951,000. Spring Controlled Vehicle Wheel Link. Hugh Ewing, Columbus, Ohio. Filed Sept. 28, 1909. Serial No. 519,954.

1. In a vehicle, the combination of a wheel axle, a body, a supporting link for the body carried upon the wheel axle, the link being pivoted substantially vertically over the wheel axle, a pair of springs disposed on opposite sides of the link by which the link is normally maintained in its vertical position.

tion, a bracket suitably mounted for resisting the thrust of the springs, the adjacent ends of the springs abutting against the link and bracket, and a sliding rod for connecting the springs, substantially as described.

951,037. Transmission Mechanism. Alexander Winton, Cleveland, Ohio. Original application filed May 25, 1903, Serial No. 158,714. Divided and this application filed May 4, 1906. Serial No. 315,230.

1. A transmission mechanism comprising a motor, a balance wheel therefor, a transmission mechanism including a clutch member co-acting with the interior surface of the balance wheel, said clutch member projecting beyond the said balance wheel rim, and a reversing mechanism coacting with the outer peripheries of said balance wheel rim, and the projecting portion of said clutch member.

951,070. Shock Absorber. John H. Gibson, Greenville, Pa. Filed Feb. 1, 1909. Serial No. 475,409.

1. A shock absorber for vehicles comprising a cylinder constantly open to the atmosphere at one end and having a head at the other end, a piston in said cylinder, air being allowed to pass from the said open end of the cylinder to the space between the piston and the cylinder head when the piston is moved in one direction, means forming communication between the atmosphere and the space between said piston and said head when the piston is in its normal position, means for automatically closing such communication at a predetermined point in the travel of the piston, and means for regulating the outlet of the air from the cylinder on the return stroke of the piston.

951,093. Method for Gasifying, Igniting and Controlling the Combustion of Fuel. Wolcott Remington, Stamford, Conn. Original application filed Feb. 25, 1908, Serial No. 417,705. Divided and this application filed Oct. 14, 1908. Serial No. 457,739.

1. The method of consuming fuel which consists in first compressing air to such a degree that its temperature is above the vaporizing point of the fuel below the temperature at which the fuel ignites, then injecting the fuel into the compressed air, and finally igniting said fuel at a point beyond the point where it was injected.

951,096. Spring Controlled Vehicle Wheel Link. Hugh Ewing, Columbus, Ohio. Filed Dec. 2, 1908. Serial No. 465,738.

1. In a vehicle, the combination of a wheel axle, a body, a spring controlled supporting link for the body carried upon the wheel axle, said link being pivoted substantially vertically over the wheel axle and normally maintained in said position by its spring control.

Reissue—13,086. Wind Shield for Self-propelled Vehicles. George W. Kerr, West Springfield, Mass., assignor to C. A. Mezger, Incorporated, New York, N. Y., a Corporation of New York. Filed Jan. 17, 1910. Serial No. 538,563. Original No. 812,930, dated Feb. 20, 1906. Serial No. 247,921.

1. A wind shield for vehicles comprising a lower part supported on the vehicle, a brace therefor extending from the upper part thereof to the vehicle, an upper part arranged to swing relatively to said lower part and a brace pivotally secured to the upper part and having a sliding connection with the brace for the lower part.

951,117. Combustion Engine. Charles E. Henriod, Neuilly-sur-Seine, France. Filed June 30, 1908. Serial No. 441,208.

In a combustion engine, an admission valve and an exhaust valve arranged in direct contact with the cylinder and at the side of one another, metal ribs connecting their casings, together to increase the area of contact between the two valves, and two fans having a common axis and supported from the cylinder so that one operates in front of the admission valve and the other in front of the exhaust valve for the purpose set forth.

951,174. Vehicle Brake. Samuel F. Boyce, Schenectady, N. Y., assignor of one-half to Robert E. Powell, New York, N. Y. Filed Dec. 21, 1908. Serial No. 468,617.

1. The combination with an axle of an arm pivotally mounted thereon and provided with an elongated brake shoe, constructed to engage the ground, means for raising said shoe into inoperative position, a spring pressed rod having its end constructed to engage said shoe, and means for moving said rod out of engagement with said shoe.

951,193. Funeral Car. Samuel W. Mather, Cleveland, Ohio. Filed Sept. 10, 1909. Serial No. 517,158.

1. A body for a funeral car, comprising a driver's compartment, two passenger compartments, a transverse casket compartment located between the passenger compartments, and a side entrance into each compartment.

951,235. Coupling for Shafts and the Like. Cysille Cottin, Lyon-Monplaisir, France. Filed Dec. 26, 1908. Serial No. 469,332.

1. A coupling comprising a universal joint, a fly wheel, a driving shaft, with the clutch cup mounted on a driven shaft, said universal joint being formed by providing the clutch cup with an edge which is spherical in section and which rests in a cylindrical-spherical recess of the fly wheel, opposite radial tenons trunnioned in the rim of the fly wheel and having their flattened ends engaging with corresponding grooves cut longitudinally in the spherical edge of the clutch cup.

951,244. Ball Bearing. Henry Hess, Philadelphia, Pa. Filed April 27, 1906. Serial No. 313,975.

A separator adapted to be inserted between two adjacent balls in an annular ball bearing having bearing rings provided with races of curved cross section, consisting of a piece of sheet metal having a web and two flanges, the flanges being notched to engage segments of the balls, and one of the flanges being curved to approximately conform to one of the races.

951,376. Shock Absorber. Frank W. Merritt, New York, N. Y., assignor, by mesne assignments, to Auto-Appliance Manufacturing Company, a Corporation of New York. Filed Feb. 13, 1909. Serial No. 477,493.

1. In a shock absorber, the combination of two discs adapted to be respectively secured, one to the body and the other to the running gear of a vehicle, and placed face to face and held together, one provided with a recess whose wall is in the form of inclined ways, the other with a recess adapted to retain a rotary bearing part, a rotary bearing part interposed between said discs and entering said respective recesses, a clamping device adapted to hold said discs together and a spring interposed

between said clamping device and the disc.

951,533. Attachment for Vehicle Wheels. Gilford E. Kimmel, Rutland, Ind. Filed April 13, 1909. Serial No. 489,607.

In an attachment for vehicle wheels, the combination with a rim of the wheel, of a similarly constructed rim, arms applied to said first referred to rim and having laterally extending recurved portions adapted to receive laterally the second referred to rim, said arms having slots therein extending in the direction of the longitudinal plane thereof, said first referred to rim also having guide loops receiving said arms, a bifurcated cam, a bolt having its stem passing through said cam, means for effecting connections between said bolt and said cam, said cam having a lever member for its manual actuation, and a clamping plate through which said bolt passes, engaged by said cam and itself engaging said arm.

951,555. Clip for Drive Chains. Warren J. Belcher, Hartford, Conn., assignor to Whitney Manufacturing Company, Hartford, Conn., a Corporation. Filed Oct. 2, 1909. Serial No. 520,724.

1. The combination with the pivot pins and side plates of a drive chain, of a clip to fit over the ends of the pins extending beyond the side plates, said clip consisting of a sheet metal body having openings therein to receive the ends of the pins, and a spring tongue to bear against one side of one of the pins to move the clip endwise toward the other pin, and into locking engagement with a groove in said pin.

951,651. Friction Clutch. Van Zandt M. Moore, Cleveland, Ohio. Filed Oct. 3, 1908. Serial No. 456,078.

1. The combination of a driving and a driven member having conical surfaces, one of which is composed of a number of individually pivoted sections arranged in a circuit and means for causing axial movement of said sections as a unit relatively to the other member, and means for swinging the sections individually on their pivots.

951,707. Automobile Starter. Charles A. Smith, Brattleboro, Vt. Filed July 14, 1908. Serial No. 443,517.

1. An automobile starter, comprising a rack provided with teeth at one end, a pedal for moving the rack in one direction, means for returning the rack, a latch for locking the pedal and a spark lever connected with the latch for releasing the same.

951,869. Tire Construction. Paul E. Wirt, Bloomsburg, Pa. Filed Sept. 12, 1907. Serial No. 392,462.

1. A laminated tire having a plurality of thin flexible rubberized fabric sheets cut into predetermined lengths and adhesively compacted in face to face relation, said units being successively compacted and arranged to present their outer edges toward the wearing surface, said laid up laminations being vulcanized together.

951,870. Tire and Tire Tread Construction. Paul E. Wirt, Bloomsburg, Pa. Filed Sept. 12, 1907. Serial No. 392,463.

1. In a tire, the tire body and a separate tread portion on the latter, said tread portion consisting of a plurality of thin flexible forming units constructed from sheet material and adhesively compacted in face to face relation with their outer edges presented toward the wearing surface.

951,871. Tire Construction. Paul E. Wirt, Bloomsburg, Pa. Filed Jan. 13, 1909. Serial No. 472,126.

1. A tire including a plurality of flexible units disposed side by side and crushed in the direction of their width.

951,872. Tire Construction. Paul E. Wirt, Bloomsburg, Pa. Filed Jan. 13, 1909. Serial No. 472,127.

1. A method of constructing tires which consists in building up on the external surface of the tire body a separate tread structure by successively laying tread forming units, of flexible sheet material, on edge and in tightly compacted face to face relation with their outer edges presented toward the wearing surface, and finally vulcanizing the whole.

951,873. Tire Construction. Paul E. Wirt, Bloomsburg, Pa. Filed Jan. 13, 1909. Serial No. 472,128.

1. A tire comprising a body made up of a plurality of layers of flexible material, and individual unconnected reinforcing strands located between the layers and arranged diagonally in said body, said strands consisting of thin soft pliable wires.

951,915. Driving Mechanism for Divided Axles. Charles H. Johnson, Canton, Ohio, assignor to The Ridgley and Johnson Tool Company, Springfield, Ill., a Corporation of

Illinois. Filed June 14, 1909. Serial No. 501,888.

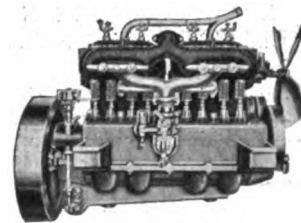
1. A driving mechanism including a divided axle, discs on the axle sections, a driving drum fitting around the discs and having a recess with cam faces therein presented toward the discs, spring controlled rolls in the recess on each disc adapted to be wedged between the cam faces of the drum and the discs by the relative rotation of the drum and discs, and a spacing block between the rolls having a centering plate frictionally held between the discs.

951,984. Means for Controlling Automobiles. Howard E. Coffin, Detroit, Mich., assignor to E. R. Thomas Detroit Co., Detroit, Mich., a Corporation of Michigan. Original application filed Aug. 4, 1906, Serial No. 329,139. Divided and this application filed Aug. 4, 1906. Serial No. 329,140.

1. In a controlling mechanism for automobiles the combination of a steering post, a steering rim to actuate said post, a rotatable shaft to control the throttle valve of the carburetter, a vertically reciprocatory staff to actuate the spark controlling device, means to actuate said shaft, and a hand grip rotatable upon an upwardly extended

axis to vertically reciprocate said staff, the staff and the shaft being movable simultaneously by one hand of the operator or each independently the one of the other at the will of the operator.

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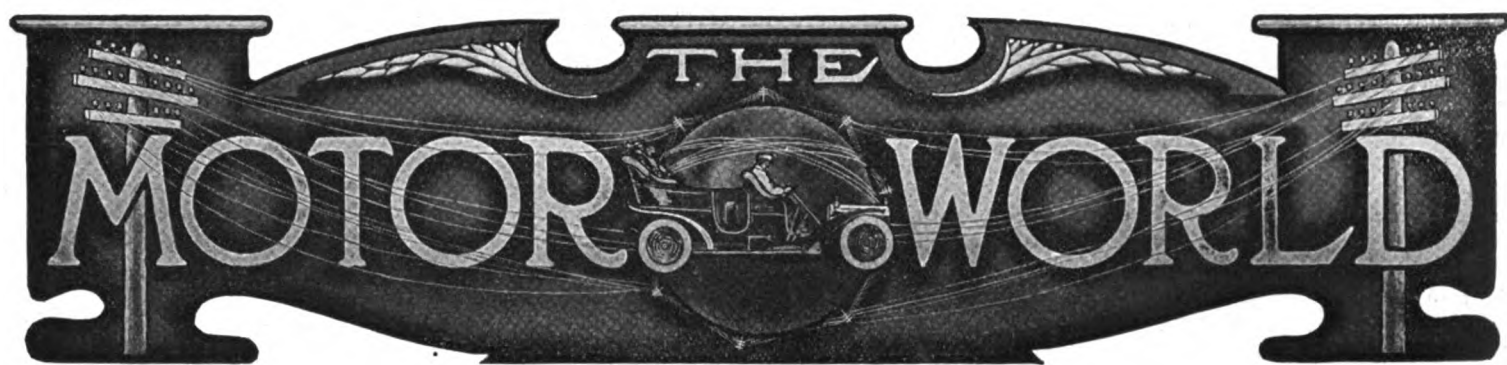
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### TO PRODUCE TIRES IN WALPOLE

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Combining several concerns whose products relate directly or indirectly to the automobile trade, a consolidation has been effected of the Valveless Innertube Co., of New York City; the Walpole Rubber Co., Granby, Quebec; the Walpole Varnish Works, the Walpole Shoe Supply Works and the Massachusetts Chemical Co., all three of the latter being located in Walpole, Mass. The new company formed by the consolidation will be known as the Walpole Rubber Co., and will be managed by the men who have been operating the Chemical Company.

In addition to the factories at present in operation in Walpole, Boston and Granby, a new factory is being put up in Walpole, with a floor area of 100,000 square feet. The building is to be completed by August 1, and among other things will be used for automobile tire production. The company controls what is known as the Gleason fusible core process, which embodies the molding of the rubber over a core of metal having so low a melting point that, after vulcanizing the rubber, the metal may be melted and poured out through a small opening. The process gives a seamless result and is used in making tire tubes and horn bulbs.

### Ford Loses the Legal Skirmish.

In the matter of substituting the name of the Columbia Motor Car Co. for that of the Electric Vehicle Co., as complainant with George B. Selden in the decree which is to be entered against the Ford Motor Co., Judge Hough of the United States Circuit Court for the Southern District of New York, filed an opinion on Friday, 22d inst., granting the motion of counsel for the complainants, for leave to file a supple-

mental bill making the substitution. The defendant's time to demur, plead or answer is on or before May 12. The recent hearing before Judge Hough was over the question as to whether an original bill should be filed to make the change in name or whether it might be done by a supplemental bill.

### Pullman "Passes Up" Evansville Deal.

No plant at Evansville, Ind., is to be established by the Pullman Motor Car Co., of York, Pa., despite the fact that complete plans for such a project were made and to some extent carried out. Because of disagreements with the Evansville business men and the further fact that York, the home town of the company, offered ample inducements for the company to stay strictly at home, the required additional factory space will be created in York.

### Here's Another General Motors' Scheme.

The General Motor Securities Co., of New York City, has been incorporated under New York State laws, with \$100,000 capital, its purposes being given as "to deal in Government and industrial securities." J. C. Matlack, of Milltown, N. J., and C. R. Hatheway, secretary of the General Motors Co., appear as incorporators, together with T. S. Merrill, of New Rochelle, N. Y.

### Selden Patent Stops \$1,000,000 Company.

Work has stopped on the erection of an automobile factory for the Corliss Motor Co., of Corliss, Wis., the reason given being that the company has not obtained a Selden license. The concern was incorporated with \$1,000,000 capital last December but indicates that it will not proceed in the face of possible legal trouble.

### Indiana Buggy Makers Trying Cars.

The Kendallville Buggy Co., of Kendallville, Ind., is making plans to take up automobile manufacture. It has completed a five passenger touring car, with a four cylinder Waukesha motor, which is to serve as the prototype for its product.

### PLANS OF UNITED STATES' MERGER

No Stock Jobbing or Scramble for "Units"—Big Truck Plant to be Built in Detroit—Electric Chassis to be Strongly Featured.

In connection with a rapid unfolding this week of the plans of the United States Motor Co., the merger corporation which comprises the Maxwell-Briscoe, Columbia, Alden Sampson and other properties, considerable speculation is being indulged in as to its specific lines of action relating to the taking in of other companies, and future policies as to product and sales methods. The many more or less sensational rumors and bits of guessing gossip in connection with the merger company's intended moves have been quite wide of the mark in most instances, as a disclosure of the company's real plans and purposes is calculated to show, in addition to indicating the aggressive steps that are being taken to strengthen the organization and extend its field of action.

The facts concerning the policy and projects of the big company were supplied by President Briscoe himself during the course of an interview accorded the Motor World on Tuesday last and will set at rest a lot of idle talk. Mr. Briscoe was frank in his utterances and did not attempt to use the language of diplomatic subterfuge.

Reports that various prominent makers, who heretofore have not been identified with United States Motor interests in any way, are about to enter the organization have no basis in fact other than that the big company has adopted an open-minded attitude and is willing to talk matters over with those makers who may be attracted by the United States Motor idea and who feel an interest in the possibilities of alliance with it. To such as appear in the light of elements of strength if they were taken into the fold, the United States

Motor officials are not averse to giving a complete "showdown" of cards, so that the matter may be considered in its every aspect without mystery or concealment.

It is not the intention to add an unwieldy string of companies or acquire any properties that will not be positive factors in the profit-making commercial success of the organization as a whole. The company's plans contemplate no stock manipulation or mere aggrandizement of lists of "constituent" concerns, but look to a closely knit organization in which the individual units and departments will be strong and efficient, with important economies and advantages in purchasing, manufacturing and selling, that are being put into effect by a dominating co-operative administration.

Since the inception of the United States Motor Co. it has been known that the Brush Runabout Co., of Detroit, Mich., is to be numbered with the other concerns in the organization. Frank Briscoe, the head of the Brush company, is a brother of Benjamin Briscoe, president of the merger corporation, and the chief reason that the Brush company has not been taken in already is that other matters have claimed precedence, inasmuch as the understanding has existed from the first. A corps of appraisers it at work this week in the Brush plant, preparatory to the taking over of the property by the United States Motor Co., and it is probable that the deal will be consummated within a week or two.

Detroit is to have another United States Motor plant in a big commercial vehicle factory which the company is to build in that city. The site has been selected and plans submitted for the structure, which will be 1,000 feet long and 150 feet wide, and will have drop forge and blacksmith shops in addition. The exact location of the plant is not yet revealed, because of further real estate transactions involving additions to the site.

The plant will be operated as the Alden Sampson Mfg. Co., Small Car Department, and will make 1,000-pound delivery wagons, together with 1 and 2-ton trucks. The estimated capacity of the factory is 4,000 cars per year at first. Subsequent increases will be made when necessary. Morris Grabowsky, who lately joined the United States Motor forces, will be located at Detroit.

This week the capital stock of the Alden Sampson company was increased from \$300,000 to \$2,000,000, and the United States Motor Co. has put in \$500,000 in cash, which is at the immediate disposal of the Sampson company for carrying forward the enterprises that have been outlined for it. The original plant at Pittsfield, Mass., will be known as the Heavy Service Department. It will continue the manufacture of 3 and 5-ton trucks, but on a much larger scale than heretofore. These trucks will be on the designs developed by the

Alden-Sampson company itself, with such advances and improvements as can be added from time to time. The commercial vehicles to be made at the Detroit plant, however, are the result of designs developed by the Maxwell-Briscoe Motor Co., in the course of some four years of experimentation and test. All the data in the commercial vehicle field that the Maxwell-Briscoe company has gathered in preparation for the time when it might actively engage in this line of manufacture, is to be placed at the disposal of the new Detroit factory.

At the plant of the Columbia Motor Car Co., in Hartford, Conn., there is to be a vigorous rejuvenation of the electric department, in addition to a program which provides for the manufacture of 2,000 gasoline touring cars for the year. The touring cars will list at \$3,000, and will represent the utmost in materials, appointments and de luxe effects.

Something of a departure is to be made in the electric department, in that the company will make and supply complete electric chassis without bodies. These chassis will be furnished to carriage builders and others who may wish to supply the body work and market the complete vehicles in their own way, a large field of this kind having been created by the desire of many carriage builders and carriage dealers to engage in the automobile business in some form. Their special facilities for making bodies to order and for reaching customers of the type who take most kindly to electrics are regarded as favoring the arrangement by which they may become wholesale customers for electric chassis without bodies.

A change is scheduled in Maxwell-Briscoe affairs by the resignation of Benjamin Briscoe as president of the company, to be succeeded by J. D. Maxwell, vice-president and mechanical head. As president of the United States Motor Co., Briscoe will thus be able to give his entire attention to the organization as a whole, and the change will have the further effect of giving the Maxwell-Briscoe company the same sort of representation in the United States Motor company's board of management as the other companies, who are to be represented by their respective heads. The general plans and policies of the Maxwell-Briscoe company, however, remain along the lines already familiar.

Emphasis is placed on the fact that the United States Motor Co. seeks to be an organization in which economy and sound judgment will govern throughout, with no stock jobbing attachments. President Briscoe has indicated that its operations are to be conducted "in the light" and that a governing idea in connection with the organization is that it may be a permanent "estate," the continuance and progress of which will be independent of any man or

group of men concerned in it, so that its policies and institutional character will be such that at no time will an individual be indispensable to its success.

#### Changes Among Prominent Tradesmen.

George S. Patterson has been appointed general manager of the Gaeth Automobile Co., of Cleveland, O. He will assume direct charge of the company's sales.

Marcus Allen has been appointed manager of the New York City branch of the G & J Tire Co., of Indianapolis, Ind. He formerly was the New York manager for the Empire Tire Co.

Gerald P. Hall has been appointed general sales manager of the Pennsylvania Auto-Motor Co., of Bryn Mawr, Pa., making Pennsylvania cars. He formerly was identified with the sales of Midland cars.

Lyman A. Smith, formerly assistant purchasing agent for the Columbia Motor Car Co., of Hartford Conn., has been advanced to the position of purchasing agent. He succeeds F. S. Hyatt, who recently resigned.

C. H. Wallerich has been placed in charge of the sales department of the Haynes Automobile Co., of Kokomo, Ind., succeeding Richard Bacon. Wallerich formerly was with the Willys-Overland Automobile Co. at Indianapolis, Ind.

A. M. Joralemon, who recently resigned as manager of the Pennsylvania Rubber Co., of New York, has become the general sales manager of the Auto Improvement Co., of New York. The company makes speed indicators, taximeters, carburettors and other automobile accessories.

#### Lapeer Drops the Watt Project.

Lapeer, Mich., has changed its mind about giving further help to the Watt Motor Co., of Detroit, Mich., to start a Lapeer plant. The Watt people originally stated that their assets were worth approximately \$26,000, with liabilities between \$13,000 and \$14,000, but that they needed a little ready cash with which to build a demonstrating car. In less than an hour's time a committee of Lapeer business men raised \$3,000 for the purpose. Stock subsequently was sold for a portion of the amount necessary to clean up the company's obligations, but later the promoters stated that an additional liability of \$5,000 for labor had to be taken care of. Following a meeting of the Lapeer men, the company's officers were told that the "deal was off."

#### Krit to Exhibit at Brussels.

The Krit Motor Car Co., of Detroit, Mich., having decided to exhibit at the forthcoming exposition in Brussels, Belgium, has selected Baron Van der Noot de Vrekem de Moorsel, a member of Belgian consulate at Detroit, to represent it. The Baron sails on May 10 with two Krit cars and will be gone six months.



**LOSES THE TRADE-MARK RIGHTS**

**Oil Concern Failed to Mark Brand Name  
On Its Packages—Principle Applies  
to All Kinds of Goods.**

Illuminating an important point concerning trade-mark rights not only in connection with automobile lubricants but in all classes of goods relating to the motor car industry, the United States Circuit Court of Appeals of the District of Columbia has handed down a decision that makes it plain that a trade-mark has no standing in the courts in connection with any articles or goods unless it actually is put on the goods themselves or their containers, no matter how extensively the trade-mark may be advertised or applied to the goods by reference. Two oil companies are the litigants involved, the question being over their rights to "Autoline" and "Autolene," respectively.

In a contest over priority in the adoption and use of the word "Autoline" or "Autolene" as a trade-mark for lubricating oils, the W. C. Robinson & Son Co. was successful over the Crescent Oil Co. in the first decision, it having been shown that the Robinson company secured registration of "Autoline" on November 7, 1905, while the Crescent company filed an application for "Autolene" on February 18, 1908. It was pointed out that while the Crescent company as far back as 1903 had, among thirty different kinds or brands of oil, a brand called "Autolene," the evidence did not show that the name was affixed to or marked upon the packages. In reviewing the previous decision on appeal, the court holds that while the evidence shows that the name was one adopted in the office and warehouse to indicate grade or quality, this is not enough.

The court approves of the principle enunciated in a former case to the effect that property in a trade-mark "can only be acquired by the actual application of it to goods of a certain class" and that "the mere advertisement of the words or symbol without application to the goods themselves is insufficient to constitute a trade-mark." With this view, the finding for the Robinson company by the Commissioner of Patents is sustained.

**To Make Nieuport Magnetos in Muncie.**

The Warner Electric Co., of Muncie, Ind., is to manufacture the Nieuport magneto and ignition devices, under exclusive United States rights granted by the Societe Anonyme des Appareils Electriques Nieuport, of Suresnes, France. The Warner company, as a co-partnership, has been making electrical appliances for ten years, but has recently incorporated with \$100,000 capital for

the purpose of making ignition devices. It will commence the delivery of American-made Nieuport magnetos within 90 days. Among those interested in the concern, whose names are known to the automobile trade, are A. L. Johnson, C. E. Davis, Ray P. Johnson, F. H. Jones, Hugh L. Warner, W. E. Hitchcock, R. C. Stone and J. E. Johnson, all of Muncie, and Edouard Nieuport, of Suresnes. The leading spirits of the group are Ray P. Johnson and C. E. Davis, who hold the positions of secretary and of manager, respectively, in the Warner Gear Co., of Muncie. The experience of the latter firm in the trade will assist the Electric Company's campaign.

**Kelly-Racine Chooses Officers.**

The Kelly-Racine Rubber Co., of Racine, Wis., has completed its organization to the extent of choosing its officers and directors. At a meeting on the 12th inst. the directors were elected, and they in turn selected the following officers: C. F. U. Kelly, president; Frank L. Mitchell, vice-president; Stuart Webster, treasurer, and John D. Dwight, secretary. The board of directors consists of these officers together with Henry Plow.

**Pittsburg Buys a Site at Braddock.**

The Pittsburg Motor Car Co., which at present has a factory at New Kensington, Pa., and makes the Pittsburg Six, has purchased a site in Braddock, Pa., where its manufacturing operations will be transferred upon completion of a three-story factory, 217x95 feet. The company, which is capitalized at \$300,000, some time ago acquired the Ft. Pitt Motor Car Co., of New Kensington.

**Beach Visiting the Foreign Foundries.**

With a view to keeping in touch with foreign methods and improvements in the production of automobile and motorcycle cylinder castings, Edward W. Beach, of the Manufacturers Foundry Co., Waterbury, Conn., is taking a six weeks trip in Europe. He was on the Minnehaha, which went on the rocks in the English Channel, but anticipates a less adventurous return.

**Alpena Accepts Ahern's Offer.**

Agreeing to furnish a ten-acre site and a cash bonus of \$50,000, the chamber of commerce of Alpena, Mich., has accepted a proposition for the building of an automobile factory in that city by Thomas F. Ahern, of Detroit. The latter undertakes to organize with \$150,000 cash capital.

**Remy Opening a Branch in Boston.**

The Remy Electric Co., of Anderson, Ind., is opening a branch distributing office in Boston, Mass. A complete supply of Remy magnetos and parts will be maintained, together with a line of special fittings for attaching Remy magnetos to cars that are not already magneto equipped.

**WHEN RUBBER WILL COME DOWN**

**It Will Be About Three Years Hence, According to Colt—Production Increasing Faster Than Consumption.**

No drop has taken place in the price of rubber for some weeks, and in consequence the purchases of the tire companies and others on this side of the water are as meagre as circumstances will permit. The price of fine upriver Para has been maintained between \$2.80 and \$2.90 per pound. The prices of lower grades are so high that the manufacturers of rubber goods in general have found it necessary to advance prices about 10 per cent. throughout on such products as rubber boots and waterproof articles.

In an interview on the situation, President Samuel P. Colt, of the United States Rubber Co., predicts that, while the end for high prices in rubber is not yet in sight, the present prices cannot be maintained in the face of the vastly increasing production of cultivated rubber, stimulated by speculation in the shares of rubber plantation companies which have been planting enormous areas of land in Ceylon and the Straits Settlements with Brazilian rubber trees.

It will take about three years, President Colt asserts, for this increased production to make itself felt in the market, after which rubber will sell for about half the prices that it is commanding now. The United States uses about 60 per cent. of the entire rubber output of the world, Colonel Colt explains, and automobile tire manufacture takes about half of all that is consumed in this country, or 30 per cent. of the world's output.

"The Bank of Brazil," he declares, "last year started to hold back rubber, in anticipation of a rise which natural conditions brought about. Common labor in Brazil brings \$1.50 per day, against 10 or 15 cents per day in the Straits Settlements, where rubber is obtained from the same species of trees as grow in Brazil. In fact, the trees there and in Ceylon have been transported from Brazil. But production is now increasing faster than consumption and rubber prices ultimately must come down."

**Schedules in Fickling Bankruptcy.**

Schedules in bankruptcy of Fickling & Co., New York City, makers of automobile tops and body fittings, show liabilities \$21,587 and nominal assets \$26,518, consisting of stock \$6,000, office furniture \$1,000, plant \$9,000 and accounts \$10,518. There are chattel mortgages on the stock, fixtures and part of the plant, and of the accounts \$10,917 have been assigned. There are 154 creditors.

**THE WEEK'S INCORPORATIONS.**

Philadelphia, Pa.—Fegley Tire Chain Co., under Pennsylvania laws, with \$5,000 capital.

Detroit, Mich.—Canadian P. F. Motor Co., under Michigan laws, with \$100,000 capital.

Chicago, Ill.—Standard Automobile Station, changes name to Carpenter Automobile Co.

Waynesboro, Pa.—Waynesboro Garage Co., under Pennsylvania laws, with \$20,000 capital.

Detroit, Mich.—Michigan Auto Trimming Co., under Michigan laws, with \$19,000 capital.

Detroit, Mich.—Renfro-Wheeler Mfg. Co., changes name to Renfro Speed-O-Meter Co.

Memphis, Tenn.—Blount County Motor Vehicle Mfg. Co., under Tennessee laws, with \$1,800 capital.

New York, N. Y.—Auto Fabrics Co., under New York laws, with \$20,000 capital. Corporators—Augustus R. Linn, Brooklyn, and others.

Akron, O.—Firestone Tire & Rubber Co., under Illinois laws, with \$4,000,000 capital; to manufacture rubber tires and automobile accessories.

Tulsa, Okla.—New State Auto Co., under Oklahoma laws, with \$10,000 capital. Corporators—Fred J. Shaw, T. A. Wallace, L. H. Ewing.

New York, N. Y.—Motor Rubber Tire Co., under New York laws, with \$9,000 capital. Corporators—W. S. McNabb, Brooklyn, and others.

Sumter, S. C.—Sumter Automobile Supply Co., under South Carolina laws, with \$3,000 capital. Corporators—E. W. Moise, Jr., T. C. Reed.

Chicago, Ill.—Arrow Garage Co., under Illinois laws, with \$10,000 capital. Corporators—Harry A. DeVaux, H. J. Butler, Frank N. Wiley.

Kansas City, Mo.—Nolan-Riske Motor Car Co., under Missouri laws, with \$25,000 capital. Corporators—M. O. Nolan, L. E. Riske, Clara J. Nolan.

Lansing, Mich.—Radle-Clark Sales Co., under Michigan laws, with \$50,000 capital; automobile sales agency. Corporators—R. A. Radle, Frank G. Clark.

Lorain, O.—C. M. Lippert Auto Co., under Ohio laws with \$5,000 capital. Corporators—C. M. Lippert, F. L. and W. A. Pitzela, W. S. and E. A. Baldwin.

Fort Worth, Tex.—Allen Motor Car Co., under Texas laws, with \$15,000 capital; general automobile business. Corporators—J. D. Allen, H. R. Ramey, W. G. Newby.

Worcester, Mass.—Norcross Automobile Co., under Massachusetts laws, with \$2,000 capital; general automobile business. Corporators—J. O. and Maude S. Norcross.

Mayfield, Ky.—Mayfield Automobile Club, under Kentucky laws; no capital. Corporators—T. L. Stovall, W. E. Shelton, R. C. Robbins, H. J. Wright, W. E. Playter.

Port Jefferson, N. Y.—Port Jefferson Automobile Co., under New York laws, with \$1,000 capital. Corporators—Luther H. Chambers, Lewis O. Davis, Joseph B. Skinner.

Chicago, Ill.—Stromberg Electric Co., under Illinois laws, with \$200,000 capital; to manufacture time recording devices. Corporators—K. B. Miller, J. B. Edwards, H. G. Rockwell.

Cincinnati, O.—Auto & Motor Casting Co., under Ohio laws, with \$50,000 capital. Corporators—A. J. Miller, C. H. Gunkleman, William Schaefer, William Baisch, A. G. Applebey.

Cleveland, O.—Cleveland Motor Truck Co., under Ohio laws, with \$20,000 capital. Corporators—G. von der Steinen, W. B. Stewart, F. C. Van Cleef, Edward A. Kline, G. W. Cottrell.

Jackson, Miss.—Central Supply & Automobile Co., under Mississippi laws, with \$10,000 capital. Corporators—Floyd Willis, John P. Hall, C. A. Alexander, James W. Neal and others.

Pittsburg, Pa.—Pittsburg Automobile Academy, under Pennsylvania laws, with \$5,000 capital. Corporators—W. H. Hochberg, Verona; J. G. Murray, H. P. Johnston, Pittsburg.

Chicago, Ill.—Newberry Taxicab Co., under Illinois laws, with \$50,000 capital; automobile taxicab and teaming business. Corporators—Joseph A. McInerney, John F. Clark, Edward V. Peterson.

Detroit, Mich.—Fairview Foundry Co., under Michigan laws, with \$10,000 capital; to manufacture automobile parts. Corporators—F. L. Bromley, J. W. Thompson, C. A. Pfeffer, Hugh Chalmers.

Detroit, Mich.—Oliver Motor Co., under Michigan laws, with \$300,000 capital; to manufacture commercial vehicles. Corporators—Louis W. Schimmel, Charles Bruns, Robert F. Hartenstein, Paul and Henry Wagner.

Ft. Wayne, Ind.—Ft. Wayne Motor Co., under Indiana laws, with \$50,000 capital; manufacturers. Corporators—F. L. Jones, A. D. Cressler, H. D. Scherer, G. H. Loesch, S. S. Bowersox, J. B. Reuss, A. J. Vesey, D. B. Douglass, M. R. Beaver.

New York, N. Y.—Automobile Sales & Distributing Co., under New York laws, with \$10,000 capital; to manufacture and deal in automobile parts, accessories, etc. Corporators—Owen B. Augspurger, George A. Orr, George A. Cochrane, all of Buffalo, N. Y.

**Engine Plant for Fort Wayne.**

Fort Wayne, Ind., has a new motor building enterprise in the Automobile Engine

Co., capitalized at \$50,000 and which is declared to have completed its stock subscription list. The plant will be located in the old Haberkorn engine works, on the east side of town. G. Y. Bowersox, designer of the engine, will have charge of the manufacturing plant.

**Concessions in Carload Minimums.**

Protests of the automobile manufacturers to the railroad rate making committees have resulted beneficially in relation to the westbound shipments over transcontinental lines, a concession having been granted as to the minimum weights on which carload rates shall apply. At present the minimum weights on which a carload rate applies when freight cars 46 to 50 feet long are used, varies from 12,100 to 14,200 pounds, and for 43 feet the lowest is 10,000 pounds. Effective May 23 the minimum will be 12,000 pounds for freight cars 43 to 50 feet, with no change for those whose length is below 43 feet.

**Four New Members in the M. A. M.**

The Motor and Accessory Manufacturers has added four companies to its membership. At the last meeting of the directors the following concerns were admitted: George A. Haws, New York City, oils and greases; Gasoline Motor Efficiency Co., Jersey City, N. J., carburation accessory; Sherwin-Williams Co., Cleveland, O., paints and varnishes; E. B. Van Wagner Mfg. Co. Syracuse, N. Y., die molded castings.

**Detroit Office for National-Acme.**

In order to keep in immediate touch with the Detroit factories, a selling office in that city has been established by the National-Acme Mfg. Co., of Cleveland, O., makers of Acme automobile screw machines and screw machine products. E. G. Matter, who has been with the company for five years in Ohio and Chicago territories, is in charge, the office being at 1222 Majestic building.

**Saurer Trucks in a New Manhattan Home.**

Saurer Motor Trucks will have a new home for its eastern branch as the result of taking a lease on a new six-story fire-proof building at 411-13 West Fifty-fifth St., New York City. The building will be used for shops, stock, storage and garaging of Saurer trucks, although Albert T. Otto will retain the main office in the Motor Mart, at Columbus Circle.

**Colt-Stratton Extends Cole Territory.**

The Colt-Stratton Co., New York City, eastern distributor for the Cole "30," in increasing its facilities has just completed arrangements for two new local representations. G. E. & H. J. Havich is the style of a new concern which is to handle the line in Boston and vicinity. An agency in Wilmington, Del., has been placed with Thomas M. Brown.

## IN THE RETAIL WORLD.

Hugh Squires, Elkhorn, Wis., has sold his garage to Zweibel & Greibel.

W. F. Young, Wichita, Kan., has opened a garage at 247 North Market street. He will handle the Everitt "30."

The Catskill (N. Y.) Supply Co. is having built a new garage. The location is on the Tuttle property on Hill St.

The Selby Co., Washington, D. C., which handles the Paige-Detroit locally, has taken possession of its new quarters at Fourteenth and S streets.

S. A. Lewis, New Haven, Conn., has had plans drawn for a garage on the corner of Orange and Grove streets. It will be of brick, 87x177.

The Morrison Motor Car Co., Chicago, Ill., has established a branch in Milwaukee, Wis. It is located at Grand Ave. and Twenty-sixth St.

The Reading (Pa.) Automobile Co. has taken possession of its new garage at 126-8 North Fifth street. It is the most pretentious establishment in the local colony.

The Standard Motor Car Co., San Francisco, Cal., has opened a branch in Stockton, which will be in charge of F. L. Cutting. Ford and Velie cars will be stocked.

The automobile colony of Topeka, Kan., will be expanded soon with the opening of Bredel Bros., salesroom and garage, at 111 East Eighth avenue. They have the Sterling agency.

Garage facilities in Newark, N. J., are to be still further increased, Igo Bros. having taken a permit for a new garage at Avenue A and Pointer street. The structure will cost \$1,000.

The Black Garage Co., New York City, has leased the garage to be erected at 209-11 East Sixty-fourth St., and will occupy it when completed. It will be a one story building and will cost \$9,000.

Recently formed to market Packard cars in Northern Texas, the Allen Motor Car Co. will make its headquarters in Fort Worth, and now is seeking a suitable location. J. D. Allen heads the company.

Red Bank, N. J., is to have better garage facilities. They will be provided by Fred Van Dorn, who has let the contract for a new garage on Front street. It will be of cement blocks, 50x70, and will cost \$3,000.

The Thomas Automobile Co., Louisville, Ky., has a new home under way which is expected to be ready May 15. It is located at Third avenue and Breckinridge street and will afford greatly increased facilities.

The Pacific Motor Car Co., Oakland, Cal., has opened new salesrooms at 173-5 Twelfth street, and will retain its old quarters on Franklin street for storing surplus stock. It handles the Stevens-Duryea, E-M-F., Flanders and Woods electric cars.

C. H. Hardacker and the Minneapolis

(Minn.) Electric Vulcanizing Co., have joined forces and hereafter will operate from the latter's establishment at 618 Third avenue, south. Tire repairing is their specialty.

Krit cars are to be handled in Washington, D. C., by the Krit Auto Sales Co., just formed, and which will make its headquarters in the Imperial garage, 1214 V street, N. W. Thomas W. Cadick will act as manager.

The University Automobile Co., St. Louis, Mo., has taken a ten years' lease of the garage being erected on Delmar Boulevard, near De Baliviere Ave. The building will be one story, 100x140, and will cost \$20,000.

Brown & Cleary is the title of a new firm which has just entered the automobile business in St. Joseph, Mo., with temporary quarters on South Eighth street. They will concentrate on selling Auburn and DeTamble cars.

This week the Rickey Machine Co., East Orange, N. J., will change its address, and take possession of its new salesrooms on Main street. Greatly increased storage and repair facilities will be afforded in the new quarters.

James H. Rooney, New York City, builder of automobile bodies, has leased the three upper floors of the five story building at 318 West Forty-eighth street. The three floors have a total area of about 15,000 square feet.

Contracts have been let by the Bergdoll Motor Car Co., Philadelphia, Pa., for a large addition to its garage at Broad and Wood streets, to cost \$100,000. The new structure will be 155x73, and will displace several dwellings.

John N. Schneider, New York City, who conducted an automobile renting business at 112 East Seventy-fifth street, has run on financial shoals and filed a petition in bankruptcy. His liabilities are \$41,280, with no tangible assets.

F. C. Reamer and Carroll A. Haines, Philadelphia, Pa., have secured the Quaker City representation for Baker electrics and will open salesrooms at 2214 Spring Garden street. They have leased part of the Park garage for storage purposes.

Philadelphia, Pa., has another new motor concern, which styles itself the Automobile Co. of Philadelphia, and has taken showrooms at 1532 Sansom street, where Marmion cars will be handled. Joseph A. Hudson, a well known local tradesman, is the head of the enterprise.

The Keim Supply Co., Philadelphia, Pa., has taken over the interests of the Auto-light & Motor Supply Co., and will maintain two stores for the conduct of its accessory business. The establishments are located at 1227 Market, and 506-8 North Broad Sts., respectively.

Spokane, Wash., is to have a new enterprise on May 1, when L. O. Cabanne and Frank Cooke will launch a repair shop at 224 Division street, the old home of the Spokane Motor Club. The building has been remodeled and a complete machine equipment installed. Later the firm probably will take on the agency for a car.

Fort Worth, Tex., has a new motor car establishment which has begun business under the style of the Imperial Auto Sales Co., with showrooms at 1212 Houston St. A. R. Cash will be manager of the concern, which will have the state distribution of the Imperial car, made in Milwaukee.

When alterations are completed the Foss-Hughes Co., Wilmington, Del., Pierce-Arrow distributors throughout New England and the Middle states, will occupy for garage purposes the stable building on Gilpin avenue, between Jackson and Van Buren streets. The improvements will cost \$5,000.

A. G. Spalding & Bros., Newark, N. J., are soon to occupy one of the best appointed salesrooms in the state which has been fitted up for them at 845 Broad street, an admirable location, opposite the Central railroad station. The Stevens-Duryea, E-M-F., and Flanders cars will make their home in the new quarters.

Unable to await the completion of the finishing touches, the Electric Vehicle Co., Minneapolis, Minn., has taken possession of its new garage at Hennepin avenue and Fifteenth street. A well equipped battery department is a feature of the establishment, the company devoting its energies to the Hupmobile and Detroit electric.

Twenty-five cars belonging to the Seltzer Motor Car Co., Philadelphia, Pa., and stored at 635 Arch street, were more or less damaged by water, during a fire which broke out in the upper floors on the 16th. The top floors, which were gutted, were used for the storage of woollen goods and it was necessary to flood the building to conquer the blaze.

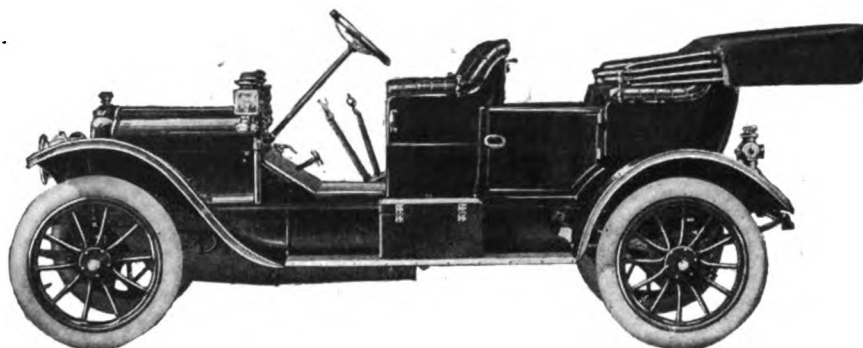
In temporary quarters since the destruction by fire of its old garage at 717 Hennepin avenue, the Royal Auto Co., Minneapolis, Minn., now is permanently located in its new sales and garage building at 517-21 Second avenue, where much additional "elbow room" is gained. Royal Tourist, Abbott-Detroit and Glide cars comprise the concern's line.

Ground has been broken for the new building of the Electric Carriage & Battery Co., Minneapolis, Minn., at Twelfth street and Hermon place. It will be a four-story brick structure standing on a plot 66x165, and is expected to be ready for occupancy July 1. It will be devoted to electric vehicles exclusively, and will be the home of Rauch & Lang cars.

Some Features of the

# White Gasoline Car

which result in unusual  
**Economy of Up-Keep**



The White gasoline car is designed and built to run at a lower cost of up-keep, mile for mile, than any other car on the American market. Some of the factors which insure economy both in fuel consumption and in cost of maintenance are:

### **Intake Gases Heated**

By including the intake passages within the block engine casting, the intake gases are heated. As a result, every particle of gasoline is completely vaporized and each cylinder receives a uniform mixture of the proper richness, thus ensuring very low fuel consumption.

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By water-jacketing the exhaust passages, the temperature of the exhaust gases is reduced as soon as they leave the cylinders. As a result, the pressure of these gases is greatly reduced and there is a minimum loss of power due to back pressure. This factor also results in low fuel consumption.

### **Four-Speed Transmission**

The direct drive is on third gear and practically all driving in town is done on this gear. For high-speed running, the fourth gear is used. There is, therefore, no racing of the engine and no undue strains upon it when the car is run at high speed. Furthermore, the engine may always be run at very close to its most economical speed.

### **Valve Mechanism Enclosed**

There is no chance for dirt and grit to work their way into the bearing surfaces and cause wear and faulty timing, as is the case when the valve mechanism consists of a series of external and unprotected springs, rocker-arms, push-rods, etc.

### **Accessibility of Every Working Part**

The cost of making an ordinary adjustment on any car is determined largely by the accessibility of the several parts. In the White, accessibility has been developed to a much greater degree than in any other car. For example, as there are no external manifolds, or no overhead valve contrivances, a valve may be removed for regrinding without removing or disturbing any other part. As another example, the magneto and water-pump are on opposite sides of the engine and are driven independently, so that either may be reached without disturbing the other.

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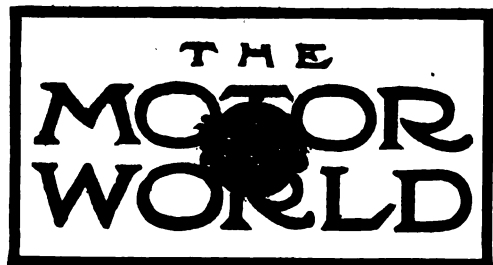
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#### Why Not Stop the "Horse Trots?"

What evils may result from too "promiscuous legislation" of the sort at which Mayor Gaynor, of New York City, was moved to protest in a recent utterance, aptly is illustrated in the attempt to secure legislative sanction for the exclusion of motorists from a single stretch of the public parks which long has been regarded as sacred to the use of a limited group of horsemen. "There is too much of this promiscuous legislation," declared the Mayor with characteristic vigor. "Everybody in the city government runs up to Albany to get a bill to suit himself."

In this particular instance, a city official is credited with the responsibility for a measure which, should it become a law—and stranger things have happened than that it should be sneaked through even at this late day—would be of far greater general than specific effect. The Schultz bill, which now is under consideration by the

Senate, not only would permit the exclusion of automobiles from the Ocean Parkway, Brooklyn, but would permit their exclusion from such other thoroughfares as the Riverside Drive, Seventy-second street West, and certain other arteries which fall under park jurisdiction. The most astounding thing about it is not that an attempt is being made to secure legislative sanction for the exclusion of automobiles from certain sections of a great park system, but that the attempt should be made in the interests of a mere handful of horsemen. The manner in which for many years they have been permitted to hold "horse trots" on a public highway to the inconvenience of every one else using it, is a disgrace to the city of New York; it is provincialism unworthy of a great city and it is time it was stopped. Instead of the bill now in the legislature, there should be one putting an end to the "countryfied" "horse trots," and efforts should be bent in that direction.

So quietly were the initial moves made in attempting the passage of the bill that few were aware of its existence. It is such a common custom to run up to Albany and "start something" in the way of a bill, that nobody pays much attention unless an alarm is sent out. In this case, had it not been for the vigilance of a group of Long Island clubmen, the bill which would permit one city official to prohibit motorists from using not one, but practically all of the decent thoroughfares which lead to Coney Island, should such a course happen to strike his fancy, might have become a law without so much as a single voice being raised in protest until the harm was done.

#### Vacuum Cleaners for Garage Use.

With the rapidly increasing use of the vacuum process for purposes of renovation in practically all lines, it is somewhat surprising that garagemen have not been more quick to see the advantages of applying it to their own line of work. In all metropolitan establishments and in many others which are located in wide-awake and progressive communities, considerable capital in a business way is made of the good care which patrons' cars receive while under cover. Special appliances and conveniences of one sort and another, portable burnishing outfits, portable gasoline and oil service systems, turntables, duplicate elevator service and other devices are employed not

only to facilitate and cheapen the labor of caring for the machines, but also with a direct eye to the psychological impression which an up-to-date equipment always inspires. Nor has it proved that the installation of any amount of special equipment is in any sense a poor investment in the long run but quite obviously to the contrary.

No phase of the garage problem is calculated to make a direct appeal to the customer than that which concerns the maintenance of the finish and equipment of the car in the best possible condition. Especially with the growing use of limousine and town car bodies, in summer as during the months of prevailing inclement weather, is it important that interior as well as exterior finish should be preserved with painstaking care. And it is safe to say that no quicker or more effective way of renovating the upholstery of a car which has come in dusty from the road exists than in the use of the vacuum cleaning process. Compressed air, which is available in all garages, of course, can be used for the purpose. But it possesses the defect of stirring up quite as much dust as it scours from the interstices of cushions and linings. As being free from this objection, flexible in its application, and also as being an essentially modern system and one much before the public through its wide use, it would seem, therefore, that vacuum cleaning apparatus in some form should be installed in every garage which pretends to unimpeachable service and caters to discriminating patronage.

#### Raw Material and Its Delivery.

Without combating the suggestion that important improvements are possible in the conduct and administration of even the best and most representative automobile factories, looking to more exact economy and more accurate knowledge of costs, it is proper to remark that the motor car makers have developed some phases of manufacturing in a way that is unexampled and which brings into recognition certain business truths and principles that heretofore seemingly have been discerned only imperfectly. The so-called "production engineers" and "factory experts" who have been brought into contact with the automobile industry, in addition to finding plenty to criticize, have had their eyes opened to ideas which well may be extended



to other fields of trade and industry.

In a general way manufacturers in all lines try to have their materials arrive in about the proportions and at the rate at which they are to be utilized and made up into the finished product. In some lines of manufacture this is easier than in others, but it is common practice for factories to have large stores of metal, wood or whatever else their raw materials may be, lying useless for weeks and months in advance of the actual need for them. Sometimes these big quantities represent speculation or precaution against future advances in prices of materials, the probabilities of advance being carefully calculated as against the value of the use of the money which they represent. Most manufacturers, however, regard it as good, sound policy to have plenty of material in advance, and contemplate with equanimity the inert masses of raw stuff with which they supply themselves far ahead of their immediate requirements.

Automobile manufacturing, through pressure of circumstances and the imperative need for maximum production in every factory, has not become subject to this sort of pre-provision at all. In fact, the piling up of materials or parts much in advance of the time when they are to be used is calculated to strike horror to most automobile producers. The ideal of the latter is to have everything come in so that it may move from the receiving platforms directly to its use, with as little intervening storage or waiting as possible.

Equally or more upsetting is the tardy arrival of materials that are wanted, because it directly delays production and because it disturbs the delicate balance by which the whole inflow of materials is governed. The tardy arrival of one class of materials means rapidly increasing and temporarily useless surpluses of others that are coming in on time.

The automobile purchasing departments proceed on what might be termed a "hand-to-mouth" basis, so far as materials are concerned, but this characterization applies rather to the physical presence of the materials themselves than to the arrangements for their purchase and delivery. Such arrangements are made far in advance and are safeguarded by contracts and such other means as will insure their being carried out in accordance with the buyer's wishes.

## COMING EVENTS

April 30, Philadelphia, Pa.—Quaker City Motor Club's third annual roadability run to Atlantic City.

May 3, Trenton, N. J.—Trenton Automobile Dealers' second annual 300 miles endurance run.

May 5-7, Richmond, Va.—Richmond Times-Despatch endurance run.

May 5-7, Atlanta, Ga.—Opening spring race meeting on Atlanta motordrome.

May 7, Chicago, Ill.—Chicago Automobile Trade Association's floral parade.

May 9, Santa Rosa, Cal.—Santa Rosa Automobile Association's second annual road race.

May 9-11, Harrisburg, Pa.—Motor Club of Harrisburg's fourth annual reliability contest.

May 10-11, New York City—Motor Contest Association's reliability contest to Atlantic City and return.

May 11, Birmingham, Ala.—Birmingham Police Relief Association's race meet at state fair grounds.

May 13, Denver, Colo.—Automobile races at Overland Park.

May 13-14, New York City—Motor Racing Association's 24 hours race at Brighton Beach track.

May 14, Kansas City, Mo.—Automobile Club of Kansas City's hill-climb on Dodson hill.

May 14, Vicksburg, Miss.—Vicksburg Automobile Association's hill climb on Mackey's hill.

May 15, Santa Rosa, Cal.—Santa Rosa Automobile Association's race meet.

May 18, Cheyenne, Wyo.—Cheyenne Motor Club's race meet on motordrome.

May 18-19, Norristown, Pa.—Norristown Automobile Club's third annual endurance run to Scranton and return.

May 19, Chicago, Ill.—Chicago Motor Club's second annual demountable rim test.

May 19-21, Hartford, Conn.—Automobile Club of Hartford's All-Connecticut reliability contest; 600 miles.

May 21-22, Brooklyn, N. Y.—Crescent

Athletic Club-Long Island Automobile Club amateur touring contest on Long Island for Pardington trophy.

May 21-22, Memphis, Tenn.—Automobile races at Tri-State fair grounds.

May 22, Fort Worth, Tex.—Fort Worth "Star-Telegram" endurance run.

May 25, Columbus, O.—Columbus Automobile Club's reliability run to Indianapolis, Ind.

May 27, 28 and 30, Indianapolis, Ind.—Grand Circuit meeting and national championship races on Motor Speedway.

May 27-31, Washington, D. C.—Washington "Post" five days endurance run to Richmond, Va., and return.

May 28, White Plains, N. Y.—Amateur Automobile Contest Association's hillclimb.

May 28-31, Syracuse, N. Y.—Central New York inter-club relay run.

May 29-30, San Francisco, Cal.—San Francisco Motor Club's two days race, meet at Tanforan.

May 30, Denver, Colo.—Denver Motor Club's road race.

May 30, Briarcliff Manor, N. Y.—Amateur Automobile Contest Association's hillclimb.

May 30, Denver, Colo.—Denver Motor Club's annual road race.

May 31, Atlanta, Ga.—Start of second annual New York-Atlanta Good Roads Tour, ending in New York June 7.

June 1, Berlin, Germany.—Start of Prince Henry tour, finishing at Homburg on 8th.

June 2, New York City—Annual Orphan's Day outing at Coney Island.

June 6, West Haven, Conn.—Yale Automobile Club's third annual hill-climb on Shingle hill.

June 4, Worcester, Mass.—Automobile Club of Worcester's annual hillclimb on Dead Horse hill.

June 4, Newark, N. J.—New Jersey Automobile and Motor Club's 280 miles reliability run.

June 11, Portland, Ore.—Portland Automobile Club's annual road race for Wemme Cup.

June 11, Wilkes-Barre, Pa.—Wilkes-Barre Automobile Club's annual hill climb or Giant's Despair.

To speed the tardy materials and retard those which are arriving too fast, the automobile makers employ not only letters, telegrams and long distance telephones, but have their parts chasers right in the field to apply the spurs or draw the reins, as the case may be. In this way the receipt of materials is adjusted exactly to the output.

Despite all complaints as to the expense incident to such methods, the automobile

manufacturers have been able to show production results which are more than amazing to manufacturers in other lines. The proportion of gross annual output to capital and equipment is so immense in automobile manufacture as to challenge the attention of business thinkers and to give importance to the principles underlying such rapid turnover in contrast to the more general method of large advance stocks of material.

**VICTORY FOR "SECOND" OFFENDERS**

**New York's Court of Special Sessions Refuses to Recognize Previous Offences—Whitman Devises New Expedient.**

By an opinion of the Court of Special Sessions of New York City, rendered on Tuesday of this week, the long standing conflict between the court and the District Attorney's office in regard to the prosecution of second and third offenders for violation of the speed law was brought to a head. In consequence, it is rendered impracticable to enforce that section of the existing speed law which provides for the infliction of increasing penalties for repeated infractions.

The decision is important in its bearing upon a bulky accumulation of suspended sentences, but is not likely to be of lasting effect, as the provision covered by it has been stricken out of the proposed law which is now under consideration by the Senate.

When District Attorney Whitman took office on the first of the year he inaugurated the policy of investigating the records of all speed violators who came before the court and of adding to the offense by charging previous convictions where such convictions existed. Since January 11, it is said, there have been 82 convictions on second offenses and 14 on third offenses, in 74 of which sentence was imposed. At the same time there have been no less than 239 cases of suspended sentences out of all cases tried.

Three cases, which were disposed of on Tuesday, resulted in a threat on the part of the District Attorney to bring charges of abuse of discretion on the part of the court to the Appellate Division, and also to announce his intention of appealing to the Legislature to pass a law restraining Special Sessions Judges from suspending sentence in cases where defendants have been convicted previously.

Henry B. Guthrie, Walter Reppin and Robert Sherman, three chauffeurs, were each charged in a formal information filed in court with a second offense. Against the protest of the prosecuting attorney, the charges were ignored and the defendants were allowed to plead as first offenders, although each had been previously convicted, it was alleged.

Judge Olmsted, in rendering the opinion of the Court, holds that the only offense that can be tried in Special Sessions is the one certified by a magistrate, and there is no authority for the District Attorney to add to the offense by making an allegation that the defendants had been previously convicted. He contends that the charge of a second offense cannot be maintained in Special Sessions by informations,

which are in the nature of indictments, unless it appear by the record that the defendants at the time of arrest, when arraigned in a magistrate's court, were charged with being second or third offenders.

An added chapter to the controversy is furnished by the District Attorney's nimble method of circumventing judicial objection in an attempt to force a conviction for second offense. The first offender to feel the effects of the clash was one Warren Watson, a chauffeur, who was arrested on April 25 for speeding. The records show that a Warren Watson of 81 Madison avenue, Hartford, Conn., was fined \$5 in Special Sessions on October 16, 1909, for a similar offense. Watson, who had been held in \$1,000 bail by Magistrate Butts, is unable to furnish bonds and will have to remain in the Tombs until the District Attorney can produce the policeman who made the first arrest. If the policeman can identify him as the Warren Watson he arrested last year, a charge of speeding as a second offense will be made before a magistrate, and the case will be carried before Special Sessions in that form.

**Another "Automatic" Speed Proposal.**

That hoary old project of compelling motorists to equip their cars with an automatic regulating device which will prevent overspeeding, has bobbed up again—this time in New York City. Its latest appearance is in the form of a paternal recommendation which was handed out in the annual report of the Board of City Magistrates. It is said of the automatic device which the magistrates had in mind at the time the report was drawn, that it is so planned as to short-circuit the ignition of a gasoline driven car the very instant that the speed of the vehicle exceeds the law's allowance. But lest an unkind public should suppose that any personal motives were involved in the fostering of such a scheme, it has been permitted to be known that the patent covering the system, application for which has been made, is to be presented to the city gratis just as soon as it is issued. The magistrates' report also touched upon the smoke nuisance, a recommendation being set down that the ordinance at present in effect in the parks should be extended to cover the entire city.

**Curbing Motor Riding Graft.**

The habit of hiring automobiles for official inspection services on the part of city officials, and charging the hire to the city treasury, is receiving severe setbacks in more than one municipality. Mayor Gaynor, of New York, was the first to object to this "extravagance," and now Mayor Seymour of Orange follows in his footsteps. The Mayor struck the amount of \$13.50 from a bill presented to him, because the item represented the hiring price of a motor car for school inspection.

**MIGHT EXCLUDE CARS FROM PARKS**

**Dangerous Bill Before the Senate at Albany—Invented for Ocean Parkway Horsemen—Its Broad Powers.**

Concealed under the innocent guise of an amendment to the New York charter in the matter of park regulation, a bill has been slipped into the Legislature which threatens the liberty of motorists in the use of the public parks and is directly intended to legalize the continued exclusion of motorists and others from the old half-mile speedway for trotting horses on the Ocean Parkway boulevard in Brooklyn. Although framed for a specific and limited purpose, the measure, if permitted to become a law, would place in the hands of park commissioners the power to exclude motor vehicles from any portion of any thoroughfare under their jurisdiction. The pertinent section of the bill, which already has passed the Assembly and was introduced into the upper house by Senator George M. S. Schultz.

And each commissioner shall have power to regulate and prohibit the use or occupation of any street, public place, park, parkway or boulevard, or any portion thereof, under his jurisdiction, by any particular class of vehicles.

Michael J. Kennedy, superintendent of parks in the Borough of Brooklyn, is credited by those who have subjected the bill to close analysis with being the inductive force back of the measure. By the same persons it is pointed out that the interests of the Parkway Driving Club, an association of horsemen, are those it is intended to serve. At the same time, it is indicated that, should the bill become a law, it would effect a serious precedent enabling other commissioners to exclude motorists from their domains in almost any way they might see fit.

The Long Island Automobile Club has taken alarm and is prosecuting a vigorous fight against the Schultz bill. The efforts of the Licensed Automobile Dealers' Association of New York have been enlisted and circulars and copies of the bill sent out to some 25,000 motorists who are numbered among their customers. Considering the approaching termination of the present legislative session, it is hoped that the bill may be killed. A hearing before the Senate is to be held to-day (Thursday).

**Fewer Arrests for Speed Violation.**

Indicating better observance of the speed law, the published records of arrests for violations of the automobile statute show a considerable dropping off for last year as compared with 1908. The total number of prisoners arraigned during 1909 was 158,999, while 1908 placed 186,780 such cases on the record books.

## "SOMETHING DOING" IN NEW JERSEY

Investigation of Automobile Department  
Uncovers Things—"Complimentary"  
Certificates Issued and Some

Startling revelations of the alleged mismanagement and inefficiency of the New Jersey Motor Vehicle Department under the administration of John Blair Reilly Smith, as contained in the State Auditor's report of his examination of the office, came to light last week when Governor Fort transmitted a copy of the report to Secretary of State Dickinson, who exercises jurisdiction over the automobile department. The auditor's report, which covered a most extensive and minute examination of the affairs of the department, brought to light a state of chaos and disorganization almost beyond belief, and which, if true, calls for an immediate shaking up of the organization of the automobile department.

Some of the more important shortcomings of Commissioner Smith in the conduct of his department, as contained in the State Auditor's scorching arraignment, are the failure properly to organize his department and keep in close touch with its affairs, the loose and unbusinesslike handling of its finances, laxity by State inspectors in the performance of their duties, the issuance of complimentary registration numbers to favored ones, the use of receipts for personal purposes, the unlawful expenditure of state money not provided for by law and several other disclosures of a similar nature. Preparatory to making a full and complete defense of the charges Commissioner Smith has issued a brief statement denying in large measure the allegations against his department and characterizing them as inspired by political animus on the part of Governor Franklin W. Fort.

During the last session of the legislature Governor Fort sought to have the office of Motor Vehicle Commissioner separated from that of the Secretary of State, but was unsuccessful, and it was alleged by party leaders that his action was inspired by a desire to appoint to the office a man friendly to him. In this connection it is said that the Governor and Smith "do not speak as they pass by." Smith holds a dual office, for in addition to being head of the motor vehicle department and drawing a salary of \$1,500 yearly, he is also assistant secretary of state, an office which nets him \$3,500 more per annum. That arch enemy of motorists, Senator Frelinghuysen, although in possession of the knowledge contained in the report made no effort to bring about a change in the office, but on the other hand fought desperately but unsuccessfully to

secure the passage of measures desired by Smith, and which provided for an increase in salary for himself and assistants and the appointment of more inspectors for his department.

There are eleven specific counts in the indictment of the state auditor against the automobile department, a few details of which are cited. It is alleged that a personal check for \$30 drawn by Smith was carried for a year in the cash drawer of the department at his orders, and the auditor implies that the cash which it represented was being used for personal purposes. Smith claims that the money was lost or mislaid by a stenographer and that he personally made it good until it could be accounted for. Another charge is that an inspector retained collections for three years before turning them in to the state, and that in numerous instances state money was deposited by inspectors and deputies with their private bank accounts instead of under a separate account.

Registrations were found marked "Gratis" and "D. H.," meaning "Dead Head," and Commissioner Smith while admitting that some complimentary registrations were issued, defended them on the ground that they were given to volunteers and unpaid agents of the department who had rendered valuable services. Apropos of this procedure, one of Commissioner Smith's inspectors alleges that last summer an application for registration came from Governor Fort without the usual fee and that Commissioner Smith ordered it sent without demanding the fee in advance. It is said that nothing more was heard of the matter until last December when the money, \$10, was received shortly before the investigation began.

Although severely criticizing the department for inefficiency State Auditor Drake in his report takes pains to state that there were found no evidences of dishonesty, but that the methods and "system" in vogue strongly tended to induce irregularities.

### Would Use Automobile Fines for Roads.

Partial success has attended the efforts of those who are striving to wrest from the Massachusetts Highway Commission a portion of the funds which it derives from the penalties imposed on violators of the speed law. The committee on roads and bridges has reported favorably the Haigis bill, which provides that 20 per cent. of the money, after the expense of collecting has been deducted, may, upon request of the selectmen of towns, be expended for repairing, improving, constructing and maintaining town roads not state highways. The recent attempt of Mayor Fitzgerald of Boston to secure 50 per cent. of the automobile funds for the Metropolitan Park Commission and City Park Board has failed, as has his effort to secure the exclusion of automobiles from all parks, pending the passage of a bill which would

accomplish the desired end. Opposition, said to have originated in the highway commission, caused the temporary withdrawal of the mayor's bill. Boston members of the legislature now intend to try to have the city included in the division under the Haigis bill in order to obtain some of the 20 per cent. allowed to towns.

### Universal Lights Bill at Washington.

Following quickly on the heels of a bill requiring universal lights, which was reported favorably in the Massachusetts legislature a short time ago, a similar bill has been introduced by Senator Gallinger and Representative Smith, of Michigan, chairman, respectively, of the Senate and House Committee on the District of Columbia, in the National Congress. Under the terms of this bill the Commissioners "are authorized and directed to promulgate from time to time, and amend the same, police regulations requiring all automobiles, horseless and motor vehicles, bicycles, or horse-drawn vehicles, to carry such light or lights on the front sides or rear thereof, between darkness and daylight, as they may deem expedient, and to provide penalties for the violation of such regulations." It is expected that the passage of such a bill in the National Congress will have a material influence in compelling the passage of similar bills in the various state legislatures.

### Must Halt if the Trolley Stops.

While some of the states of the Union on different occasions have endeavored to pass regulations regarding the passing of trolley cars by automobiles, no hard and fast rules have been formulated so far. All that is required of the motorist is that he "slow down and, if necessary, come to a complete stop," when passengers are descending from a trolley car directly ahead of his automobile. In Stuttgart, Germany, the traffic police did not need state permission to pass a much more stringent rule. According to an official announcement, hereafter "all vehicles, automobiles, motorcycles and bicycles must halt and remain motionless at the officially designated stopping places for trolley cars, as long as a trolley car is taking on or discharging passengers." Excuses for not stopping will not be accepted by the police. The "officially designated stopping places" are about two or three blocks apart and furnished with easily visible colored signposts.

### Inadvisable Lubricant Changes.

Experience teaches that it is a great mistake for the average motorist to experiment with various and unknown brands of lubricant for the engine. In most instances it is better economy to pay a good price for an oil which is recommended by the manufacturer and his agents than to attempt to reconcile the motor to oils which, being of a different consistency and fire test, require totally different conditions of service.

**VARIETY IN THE GLIDDEN PATH**

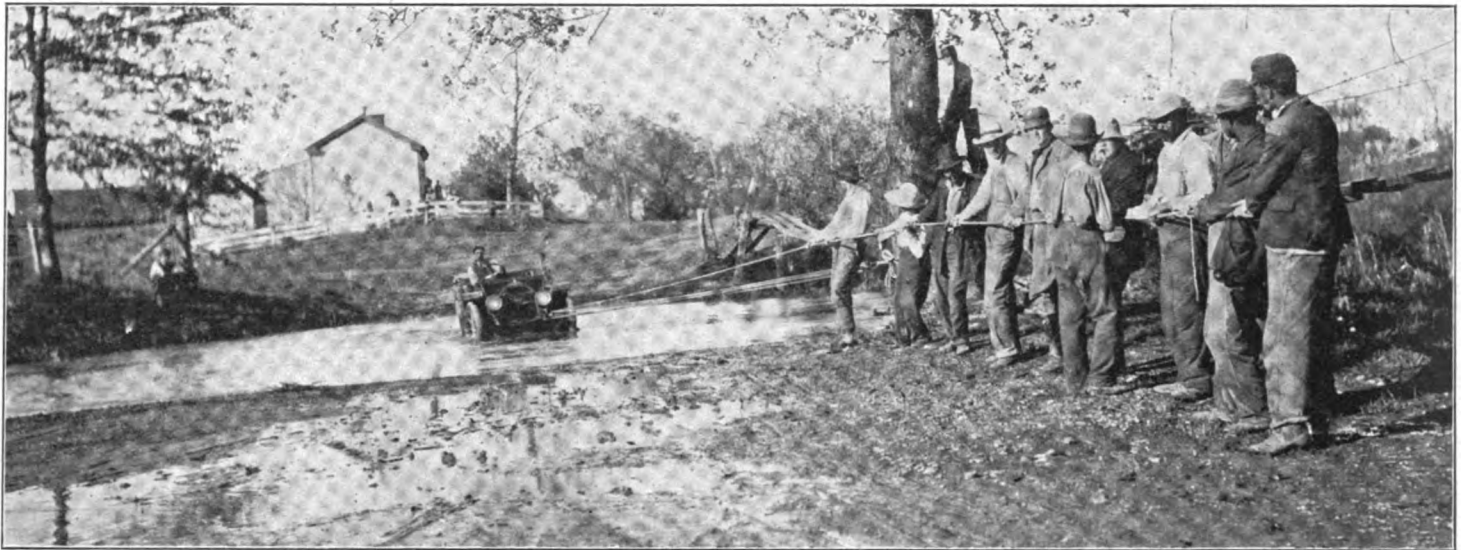
**Route Makers Find Roads That Are Good,  
Bad and Indifferent—Many Escorts  
on the Journey.**

Escorted by over a hundred cars, the Chalmers-Glidden pathfinding car and its crew rolled into Dallas, Tex., on Tuesday night, 26th, having covered 1,253 miles since

plugging through mud and water for days at a time it well can be imagined with what delight the trail blazers welcomed the good roads of Arkansas and the mileage of Friday, 22nd, indicates that they made the most of the good going. On that day the longest run since starting was made, the 175 miles between Helena and Little Rock being covered, and the latter place was the night stop. A detour of five miles was made at Clarendon owing

very heavy going in the Red River bottoms, and found a bridge washed away at Sandy Burdock creek. This day's run was one of the most trying of the trip on account of the bad roads, and the night was spent at Texarkana, Ark. A delegation of Fort Worth, Tex., motorists came out 265 miles to welcome the pathfinders.

After the strenuous run of the day before the scouts took it easy on Monday, and spent half a day logging the route.



WET PATHFINDING—ONE OF THE MANY FORDS ON THE GLIDDEN TOUR ROUTE

leaving Cincinnati two weeks before. Dallas will be the most southerly point touched by the Gliddenites as well as the halfway mark. After leaving Memphis, Tenn., and crossing the Mississippi River the scouts encountered better roads and made faster

to high water in the White River, but after the ferry was crossed, fast time was made. As on the preceding day, the local motorists acted as guides all the way

After leaving little Rock the pathfinders found much activity in road building, a

crossing over into Texas and halting at Paris, the mileage for the day being 92. Some of the best roads of the tour were found over the prairies on Tuesday, 27th, and heading a large cavalcade of members of the Dallas Automobile Club, who had



DRY PATHFINDING—A CONTRAST IN ROADS ON THE SOUTHERN LEG OF THE TOUR

progress, although the lack of bridges still was noticeable.

Accompanied by a delegation of Memphis motorists, who showed the way for the entire day, the pathfinders made Helena, Ark., on Thursday, 21st, an easy run of 62 miles and spent the night there. After

gang of 300 convicts being at work at one point between that place and Hot Springs. Beyond the completion of the first 1,000 miles of the journey the day's run of 102 miles was uneventful, and the night was spent at Daleville, Ark. On Sunday the scouts struck into the southwest and encountered

kept the scouts company for two days previous, they rolled into the Queen City of the Lone Star State. Seven hours were occupied in making the 123 miles journey. The second half of the trip was begun on Wednesday, the pathfinders invading the wilds of Oklahoma.

## SACRAMENTANS HOLD A HILL CLIMB

Harvey, in a Rambler, Wins Double Honors—Four Successful Events Run on a One Mile Incline.

L. B. Harvey, driving a Rambler car, was the star performer at the first annual hill climb of the Sacramento (Cal). Automobile Dealers' Association, held at Folsom on the 17th, and bagged the two major events on the card, including the free-for-all class, which he won in 1:51½, the best time of the day. C. O. King put a Maxwell in second place with 2:00¾ to his credit. Harvey's other victory was scored in the \$2,000-\$3,000 class, when he again outfooted a formidable field, and took first by a safe margin in 2:00¾. E. H. Harvey, piloting a Winton, captured second in this division, dusting up the mile incline in 2:07 flat. Horace Arnold sent his Pope-Hartford to the summit in 2:10½, and was placed third.

As the first automobile contest ever held in that section, it was but natural that the event should assume an overshadowing prominence in local circles, and over 2,000 enthusiasts wended their way to the course, the ideal weather contributing largely to the success of the function. The hill, which is situated in the heart of the town is a mile long, with a grade ranging from 8 to 15 per cent., and includes two sharp turns which bothered the drivers somewhat. The card consisted of four events, all excepting the free-for-all being arranged on a price basis.

In the opening dash for cars costing under \$1,250, Halsey Smith, in an E-M-F., scored an easy win, topping the hill in 2:02¾, and beating C. B. Jones's Overland by 16 seconds. W. J. Mannix, Buick, was third. One of the most exciting and uncertain battles of the day occurred between C. O. King, Maxwell, and Halsey Smith, E-M-F., in the running of the \$1,251-\$1,500 class. King made the run in 2:00¼, which earned him the victory, and Smith was but ¼ of a second behind him. E. C. Turner, in another Maxwell, ran third.

After Harvey's decisive win in the high priced division, the feature number was called, and was open to all previous winners. Harvey then undermined all previous figures, as told, and King ran a good second.

The summaries

Cars Costing \$1,250 and Under.

1 Halsey Smith, E-M-F.....	2:02¾
2 C. B. Jones, Overland.....	2:18½
3 W. J. Mannix, Buick.....	2:22¾
4 Harold Moncur, Hupmobile.....	2:43
5 W. Leitch, Regal.....	3:42½

Cars Costing \$1,251 to \$1,500.

1 C. O. King, Maxwell.....	2:00¾
2 Halsey Smith, E-M-F.....	2:01½

3 E. C. Turner, Maxwell.....	2:24½
4 R. L. L. Skinner, Mitchell.....	2:27
5 D. Leitch, Regal.....	2:35¾

Cars Costing \$2,000 to \$3,000.

1 L. B. Harvey, Rambler.....	2:00¾
2 E. H. Harvey, Winton.....	2:07
3 Horace Arnold, Pope-Hartford..	2:10¾
4 A. E. Leitch, Dorris.....	2:18½

Free-for-All.

1 L. B. Harvey, Rambler.....	1:51½
2 C. O. King, Maxwell.....	2:00¾

### Amateurs Complete Contest Plans.

With the laying out of the route and the framing of supplementary rules which in conjunction with the contest rules of the American Automobile Association will govern the competition, the last details of the amateur inter-club challenge run between the Crescent Athletic Club and the Long Island Automobile Club of Brooklyn, N. Y., for the Pardington trophy, which will take place on Long Island roads on May 21-22 have been completed. The affair is distinguished by reason of the fact that it is strictly an amateur affair, in which striving for cash will have no place, and is likely to show the way for others of the sort which are to be encouraged.

Leaving Prospect Park plaza, Brooklyn, on the 21st, the course will lie through Blue Point, the noon stop being at Easthampton, and returning to the starting point by way of Riverhead and East Quogue, a total of 140 miles. On the second day 110 miles will be covered, passing through Mattituck, Smithtown, the noon stop, Port Jefferson, Jericho and the Crescent A. C. country house. Cars must be entered and driven by amateurs; all professional chauffeurs being barred.

### Distribution of Spoils at Los Angeles.

Surprising though it may appear at first glance, it is a fact that the drivers of the largest and fastest cars at the recent Los Angeles Motordrome meet did not carry off the biggest prizes, although most of the top notchers were well remunerated for their work. Ray Harroun, who was one of the star performers during the speed carnival, captured the biggest portion of the spoils, the net proceeds of the meet being four trophies and \$1,975 in cash. The other drivers shared in varying degrees, as follows: Barney Oldfield, \$1,025 and two cups; Ralph DePalma, \$875; Joseph Nickrent, \$600 and two cups; Al. Livingston, \$400 and two cups; George Robertson, \$500; Ben Kirscher, \$200; Bill Endicott, \$225; J. B. Marquis, one trophy and \$275; Frank Siefert, \$162.50; Frank Lescault, \$150; Scott Wade, \$125; Rober Stearns, one cup and \$75; Harris Hanshue, one cup and \$25. Caleb Bragg, who, being still an "amateur," despite the fact that he competed with professional drivers, and, who, therefore, cannot accept cash remuneration, has indicated that he will take a trophy, two shields and sundry jewelry as his compensation.

## HAS SET HIMSELF A LONG JOURNEY

Trade Tourist to Go Completely Around the Country's Border—Car Has Covered 4,000 Miles Already.

Transcontinental trips which generally are regarded as the high water mark in extended motor touring pale into insignificance beside that now being made by C. L. Welch, sales agent of the Inter-State Automobile Co., Muncie, Ind., who left the factory on March 17 in an Inter-State car on a 25,000 miles trip, which includes a circumnavigation of the United States. The long jaunt which was inaugurated primarily to demonstrate the staying qualities of the car, is being made with a standard touring model of 40 horsepower carrying full equipment. From the strenuous experiences which the party met with on the first leg of their journey, it is likely that the objects of the trip will be accomplished to the full, and also that the original itinerary will be exceeded considerably.

According to the original schedule laid out, the westward leg of the run includes the states of Indiana, Michigan, Illinois, Wisconsin, Minnesota, South Dakota, Nebraska, Colorado, Utah, Nevada, Oregon and Washington, and thence to foreign territory—Vancouver, B. C. Here the nose of the car will be pointed south, and the party will drop down the coast by easy stages until the Mexican border is reached, when another change in the course will be made, and the Southern states will be traversed on the return to the Atlantic Coast. The party will work up the coast to New York and then set out on the last lap, striking directly across New York and Ohio for home. After a month on the road, and battling with mud to the hubs and snowdrifts which necessitated taking to the fields to make progress, the party now is wending its way through Dakota.

### Angry Women May "Flock Alone."

Five ambitious lady motorists, who achieved newspaper publicity last summer by their participation in an exclusively feminine reliability contest from New York to Philadelphia, promoted by a masculine press agent, and who now again sought to enter the spotlight, by taking part in the Motor Contest Association's two days' reliability contest to Atlantic City and return, on May 15, have had their entries unceremoniously returned. By the rules of the American Automobile Association women are specifically barred from competition. So indignant were the fair motorists at being deprived of an opportunity to compete that it is said they now threaten to hold a contest of their very own in which mere man shall have no part, save possibly that of publishing the details of the affair.

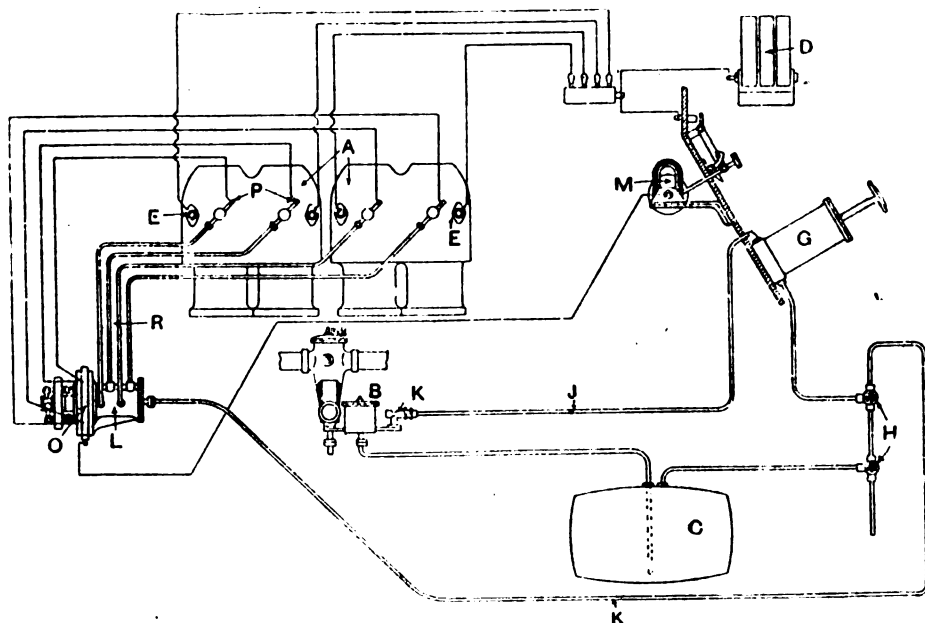


## ELIMINATING THE STARTING CRANK

Widely Varying Efforts to Attain that End and the Results Obtained—Importance of the Subject.

There is a certain amount of satisfaction in observing that with improvements in engine design and construction the voices of those who used to clamor against the labors of cranking for the most part have been silenced. This results mainly from the fact that now it seldom becomes necessary to wield the starting gear except when about to operate the machine after a voluntary stop. In consequence whatever de-

suitable arrangements for starting purposes. Like many other features which have been recognized as worth developing, the self-starting device has been overlooked in the race for rapid production which the prodigious increase in the use of cars of all sorts has induced. Another reason to which the seeming lack of progress in this direction may be ascribed is the lack of activity on the part of independent inventors to whom the automobile manufacturer might turn in the event of their producing economical and satisfactory systems. Indeed, from the point of view of the motorist who is really anxious for the popular advent of the really satisfactory automatic starting system, the mechanical aspect of the situation is the most discouraging part of it.



LAYOUT OF ELABORATE MOTOR STARTING SYSTEM

mands have come from the individual motorist for automatic motor starting appliances in the past seldom are repeated at the present time. Largely owing to the lack of insistent demand for apparatus of this class it follows that the average manufacturer is not over-exerting himself to develop something he is not absolutely required to produce.

There are notable exceptions to the rule, however, and such automobile makers as have gone to the trouble to equip their products with automatic starting devices, or even with devices which enable the motor to be started manually without taking the driver out of his seat, find themselves well repaid for the trouble of making the necessary addition to the mechanism. But with a few exceptions the expectations of a year or two ago with regard to the probable increase in the use of such devices have failed of fulfilment.

Various reasons may be ascribed for this, notably the obvious one that the demand has not been insistent enough to impel the makers to go out of their way to develop

Considered as a problem, there is nothing extremely baffling about the elements of the self-starting device. It is necessary first of all to provide means of rotating the crank shaft through anywhere from 90 to, say, 720 degrees, seldom more than that. And it also is necessary to provide means for throwing the starting device into and out of action. Other than this, it is necessary only to provide an automatic releasing device which will free the starting gear from the crank shaft as soon as the motor takes up its normal cycle, and also to provide against the destruction of the mechanism in the event of the ever-imminent back kick.

As sources of power for starting purposes there are a number of possible mediums which may be applied. There is first of all the power of the operator himself, which, by none-too-complicated mechanical means, may be applied either through foot or hand directly from the seat. There is the power of the spring, which may be applied in a variety of ways, the energy used in starting the motor being returned

by the latter after it is in motion, under the control of self-governing mechanism, or the spring may be wound by hand at more or less frequent intervals.

There are various ways in which compressed air may be applied, such as by using two cylinders of a four- or six-cylinder motor as single-acting, two-cycle compressed air motors, or, as is a more favorite method, by merely introducing compressed air into the cylinders on the explosion stroke without otherwise altering the working or arrangement of the machine.

Another method of starting and one which has had a number of advocates in the past, is that of introducing into the cylinder which is about to fire a combustible charge which is forced in under pressure. In some cases the initial charge is carburetted by artificial means, such as by introducing into the air a jet of acetylene vapor, while in others a miniature carburettor is employed to energize the charge as it is pumped into the working cylinder.

Certain other methods of starting have been applied in a few special cases in ways which are not applicable to the ordinary machine, but which are noteworthy in relation to the particular systems to which they are applied. One such is the natural outcome of the gasoline-electric construction in which a certain amount of storage battery is carried on the car for purposes of load-equalization, and which therefore provides a ready means of starting the gas engine by converting the electric motor into a dynamo temporarily. Another special method has been proposed in connection with a system of transmission by means of compressed air motors, wherein the air compressor ordinarily used to energize the working fluid for use in the propelling units is convertible into a motor for starting the gas engine upon the movement of suitable control apparatus.

As already observed, the problem itself does not present enormous difficulties to the skilful designer. The great danger is that in his zeal to render the starting mechanism complete and absolutely reliable in its action, he will increase the mechanical complication of the machine to such an extent as to render it almost prohibitive. Indeed a rather striking example of the degree of complexity which a starting system may reach is shown by the accompanying illustration which reveals diagrammatically an arrangement which recently has been developed by the Mercedes interests. The system comprises, virtually as a substitute for the ordinary hand crank, these interesting and in general original elements: A hand actuated pump, a special carburettor jet, a rotary distributing valve, a special magneto with its distributor, a set of special spark plugs and some two or three control devices.

When about to start the motor, the operator actuates the hand pump, shown at G,

thus raising pressure in the fuel tank C from which gasoline is raised to the carburettor B in the usual manner. By manipulating the valves H, it then is possible to divert the outlet from the pump into the tube K while its suction is taken through the pipe J, which leads from K—a special form of midget intended to deliver a perfect mixture to the pump. The pipe K leads to a rotary distributor valve, shown at L, which automatically selects the cylinder which is next in order of firing and opens a port through which the mixture is delivered to that cylinder. At the same time, a timer-distributor, O, which is a part of the special distributing device, directs the current from the starting magnet to one of the individual starting plugs, P, by which the charge is fired. Naturally, as soon as one or two cylinders have been fired by the artificial means thus elaborately provided, the engine is ready to take up its normal functions in the regular way.

The idea of using a hand pump and special carburettor has been employed by more than one Continental manufacturer, and at least one such system has been seen in this country on imported cars. In general, however, the necessary complication is such as to render it almost prohibitive.

In broad contrast is the system which has been applied by one American maker this year whereby the motor may be started from the seat by means of a special pedal which is connected through toggle motion to the transmission shaft. The mechanism is not complicated, and while it in no way relieves the labor of cranking, it does relieve the motorist of the necessity of dismounting from his seat in order to start the motor, and therefore is of equal advantage with the arrangement which used to be employed on one or two of the now obsolete runabouts of early and tender memory. For small and medium sized motors which are destined to be handled chiefly by their owners, it would appear that some arrangement of this sort would be a welcome improvement and one entailing little trouble to the manufacturer.

Next to the spring starting devices, which have been on the accessory market for a number of years, the most familiar and successful starting system in use in this country for large motors is that in which by the addition of a compressed air tank and a single distributing valve the motor may be set in motion at any time. The tank is charged by by-passing a small quantity of the charges from two cylinders. The distributor merely selects a cylinder the piston of which is descending and directs enough compressed air into it to turn the crank shaft. If the next cylinder in order of firing does not take its charge properly, the air is directed into it and so on until a charge has been fired. The distributor does its work as long as the starting button is held down, and its only effect is to

add compressed air to the cylinder contents so that the normal action of the motor is in no wise upset by the starting device.

With the two exceptions noted, practically no American machines as now produced carry starting devices, though on several cars which are now obsolete more or less simple apparatus was installed for this purpose. The fact that practically all multiple

#### "By This Sign Ye Shall Know Them"

To assist in the sheep and goats division between dealers which the Association of Licensed Automobile Manufacturers is trying to induce in the public mind, the Association is preparing a window sign which is to be sent to every dealer in the United States who handles cars licensed under the



Selden patent. As shown in the accompanying illustration, the sign will bear a picture of the Selden license plate together with wording indicating the fact that licensed cars are sold by the dealer. It will be a foot and a half high and 14 inches across, the lithographed colors being blue, white and gold on celluloid, the idea being that it may be hung either in the window or on the wall. The distribution will take place about May 10.

cylinder engines which are equipped with good carburettors will start "on spark" somewhere about eight or nine times out of ten unless they have been standing idle for a long time, renders the starting device less necessary than otherwise would be the case. That it is, when reasonably considered, a most desirable luxury, however, one incident alone will serve to illustrate.

At a recent motor boat show, one of a group of men which surrounded a new invention for the remote control of marine steering gear was heard to inquire with the bland innocence of the non-technical

whether that system could not be used to start an automobile engine from the seat. It was explained to him that it could not. Then he said:

"My daughter is very anxious to drive her own car. But I am afraid to let her take it out alone because, while she is perfectly competent to drive, I do not want her to crank the motor. She is not strong enough. More than that, I am always worried for fear the thing will kick back. It doesn't matter so much in the case of my own car, though I am free to say that I consider the cranking business one of the greatest drawbacks to the pleasure and convenience of motoring. And I have heard many others say the same thing. What I cannot understand," he added, "is why the makers do not set about it and develop some simple device that will do the work, especially as a feature which would make any car suitable for women to handle."

#### Detroit a Mechanics' Land of Promise.

Reflecting local conditions for which the automobile industry is in no small part responsible, the Detroit Board of Commerce, of Detroit, Mich., is arousing some resentment among employers in the New England manufacturing towns by large advertisements in the New England newspapers urging mechanics to move to Detroit. After reciting Detroit's attractions as to pay, rentals, schools, climate, sanitary conditions, food prices, street car service and amusements, the appeal concludes as follows:

"You owe it to yourself and family to get the most out of your labors in wholesome, enjoyable living, with increasing material prosperity. Come to beautiful Detroit. Write as to the work you desire and such other information as you may want. You are not dealing with an employment agency but directly with the manufacturers of Detroit. Let us know when you are coming and we will have a place for you as soon as you arrive."

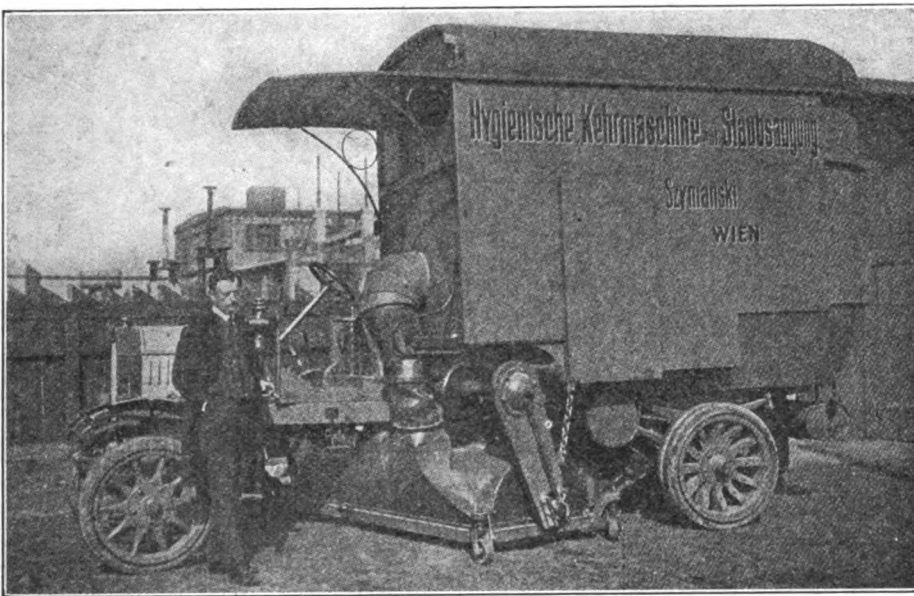
#### Carries Oil Through the Air Inlet.

An odd complication has been added to a recent model by a well known foreign maker in the shape of an extra air inlet to the carburettor which is actuated by means of a supplementary foot pedal which the operator is taught to depress when the car is running free at high speed. A peculiarity of the arrangement is that the air thus introduced is taken from the crank case, instead of directly from the atmosphere, and that it is fed into the center of the intake pipe at the top. The result is that the air supply is slightly warmed and also is impregnated with a small amount of lubricating oil in the form of a fine spray, which is carried into the cylinder just at a time when it may be supposed that an extra amount of lubricant is required by the motor, over what is ordinarily supplied.

**STREET SWEEPING WITHOUT DUST**

**Austrian Invents a Motor Vehicle Employing Vacuum Principle and That Holds Promise—In Use in Vienna.**

So far mechanical street sweepers have not proven a great success in New York and other American cities where they have been tried, but several European municipalities have found them efficient enough to order a number to be used as part of the regular street cleaning department. Vienna, Austria, is using a huge affair, shown in the accompanying illustration, which has proven highly satisfactory.



VIENNA AUTOMOBILE VACUUM STREET CLEANING MACHINE

The apparatus consists of a revolving brush, which loosens up the dirt accumulated and pressed down on the asphalt, a suction fan creating a partial vacuum in an inner receptacle, and a roomy compartment in which the loose dirt and dust sucked from the pavement by the fan is deposited. The machine is especially designed for use on smoothly paved streets, such as asphaltum and Belgian block pavements, and dispenses with the water sprinkler which ordinarily is a factor of importance in street cleaning in the big cities.

Health authorities disagree as to the advisability of sprinkling streets in summer. While the water thrown upon the pavement undoubtedly tends to "lay the dust" and to create by its evaporation a coolness in the atmosphere directly above the street, it also acts as incubating material for the numerous species of germs which cannot exist in dry, dusty refuse, but which immediately are revived and multiply in humid, muddy refuse. Unless, therefore, as it is done in Berlin and a few other German and Dutch cities, the "mud" created by the

sprinkling is immediately "washed" away by a plentiful supply of water which carries the whole refuse into the sewers, sprinkling the streets is not an unmixed blessing. In this connection, the vacuum cleaner which does not require a sprinkling of the street to prevent immense clouds of dust being raised by the sweeping machines is hailed with satisfaction by all those who have watched its excellent work in the Austrian capital.

On common pavement the vacuum cleaner is not a great success, particularly in New York and other American cities. America cannot be compared in this respect with Europe, for the refuse thrown into New York streets is of an entirely different kind from that seen in French, German and Eng-

lish cities. The bulky, heavy skins of bananas, watermelons and cantaloupes, the cobs of Indian corn and similar "refuse" present enormous difficulties to a removal by suction machinery. In order to suck up such heavy material the power of the vacuum fan must be very great, so great in fact as to pull out from the crevices between the paving stones the sand or other material used as packing, thereby destroying the pavement. For use on asphalt or Belgian block pavement, however, the vacuum cleaner bids fair to come into general favor.

The inscription in German on the apparatus shown in the picture reads: "Hygienic Sweeping Machine with Dust Suction—Szymanski, Vienna."

**Saving Batteries in Double Ignition**

On cars equipped with double ignition systems it is advisable to economize the batteries as far as possible, doing most of the running on the magneto. This not only saves the expense of frequent renewals but also ensures an ample supply of current for emergency use.

**WASTE WATER TRAPS FOR GARAGES**

**New York's Fire Commissioner to Test Devices for Separating Oil and Gasolene from the Sewage.**

Indicating that New York garagemen are likely to be called upon to equip their establishments with devices for removing all gasolene and oils from waste water, Fire Commissioner Waldo has announced his intention of holding a series of tests bearing upon the subject and intended to demonstrate the effectiveness of such devices as may be available for the purpose. The movement is an outgrowth of a series of sewer explosions extending over a period of several years, responsibility for which generously has been laid at the door of the garage people, despite the fact that in sections of the city affected large numbers of old gas mains are known to exist which frequently are broken in the course of street excavations. Despite numerous conferences during the tenure of former commissioners no official action was taken other than to forbid the use of gasolene about garages for cleaning purposes or in any way which might result in the impregnation of sewage with oils which might give off inflammable gases.

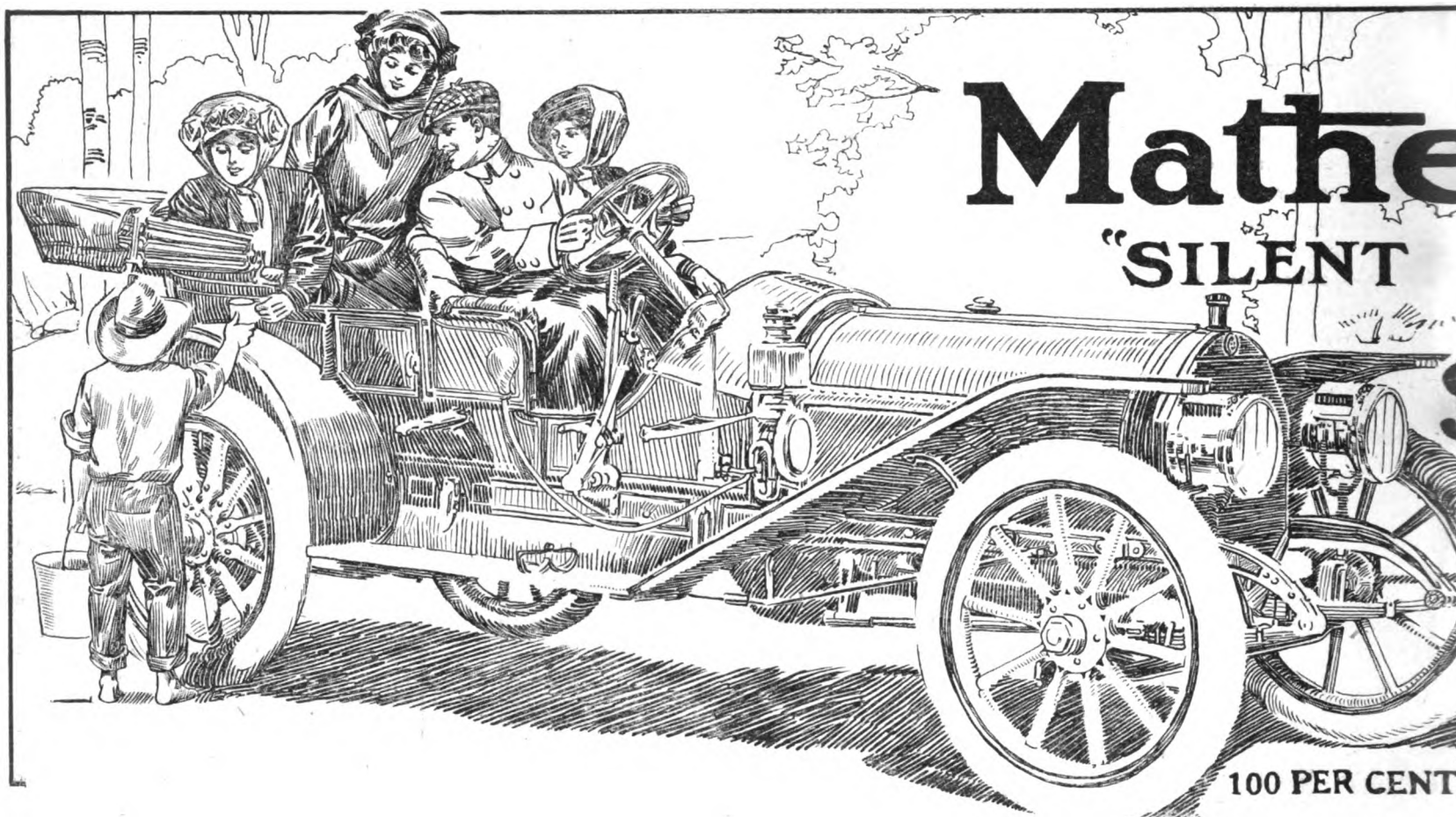
Official notice of the proposed demonstration was issued early this week from the offices of the Municipal Explosives Commission, 157 East Sixty-seventh street, as follows:

Previous to recommending the adoption by the City of New York of one or more designs of separators of gasolene and oils from garage effluent, all inventors and manufacturers of such apparatus are notified that, upon application to said commission, a time and place will be fixed at which a demonstration of the practical value of the respective designs may be made as well as such other tests as the commission may direct.

Communications should be addressed to the commission at its headquarters on or before May 10. The notice is signed by Commissioner Waldo, chairman ex-officio, and the four commissioners constituting the board.

**Why All Cylinders Should Be Working.**

When one cylinder of an engine develops a tendency to misfire, it is a great mistake to attempt to run for any distance without remedying the difficulty, especially as the trouble usually can be located without much delay. When all the cylinders are not working properly the uneven torque of the motor tends to strain the mechanism unnecessarily and if carried to extremes may develop serious trouble of one sort or another, resulting sometimes in complete ruin of the motor.



**E**VERYONE will admit that the Packard is a beautifully silent-running car. The same judgment rightfully applies to the Pierce Arrows and Peerless cars; also to the Renault, one of the finest of the French machines. These cars are also accepted as representing the best in points of design, materials and workmanship, and their success is due justly to the highly scientific combination of all these essential qualities. Of all the world's best machines perhaps none have been better known than these for their Silence in operation.

A year or two ago, however, the Silent-Knight, an engine said to have been designed especially to eliminate noise in operation, was heralded as a step in advance of anything yet produced in point of silence in operation, but not many of these have found customers in this country, due perhaps to their relatively higher cost.

Now comes the new light Silent Six Matheson, Model 18, \$3,500 car guaranteed to be even more silent in operation than the Silent-Knight, and far more so than any other four-cylinder or six-cylinder car on the market, European or American, regardless of price.

But this is not all. This light Silent Six Matheson is guaranteed to stay silent. Take any other car that was reasonably silent when new—how long before it began to grow rattly, loose, noisy? There are so many reasons for that condition

developing. There are equally as many reasons for the light Silent Six Matheson staying silent—these are some:—

- (1) Every one of the 1,500 parts making up the construction of every light Silent Six Matheson is inspected and calibrated **THREE TIMES** by **THREE DIFFERENT** sets of inspectors to insure perfect workmanship.
- (2) Every part must gauge absolutely correct to the 1-1,000 of an inch.
- (3) Every bearing throughout the entire car is uniformly **LARGER** than the corresponding bearing of any other car of like type.
- (4) Every bearing is positively lubricated throughout the entire car, even to the spring shackle bolts
- (5) The element of heat (which is the most destructive element of all in a gasoline motor) is so successfully eliminated as to avoid undue friction, thus practically insuring the lifetime service and efficiency of the light Silent Six Matheson motor, with reasonable care. This is due largely to the location of the valves in the cylinder heads and to the highly reliable lubricating system employed.
- (6) The scientific determination of the very highest grades of materials employed in the construction of the respective parts, for which are used the very finest of specially prepared metals, made for us under formulas which insure the very best physical tests. The materials entering into the construction of Matheson cars are not bought haphazard—all are subjected to the severest laboratory tests, in order to make sure of their certain adaptability to the respective functions which they must perform, under **OUR GUARANTEE, WHICH IS THE STRONGEST AND MOST SWEEPING** ever issued by any automobile maker to our knowledge.
- (7) The scientific **TESTING** of each and every part, the power brake tests of the motor on the block and the final tests of the completed chassis carrying a load of 1,000 pounds over the severe mountain roads about the city of Wilkesbarre, Pa., where the Matheson factory (one of the largest and finest equipped automobile plants in this country) is located.

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Top Extra, \$150

Licensed Under  
Selden Patent

OF SATISFIED OWNERS

we guarantee the light Silent Six Matheson Model 18 to be also superior to all of its type, European or American, less of price, in the following important respects:—

Its weight is the least in proportion to actual horsepower, consequently it is the best car on tires.

It has the greatest ACTUAL horsepower in proportion to its cost.

It has the largest bearing surface in proportion to cylinder dimensions.

It has the easiest riding qualities.

It can throttle down uniformly to the low-speed while running in high gear without jing.

It has the best designed and the safest running gear (irreversible) and steering connection.

It has the strongest transmission and rear construction.

It has a straight line drive (direct on high) through a particularly silent, friction- and extra strong double universal (a universal within a universal).

It has an absolutely infallible selective type transmission, with a never failing interlocking device, which makes it impossible for a set of gears to be thrown out of mesh, through vibration or otherwise.

It has the finest and costliest type of multiple-disc clutch—51 discs of saw steel, 12 inches diameter, hardened and ground, running in a bath of oil.

It has the handsomest lines of design; the interior is luxuriously upholstered, and the whole is superbly finished and equipped.

In submitting the following comparative table we have chosen the Packard, Pierce Arrow, Peerless and Renault, four popular cars (justly famous for everything that stands for the best in motor car construction) because they are probably better known examples of high quality, silent running cars than any others on the market, and if the Silent Six Matheson at its \$3,500 price can bear favorable comparison with cars of such well known high standard, and on test proves more silent, higher horsepower, lighter weight per horsepower, easier riding, more economical in fuel and oil consumption and in tire wear, and to possess throughout more thoroughly approved standard features of mechanical construction, proportionately larger bearing surface and proportionately greater factors of safety, it will likely compare equally well with all others, regardless of price.

	Matheson Silent Six, Model 18, Touring or Toy.	Pierce- Arrow Touring.	Packard "Thirty" Touring	Peerless Model 27 Touring	Renault Touring or Toy
No. of Cylinders	6	6	4	4	4
Price	\$3,500	\$4,000	\$4,200	\$4,300	\$6,500
Horsepower rated	50	36	30	30	35-40
Bore and Stroke	4½x5	4x4½	5x5½	4½x5½	5¼x5½
Ignition	Jump Spark Double, Two sets of spark plugs	Jump spark, Double. One set of spark plugs	Jump spark, dual. One set of spark plugs	*Jump spark, dual. Two sets of spark plugs	Jump spark, One set of spark plugs
Current Source	High tension 3-pole Bosch Magneto, with storage battery.	High-tension 3-pole Bosch Magneto with storage battery	Low-tension Eiseman magneto with storage battery	High-tension Eiseman magneto with storage battery	High-tension Bosch magneto only
Cylinders Cast	In pairs.	In pairs	In pairs	In pairs	In pairs
Lubricating System	Splash and pump from oil well to all motor bearings.	Automatic to crank shaft and pin bearings, cyl- inders and pistons	Splash and pump from oil wells to all motor bearings	Splash and pump from oil reservoir	Splash and pump to all motor bearings
Gasolene Feed	Pressure.	Gravity	Gravity	Gravity	Gravity
Gasolene Tank Location and Capacity	Suspended under rear of frame, 25 gallons.	Under front seats, 18 gallons	Under front seats, 21 gallons	Under front seats, 22 gallons	Under front seats, 22 gallons
Clutch	Multiple-disc, 51 discs in bath of oil.	Cone with leather face and cork inserts	Dry plates, raybestos and steel	Internal expand- ing with leather face	Cone with leather face
Transmission	Selective	Selective	Progressive	Selective	Progressive
Speeds, forward	3	4	3	4	4
Drive	Shaft.	Shaft	Shaft	Shaft	Shaft
Axle—front	I-beam, Nickel steel forging.	I-Beam Manganese Bronze Castings	Shelby steel tube	I-Beam nickel-steel forging	I-Beam, nickel- steel forging
Axle—rear	Full floating, vana- dium nickel steel.	Semi-floating chrome-nickel steel	Semi-floating chrome-nickel steel	Full floating nickel-chrome steel	Semi-floating nickel-chrome steel
Transmission	On rear axle.	On sub-frame	On rear axle	On sub-frame	On sub-frame
Wheel Base	125½	125	123½	122	132
Tread	56½	55	56½	56	55
Wheels—front	36x4	36x4	36x4	36x4	36x4 (about)
Wheels—rear	36x4½	36x4½	36x4½	36x5	37x5 (about)
Wheel Bearings—front	Roller	Annular ball	Roller	Roller	Annular ball
Wheel Bearings—rear	Annular ball	Annular ball	Annular ball	Annular ball	Annular ball

To the Public:

I have endeavored to write this advertisement just as I would tell you the story in person in our salesrooms. Its whole purpose is to interest you to the extent of calling upon us to verify every statement by actual demonstration in our light "Silent Six" car itself. Although our claims are undoubtedly the strongest that have ever appeared in an automobile advertisement, you cannot fully realize how really modest they are until you have ridden in this car under all touring conditions.

*C. W. Matheson.*  
President.

**Matheson Automobile Co., 1886-88 Broadway  
New York City**



## THE STRIVING FOR SPRING WHEELS

### Unceasing Endeavor to Replace the Pneumatic Tire—Difficulties Involved and Why Success is Far Off.

Many inventors have labored long and faithfully over the problem of replacing the pneumatic tire with the resilient wheel of more or less mechanical construction. Considered purely in the competitive way, however, the spring and lever combinations, which usually are adopted, suffer by comparison with the simple tire by reason of greater complication and also a lack of the uniformity of support which the use of the gaseous medium, which the tire envelope imprisons, so readily affords. These two objections have proved insurmountable to inventive genius thus far, though the problem presents so many alluring features that it is likely to continue to be the object of study for some time to come. Strictly speaking, of course, a wheel shod with a pneumatic tire, itself becomes a resilient wheel, to that extent the problem has been solved successfully. It is the mechanical substitute for the rubber envelope and its air contents which has been sought so persistently.

"When speaking of resilient wheels in the ordinary way, however, it is assumed that a wheel with some supplementary resilient device is inferred," as the *Automobile Journal* after a thorough investigation of the subject concludes. "Springs, for instance, may be introduced in order to supersede the pneumatic or enhance its advantages, the underlying idea in most cases being to render possible the use of solid tires on touring vehicles.

"The general prevalence of the steel-studded pneumatic having greatly reduced the liability to puncture, and the advent of detachable wheels and rims having greatly minimized the inconvenience of tire troubles, there has of late been a noticeable absence of the demand which at one time was certainly to be heard among a certain section of private owners for the solid rubber tire. It is necessary for the purpose of considering the resilient wheel problem, however, to suppose that there still does exist a sufficient field for the application of the solid tire, and by taking commercial vehicles into account, it will be very readily admitted that the assumption is justifiable.

"We have pointed out that the pneumatic tire provides the best resilient wheel known at the present time, and in order to understand the problem that besets those who try to invent a substitute, it is very naturally necessary to understand wherein the success of the pneumatic tire lies. Attention must be drawn therefore to two peculiarities to the pneumatic tire, one being the continuity of the air all round the peri-

phery of the wheel and the other being the thin and flexible nature of the envelope or cover that encloses the air, and together therewith forms the pneumatic tire as it is known to motorists.

"When a pneumatic-tired wheel is loaded with a certain weight, the tread slightly flattens and the area of contact—not the internal pressure—increases until the pressure multiplied by the area of the tire in contact with the road is equal to the weight of the load. Only a very small portion of the tire cover has been bent out of its normal shape in the process, and owing to the slight thickness of the walls of the tire only a very small mass of rubber has been moved or subjected to molecular stress. Moreover, as the tire rolls over the ground the continuity of the air-chamber permits the air within to displace itself in accordance with the altered shape of the chamber and so no work is expended on recompensation as would be the case, for instance, were the tire to consist of a series of pneumatic cushions instead of one continuous tube.

"As the result of this brief investigation of the pneumatic, two outstanding factors are shown to be desirable in any resilient wheel that is intended as a substitute. The first factor is small mass in the moving parts and the second is some equivalent of the continuity of the air-chamber. Taking the item of small mass first, it is very clear that the mass will be least when the resilient medium is nearest to the tread of the tire, which accounts for the fact that in most spring wheels the springs, which take the place of the air, are situated immediately behind the felloe. The further away the resilient members are from the tread of the tire the greater is the bulk of material that has to be moved each time that the resiliency of the wheel is brought into play, and the less effective will be the wheel.

"The next point is the equivalent of the continuity of the air-chamber. In many, if not the majority of spring wheels, such an equivalent does not exist, for it is not easy to design a mechanism within the limits of space and weight determined by a wheel that possesses this particular property. It is absent in most spring wheels in which the springs are set radially in the form of spokes; each spring in turn is compressed and released, and a certain amount of work is lost even when rolling over a dead smooth road.

"The important consideration in this case, however, is not so much the loss of power as the possible effect that this incessant action may have on the life of the springs, which are very well known to be liable to fatigue or premature loss of elasticity. It is possible to overcome this objection by using a compensating mechanism such as will make all the springs share equally and at all times in the support of the load, and devices of this kind have been invented. Spring

wheels of this class possess the equivalent of the continuous air chamber in a pneumatic.

"Having now drawn attention to the two fundamental factors associated with the design of a spring wheel, it is necessary, before proceeding to another point of considerable importance, to emphasize an advantage that any resilient wheel possesses when compared with an ordinary carriage spring. In a resilient wheel, the resilient medium or members, as the case may be, are equally effective along any radius, and consequently they can perform their purpose of absorbing a shock equally well in any direction, whereas the limited movement of an ordinary spring placed between the axle and the frame essentially implies that it is efficient only when the obstacle causing the shock operates vertically upwards.

"This is unquestionably one of the great merits of the pneumatic tire, and it is of great advantage that fortunately it has no opposite aspect as is the case with spring wheels and other devices in which the resilient medium is so placed that a mass of considerable inertia is formed by the outer periphery of the wheel.

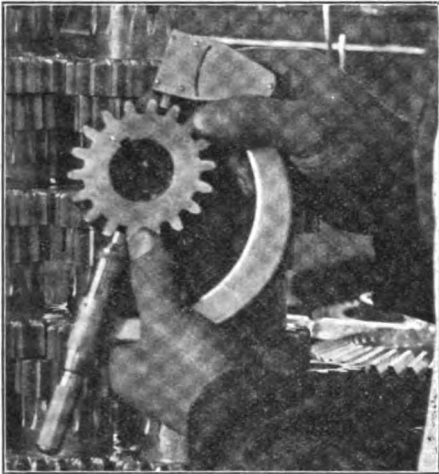
"In order to understand this adverse side to the universal action of a spring wheel, it is convenient to consider a specific case. Suppose a spring wheel meets a fairly large obstacle under such circumstances as will throw the rim eccentric to the hub almost to the full limits permitted by the spring. If we then follow the progress of the wheel after it leaves the obstacle, it will be found that the next action is the recoil of the spring which jerks the rim out again past its concentric position. This overshooting of the mark always tends to occur in any system that has been disturbed from its equilibrium and is released to find its own neutral position.

"It does not, of course, necessarily follow that this recoil need have a detrimental effect in itself, but if it happens that the next shock coincides with the recoil in such a way that the shock and the recoil are simultaneously in action in the same direction, the result is quite likely to be harmful. It is not difficult to foresee that if this happens a very serious strain is thrown upon the wheel, because not only is the inertia of the rim neutralized before it meets the shock, but the greater part of the resisting force of the springs is already overcome. It is not essential that this condition of affairs should occur, but, as we have said, it may occur, and as a matter of fact it was due to its frequent occurrence in connection with a particularly clever spring wheel that our attention was first drawn to the matter, which up to that time had apparently been totally overlooked, or at any rate considered of no importance by the many inventors then engaged on the subject of spring wheel design."

## WHAT TESTING OF PARTS ENTAILS

**Remarkable Care Required to Make Them a Sure Fit—Processes and Instruments that Are Employed.**

While the average motorist has a somewhat hazy idea as to what testing of parts in a modern automobile means, he rarely appreciates the great accuracy demanded of up-to-date machinery, and the immense labor connected with the testing end of a factory. Not only are a number of trained



GAUGING PITCH DIAMETER

inspectors employed whose sole duty it is to see that the various parts stamped, pressed and drilled are absolutely correct as to measurements, but for each and every

matter of squaring a portion of the propeller shaft for the sliding gears, it is absolutely necessary that this squared part is centered exactly to the main shaft. Large bevel gears have to be tested by micrometer gauge, while smaller gears are examined by



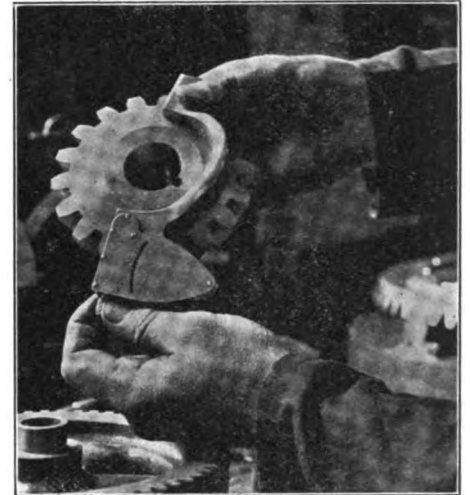
CENTERING SHOULDER ON SHAFT

means of a peculiar-looking instrument shown in one of the pictures.

As is but natural in a car which is intended to run as noiselessly as possible, the distance between gear centers must be absolutely identical in each case, so that replacements may be made when necessary. Furthermore no eccentricity or other irregularity can be permitted to pass. An indicator fitted with a long pointer is used

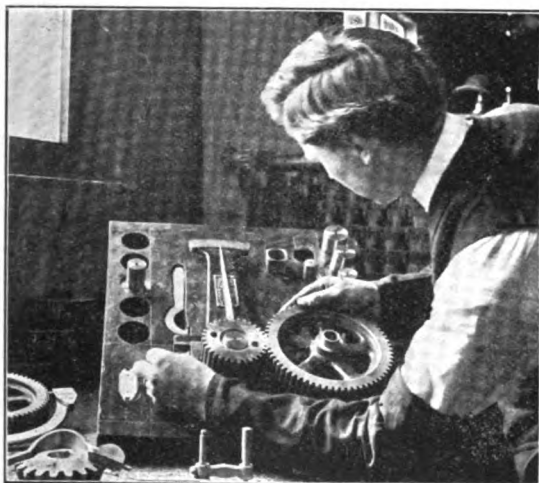
The crank shaft bearings, for example, are hand burnished to a mirror-like finish and no one bearing differs from another more than a thousandth of an inch. Pistons and cylinders are finished with such accuracy that if they vary one-thousandth of an inch they cannot pass the exacting inspection carried on in up-to-date factories.

By an instrument of special design it is possible to determine if any point of the fly wheel rim is heavier than another and how much. This means substantially perfect balancing. Every fly wheel assembled with shaft and motor parts is thus balanced.



SPECIAL MICROMETER GAUGING

The difficult work of testing parts as to accuracy is never turned over to new or inexperienced men. Usually the most careful and steadiest men are chosen for this



RAMBLER PARTS INSPECTION—TESTING SPUR AND BEVEL GEARS FOR ECCENTRICITY AND TRUTH

part there are two and even more gauges, testing machines and sometimes specially constructed instruments for detecting slight inaccuracies in weight and eccentricity.

In the accompanying photographs are shown some phases of the process of testing individual automobile parts as carried on in the factory of Thomas B. Jeffery & Co., Kenosha, Wis., where Rambler cars are made. For instance, in the important

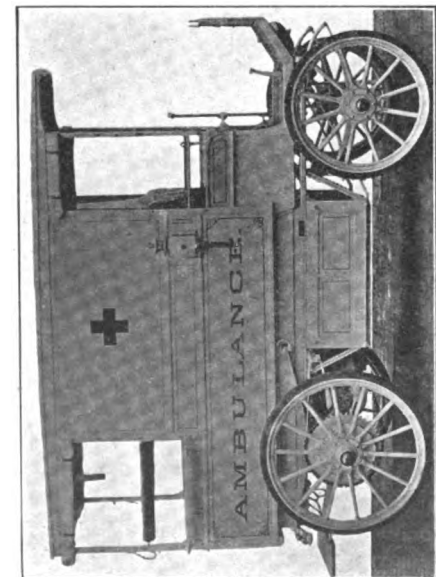
work and a good inspector is a valuable asset in any automobile factory.

Piston rings are ground both on the face and on the sides. The pistons themselves, cams and cam shaft bearings, all ball cones and cups, roller bearing sleeves and roller bearing cases and gears are ground in the same way. In some cases this grinding process is not considered accurate enough.

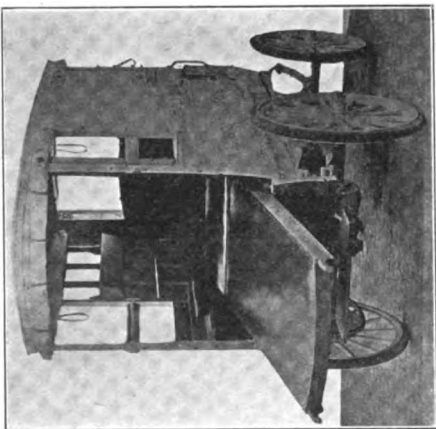
work and a good inspector is a valuable asset in any automobile factory.

An important feature of their work, which seldom is appreciated by the layman, is that the regular inspection of parts along standard lines furnishes a close check upon the accuracy of all factory processes and establishes a regular means of detecting any laxity on the part of operatives or faults in processes.

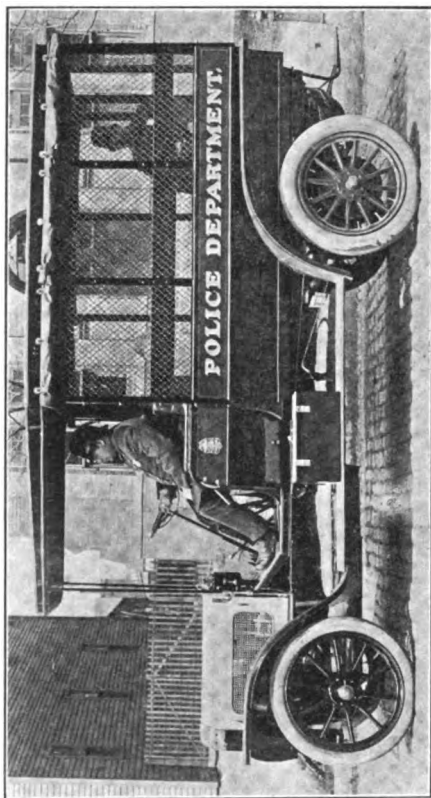
COMMERCIAL VEHICLES APPLIED IN AMBULANCE AND PATROL SERVICE.



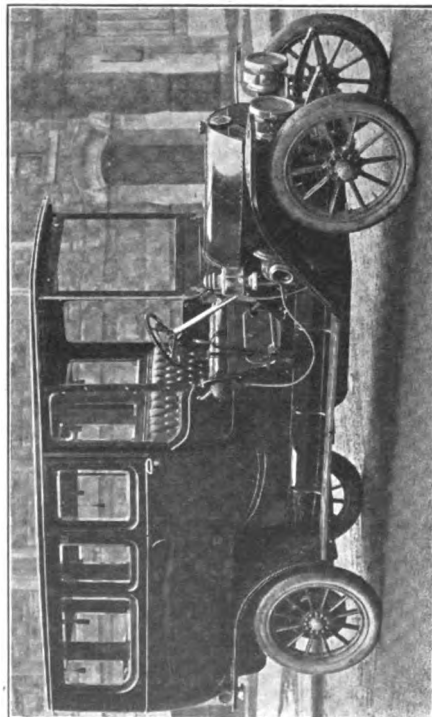
STUDEBAKER ELECTRIC AMBULANCE



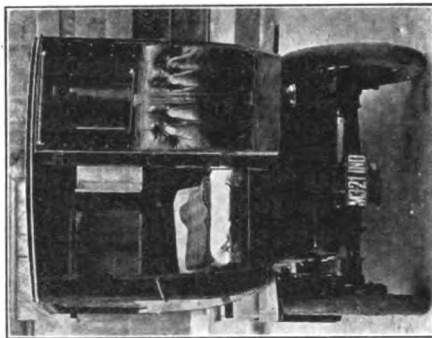
STRETCHER REMOVED



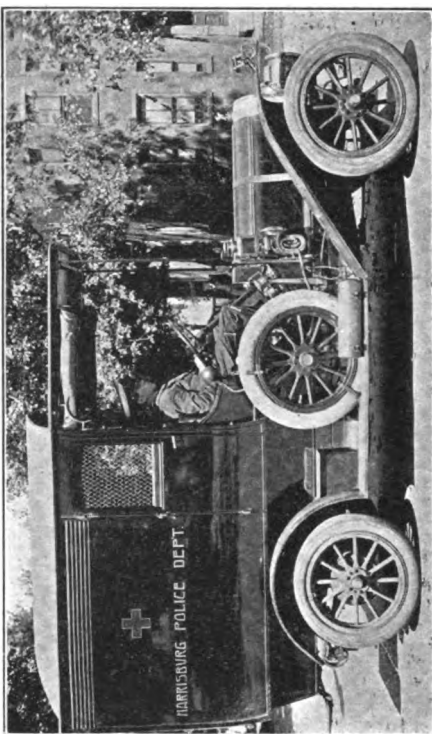
OMAHA WHITE STEAM PATROL



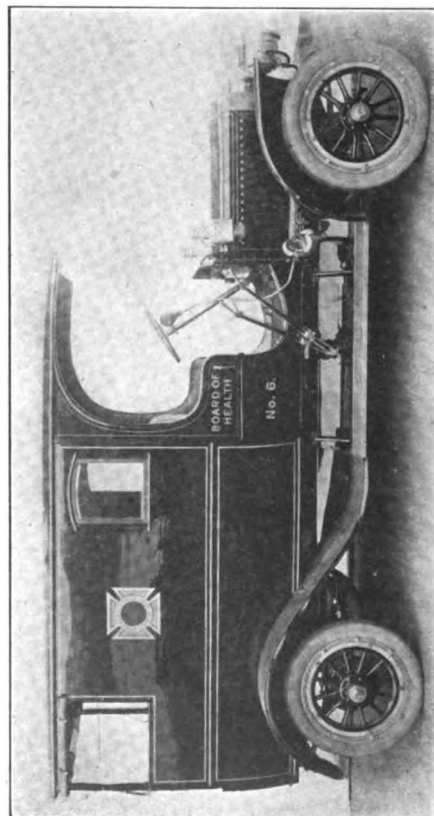
PREMIER PRIVATE AMBULANCE



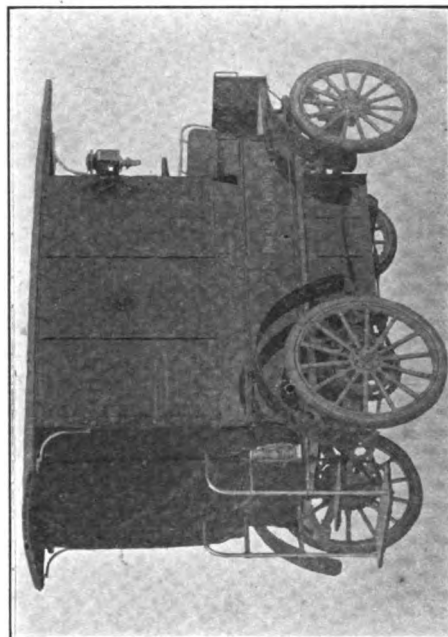
INTERIOR VIEW



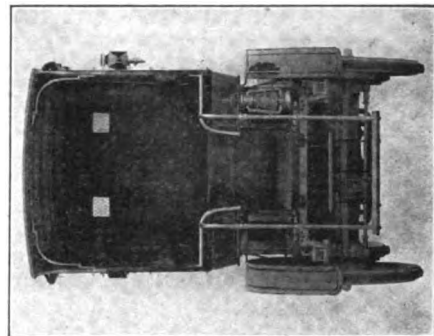
HARRISBURG RAMBLER COMBINATION



NEWARK, N. J. MAXWELL AMBULANCE



STUDEBAKER ELECTRIC PATROL



REAR VIEW

**REDUCING COMMERCIALS' UPKEEP**

**Truck Manufacturer Outlines Some Simple Rules—Points Out Precautions That Will Save Tires.**

Operators of commercial motor cars, in order to realize the maximum of service from the vehicles constituting their equipment should make a careful study of all text books and helpful paragraphs designed for the guidance of the novice in the realms of the pleasure car, culling therefrom the simplest and most obvious directions in regard to vehicle maintenance and posting them up somewhere on the garage wall for the delectation of the employees. For the average motor truck driver requires exactly the same sort of patient tuition as does the average possessor of his first small car.

In this connection the Gramm Motor Car Co. has compiled and issued a set of four axioms which are worth remembering, though to the average motorist of experience, as trite and obvious as all true axioms should be. They are:

"Make daily inspections.

"Keep all working parts clean.

"See that bolts and nuts are kept tight.

"Keep all working parts well lubricated."

The same authority, in the course of a series of brief directions relating to the general upkeep of the machine which are intended more for the driver and caretaker than the owner himself, says:

"In going down a grade, should you shut the motor off, don't let the clutch in when going at a good clip or in slow speed. It is apt to tear the motor to pieces and twist the transmission shaft. Take it carefully and let clutch in easy so that motor is started as it should be.

"A half-and-half solution of denatured alcohol and water is excellent for cleaning lamps. It is absurd to pay for powerful lamps and then sacrifice a quarter of their light through failure to keep the burners, lens, mirrors and front doors in condition.

"Pipes and passages of acetylene generators should be periodically blown through to see if they are clear, and if there is a cotton filter for the gas this should be changed occasionally if it seems to require it. Especially should it be seen that the different parts of the generator go together freely and that they can be fastened in accordance with the maker's instructions.

"Dry springs are responsible for squeaky sounds, which are not only disagreeable, but make the car sound old and ride hard. It is because the individual leaves become in time rusted and do not slide freely over each other. This condition may be easily remedied by jacking up the car so that the chassis will hang from the springs and in-

roducing flake graphite. One very good way to introduce the graphite is to mix it with thin oil, or even with kerosene, and then 'float' the graphite in between the leaves."

In regard to that all important matter, the care of tires, the Gramm man continues:

"Do not round curves at too great speed. It is playing with fate to attempt to round corners on two tires, besides it is bad for the tires.

"Never expose your tires to too great a degree of warmth or cold for any length of time. It is a wise plan to stop on the shady side of the street on hot summer days.

"Keep away from the curb. How often we see cars jammed against the curb, with the tires pushed out of alignment and the wheel itself strained in an unnatural position.

"You cannot expect long tire life if you constantly overload your machine. Tires are almost human. They will not stand up under a heavier load than they were made to carry.

"Start your car in a straight line, if possible. Do not twist around on the steering wheel before you get under way; this imposes a heavy and unnecessary strain on your tires.

"See that the wheels always run true. The unequal planes of some wheels will cause unusual strains which wear the tire out much more rapidly than is necessary.

"Never allow oil or grease to come into contact with your tires. See that the garage floor is clean and wipe up all the oil that might find its way to the tires. It is a wise precaution to see that oil-soaked waste rags, etc., are kept away from the inner tubes in the tonneau tool box.

"See that the brakes of your car work correctly, evenly and easily. Never jam on the brakes too suddenly. Instant locking of the brakes not only destroys the tires, but is likely to injure the car itself. A car can really be stopped within a shorter distance by putting on the brakes gradually, yet firmly."

**Attention That the Spare Wheel Requires.**

One difficulty which has developed to some extent in connection with the use of detachable or spare wheels which are coming into use abroad and, in a lesser degree, in this country, is the tendency of the hubs to rust, thereby rendering the process of replacement far from a simple or easy matter. Needless to say, the difficulty may be prevented by occasionally removing each of the wheels and thoroughly cleaning and lubricating the hub. The necessity of the precaution, however, is not likely to impress itself upon the motorist who comes into possession of such an equipment for the first time, so that the hint is one well worth remembering.

**ONE ELECTRIC VS. FIVE HORSES**

**Another Interesting Comparison is Produced—Shows a Saving of \$1,002 by the Electric Service.**

When a merchant or manufacturer decides after some deliberation to replace his horses by motor trucks, the question which is the most important factor in his decision is naturally that of first cost and the cost of upkeep. Exhaustive tables for both gasoline and electric vehicles have been published from time to time, succeeding statements of the sort proving the growing success of the manufacturers and also the reduction in operating expenses which is a natural outcome of increasing familiarity with the details of a relatively new system. One of the most recent statements of this kind just has been issued by the Waverley Co., Indianapolis, Ind., makers of electric automobiles and delivery wagons.

The case assumed is that of a man who uses two one-ton delivery wagons, keeping them in constant operation; his investment would be at a very low estimate:

2 one-ton wagons at \$380.....	\$760.00
5 Horses at \$220.....	1,100.00
2 Sets of harness at \$45.....	90.00

Total investment ..... \$1,950.00

His expenses during the year are:

Oats .....	\$480.00
Hay .....	227.00
Bedding .....	45.00
Water and tools.....	30.00
Stabling .....	30.00
Shoeing .....	90.00
Interest at 6%.....	117.00
Depreciation at 20%.....	390.00
Drivers' wages .....	1,248.00

Total expenses for the year.... \$2,657.00

Owing to the greater speed of the automobile the work of this man's two wagons easily could be performed by one electric truck of the same capacity. His investment for an electric delivery wagon of one ton capacity would be \$2,000.00.

His expenses for one year are:

Cost of current (375 charges)....	\$219.44
Allowance for battery renewals, repairs .....	289.00
Average for tires and other repairs .....	225.44
Interest at 6%.....	120.00
Depreciation (10% on \$2,000, less cost of battery and tires).....	126.35
Driver's wages .....	524.00

Total expense for the year.... \$1,604.23

The balance of totals then would be:

Total outlay for horse-drawn service .....	\$4,607.00
Total outlay for electric service..	3,604.23

Making a net saving per year of \$1,002.77

These figures are based on the average expenses for a series of years, and are taken from the actual experiences of owners of Waverley electric delivery vehicles in constant service.



### To Warm the Mixing Chamber.

Cars which, either through economy in construction or their antiquity, are not equipped with means for warming the mixing chamber of the carburettor frequently may be improved in action if provision is made to that end. Oddly enough, properly heating the gas on its way to the cylinders also has the effect of reducing the tendency to the accumulation of soot inside the combustion chamber, which is characteristic of many ancient motors, since it assists materially in vaporizing the fuel. In order to heat the carburettor, the jacket surrounding the mixing chamber may be filled with hot water from the cylinder jackets, or with a small quantity of waste gas, by-passed from the exhaust manifold. Another method is that of introducing directly into the mixture a small quantity of pure air taken through a heater surrounding the exhaust outlet. All three methods, of course, are employed in modern types of power plant, and either one of them can be fitted to an existing machine without much difficulty. The latter method, however, as being applicable to a carburettor which is not provided with a jacketed mixing chamber, generally is easiest to apply and, in general, the most satisfactory all around.

### Where the Nameplates Come From.

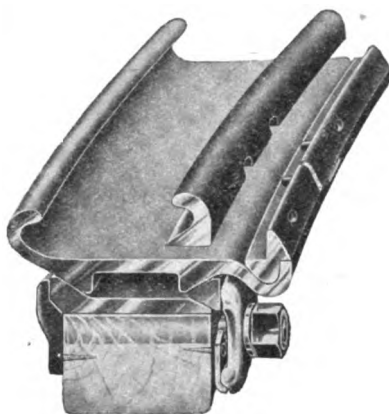
Disclosing the source of the name plates which embellish various parts of a number of the most famous cars, a sample book or catalog has been issued by the Chandler Co. of Springfield, Mass., which manufactures name plates and stampings. By the use of bronze and silver inks the representations of the name plates give the appearance of real brass or nickel, as they appear when on a car. The styles shown include lettering in knurled panels, ordinary finish with black enamel or oxidized background, black lettering in relief with gold finish background, enameling in two colors with "old brass" polish, and cut out plates—some of which are cut out by means of dies and others sawed. Silver and black plates also are shown, with samples of clockdials and meter scales. The catalog indicates that the company makes light stampings of any metal up to  $\frac{1}{8}$  inch thick, finished or unfinished, plated or not, and that it also manufactures a great variety of punch press work, shims, special washers, scales for measuring and the like.

### Making Demountable Rims More Secure.

Despite the apparent security of the demountable rim in its most familiar forms, failures have been known to occur in cases where the locking ring turned over in its groove or where the clincher side ring broke as a result of being improperly supported. To obviate troubles of this nature an improvement has been introduced in the

Firestone demountable construction whereby the ring is afforded a double seat and an added interlocking feature which are calculated to render it absolutely positive in its engagement at all times and under all circumstances.

The nature of the improvement is illustrated in the accompanying illustration, which shows the conventional section. Besides the regular lip which is formed on the inner side of the ring for the purpose of affording a seat for the clincher side ring, a second lip is formed on the outer side. This engages an up-turned edge of the rim proper and thus prevents the ring from rolling in its seat. Two dowels are inserted in the ring on either side of the break, which engages corresponding holes in the ring side when the latter is forced over into place by the inflation of the tube.



The result is that the ring is so held against springing that it cannot escape from the groove and also is prevented from creeping. The two improvements are being embodied in the regular product of the Firestone Tire & Rubber Co., of Akron, O., as it is now being marked.

### Why Japan for Rim Recoating.

Motorists who have been cautioned to use only japan in recoating the wheel rims after the metal has become exposed as a result of abuse or chipping of the original covering, sometimes are moved to wonder why plain black paint and varnish of the sort used by the makers of the car would not be a better material for the purpose. The reason is not far to seek when the relative skill of the average motorist and the average automobile painter are compared. With the requisite craft and the time necessary to allow the pigment to harden thoroughly, paint undoubtedly is superior to japan. The point is that the average rim painting job comes at the end of a more or less protracted overhauling, when there is not much time to spare either for the work itself or for the paint to dry after the work is done. Therefore, the quicker drying and more readily applied material is by far the more suitable for the purpose under ordinary, everyday circumstances.

### For Fireproofing of Small Garages.

Owing to the extreme fire-hazard of the garage, particularly in the case of establishments of the smaller order, a considerable demand has arisen for construction materials suitable for roofing and wall coverings. A recent addition to the products which are designed specifically for this purpose just has been introduced by the H. W. Jones-Manville Co., New York City, under the trade names "J-M Asbestos Roofing" and "J-M Asbestoside." In producing the roofing and siding materials numerous sheets of asbestos felt, similar in nature to that which the manufacturers in question employ so extensively in the production of gasket and packing materials, are thoroughly saturated with Trinidad lake asphalt and cemented firmly together. The resulting material, because of its all-mineral nature, not only affords adequate protection against fire in addition to the usual elements, but it is not subject to disintegration under the effects of the weather and requires no paint or other preservative to keep it in good order. The new products are comprehensively treated in a descriptive booklet which is being distributed among those who are interested in the subject.

### Big Book Dealing with Equipment.

Bearing on its bright orange cover the words, "Everything for the motor and motorist," the 1910 catalog of the Motor Car Equipment Co., 55 Warren street, New York City, apparently fulfills its cover promise to the utmost in its 144 pages of illustrations, descriptions and prices relating to automobile supplies and accessories. The offerings go through the whole range of well known brands and include a number of importations for which the company is the sole United States agent, including Oleo spark plugs, Pirelli ignition cable, Blanchard horns, A. V. magneto spark plugs, English compounds pumps, Pogon plugs and similar specialties. Articles of the company's own manufacture also are well represented in things like Grab pump connections, Continental lamps, Kracker Jack tool kits, etc.

### Advantages of One Key for All Locks.

To prevent garage employes and idle chauffeurs from tampering with the motor, the use of some form of lock applied to the bonnet is a very good thing. Where such a device is used, however, it is wise to have the lock of a similar type to those which are used for the tool and battery boxes as well as any other locked compartments about the machine. When this is done, it is possible to provide a single key which will give access to any part of the car, thus reducing the liability of becoming stranded on the road without means of getting at some part which requires attention, save by the expedient of breaking in.



**WORM DRIVING CONSIDERATIONS**

**Reasons for Sluggishness at the Start—Lubricating the Contact Surfaces—Continuous Action Induces Silence.**

Although the use of worm gearing as applied to mechanical purposes of varied sorts has become very general in this country, it is an odd fact that the worm-driven rear axle for automobile use has made more rapid progress in England than here. In one instance, that of the Lanchester cars, worm drive has been in use for a number of years and with entirely satisfactory results, while a number of other makers have adopted the system more recently. Discussing

and coasting. A car fitted with a worm-driven axle would seem in general to have conveyed the impression of slight sluggishness under these conditions, more particularly in respect to being not so lively in getting away from a standing start.

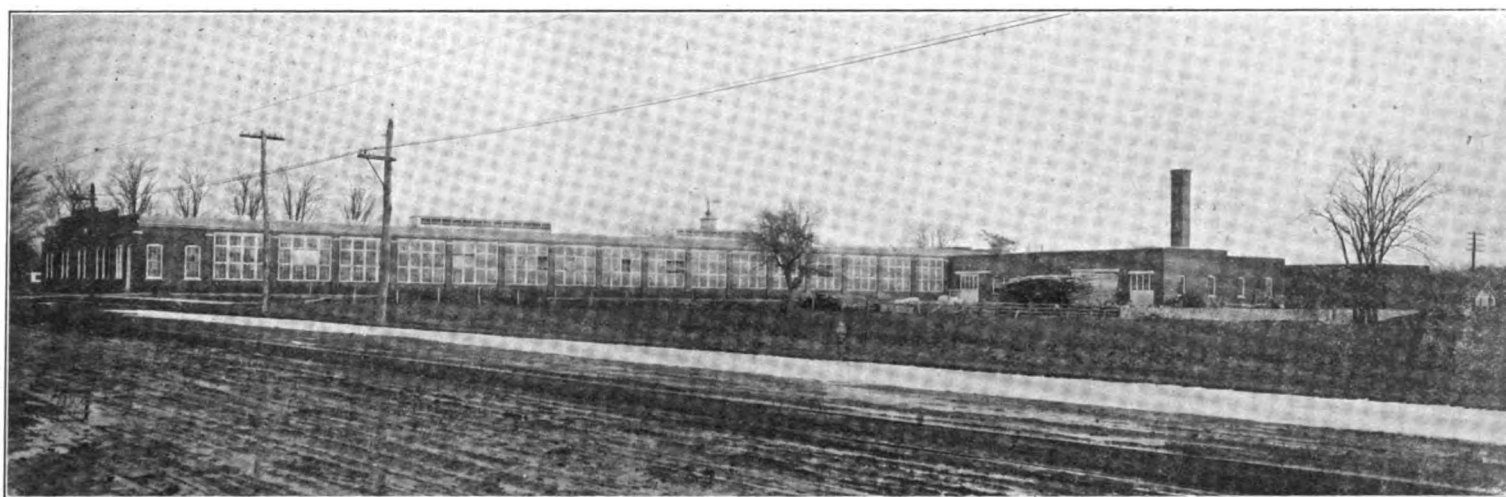
"Proper lubrication is the secret of success with the worm-drive. The worm, with its wedge-like sliding action, seems to have an especial propensity for squeezing the oil out from between the surfaces in contact, and it seems to be the opinion of engineers that the only way of ensuring satisfactory lubrication is to confine within low limits the intensity of pressure between the working surfaces in contact by making those surfaces as large as possible.

"It is not difficult to appreciate why the worm-driven axle should not show to its

**WHERE MAYO RADIATORS ARE MADE**

**One of the New Factories Typical of the Industry—Huge Stocks of Material That Are Carried.**

Progress is always interesting. In some cases, the reasons back of it lend a double interest. In these days, new automobile factories are common enough, and in their train they bring a correspondingly increasing number of parts, material and accessory factories, for it is little short of astonishing to know the number, kind and extent of industries that are created, related or brought into touch with the automobile business. No less astonishing is the suc-



VIEW OF MAYO RADIATOR CO.'S FACTORY AT NEW HAVEN, CONN.

some practical phases of the worm-drive principle, a well-known authority brings to light one or two noteworthy points in connection with the operation of cars employing this type of transmission.

"Most manufacturers who have adopted the worm-drive," he observed, "have done so because of its inherent quality of silence. The worm-drive is by nature a more silent mechanism than the toothed bevel, because its method of transmitting power is absolutely continuous, and of a sliding wedge-like kind. The bevel depends for its continuity of action on the accuracy of its manufacture, since by nature its operation consists of a sequence of blows. To an extent the worm and the bevel may be compared, respectively, to the propeller and paddle-wheel in steamship propulsion.

"From the purchaser's point of view, the relative efficiencies of the worm-drive and the bevel are largely associated with the practical differences that are likely to be noticeable on the road. It is a common opinion expressed among those who have experience with both types of car, that the only noticeable difference between a worm-driven axle and a bevel-driven axle is to be observed under conditions of starting

best advantage when starting a car. At the moment the clutch is engaged the worm and its wheel are brought into contact with great force; then, if ever, will the lubricant be squeezed out from between them and the full frictional resistance of the metals be encountered. As the car accelerates, the intensity of the pressure rapidly diminishes, lubrication is restored, and the efficiency of the transmission improved so much that it is not uncommon for anyone sensitive to subtle changes in the behavior of his car to experience a rather extraordinary feeling of sudden accession of power to his vehicle at the moment when it gets into its stride."

**Hardening Steel Automobile Parts.**

Treating and hardening work for automobile parts has been taken up as a specialty by the Bridgeport Metal Treating Co., of Bridgeport, Conn., which recently acquired the hardening business of the A. G. Barrow Co., of the same city. A new department has been added for the treating of high speed steel, and this, together with the other work in the plant, is under the personal supervision of William T. Gibson, who has had large experience.

cess which many of these concerns have achieved in developing specialized products, motors, transmissions, axles, ignition appliances and carburetters. But among them, perhaps, no line save that of ignition has been more generally confided to the exclusive attention of the parts specialist than that of radiators. Progress in these lines has resulted in the creation of not a few factories devoted to specialized production in lines which were entirely unknown only a few years ago.

Prominent among the new plants of the sort is that of the Mayo Radiator Co., at New Haven, Conn., devoted to the exclusive production of Mayo radiators, and which is here illustrated. Located along the Northampton branch of the New York, New Haven and Hartford Railroad, in the outskirts of the old New England town, to which it is a distinct acquisition, there are features about it and in connection with it that are distinctly interesting not only in respect to the product itself both as to its quality and variety, but also in regard to the detail methods which are employed in turning it out.

The new factory itself, which only recently was completed, may be called a mon-

ument to a policy, for it was made possible by the strict adherence to a policy of doing but one kind of work, and that the best, and getting for it a price commensurate with its worth.

From the moment one enters the office

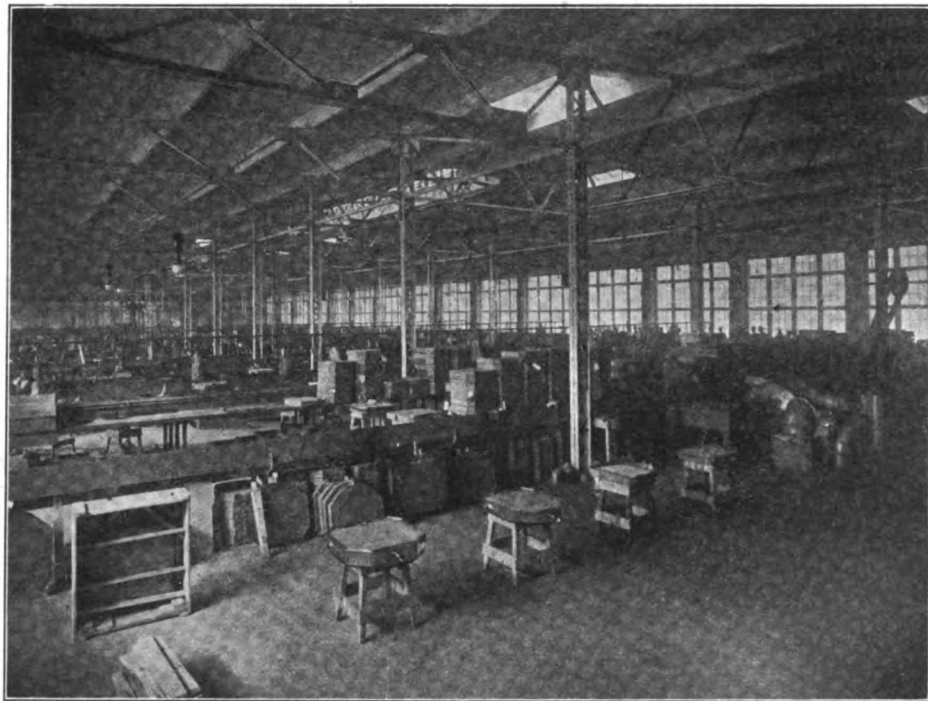
every piece is rigidly inspected, the inspection service particularly being painstaking and thorough.

The business has grown from a modest beginning and it is only fair to say that it is largely due to the thorough knowledge

ticularly during the gear shifting process, frequently may be improved if a small amount of flake graphite is introduced with the regular lubricant and allowed to work into the wearing surfaces of the discs. By filling in the pores of the metal and rendering the surfaces absolutely smooth they free themselves much more readily than before, especially if, through any sort of abuse, they have become at all roughened. In many cases the dragging effect results merely from the use of an improper grade of oil or from continuing to use the clutch after the oil has become too thick. The result is that after an extended period of engagement the discs are held together with considerable force, causing the driving shaft to spin after the pedal has been depressed, introducing difficulties in gear changing and burring the teeth of the pinions. Such adhesion, of course, is distinctly bad and should be done away with at whatever cost.

#### For Strengthening Headlight Brackets.

Headlight brackets which are not provided with the tie-rod with which a number of machines now are equipped and which serves to prevent the lamps from vibrating excessively, may be stiffened partially by the simple expedient of binding a stout leather strap tightly across from one fork to the other. It is important that



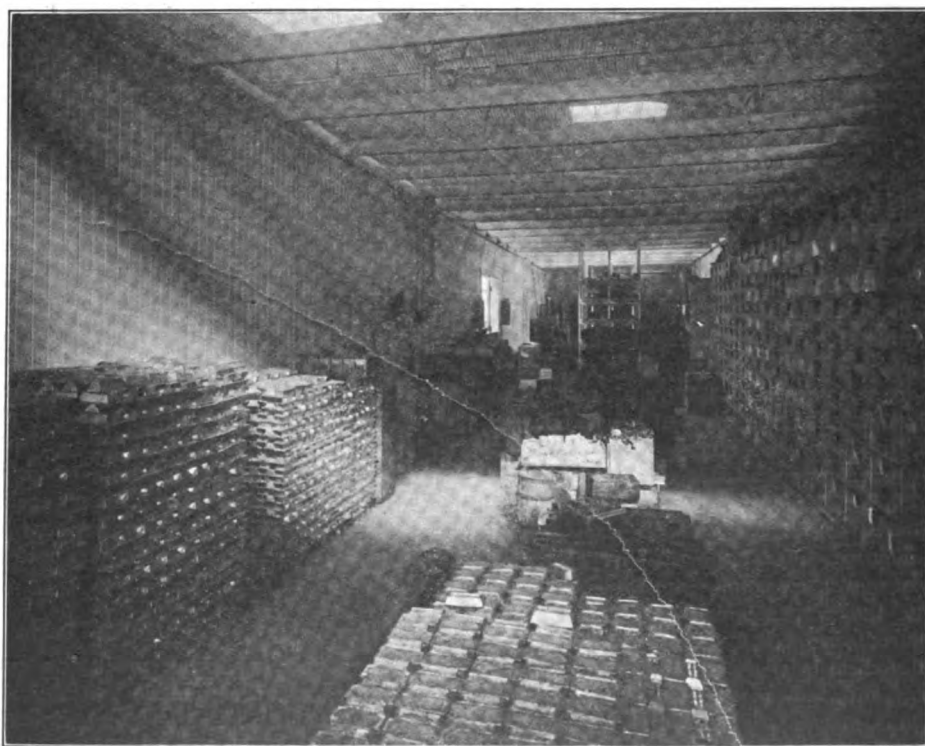
GENERAL INTERIOR VIEW OF MAYO RADIATOR CO.'S PLANT

makes a tour of inspection and departs, the impression is one of orderly cleanliness, coupled with plenty of light, skilled workmen and modern machinery operating under the most advantageous conditions.

The main building is a long, single structure, 355 by 100 feet, with two additional buildings, 150 by 30 and 60 by 80 feet, containing more than 50,000 square feet of floor space. A 50 horsepower gas engine supplies the power and the output is over \$3,000 worth of radiators per day.

In regard to the product itself, it goes without saying that it is of great variety and reveals here and there an outline or a familiar detail which discloses the hitherto unsuspected origin of the cooling system of some well-known car. Indeed, a tour of the floors, showing as it does the products destined for use by automobile manufacturers in all parts of the country, makes it plain that the prestige of the Nutmeg State in respect to the development of special wares of light manufacture in no wise is waning. To give some idea of the amount of stock carried, the accompanying cut of the stock room shows over 600,000 pounds of brass, and 55,000 pounds of solder on hand and ready for use. A glance at the illustration showing the interior of the assembling floor gives a further idea of the amount of product which is being handled in the daily routine of business.

In the construction of the Mayo radiator, every modern manufacturing process is employed, among them dipped brazing, and



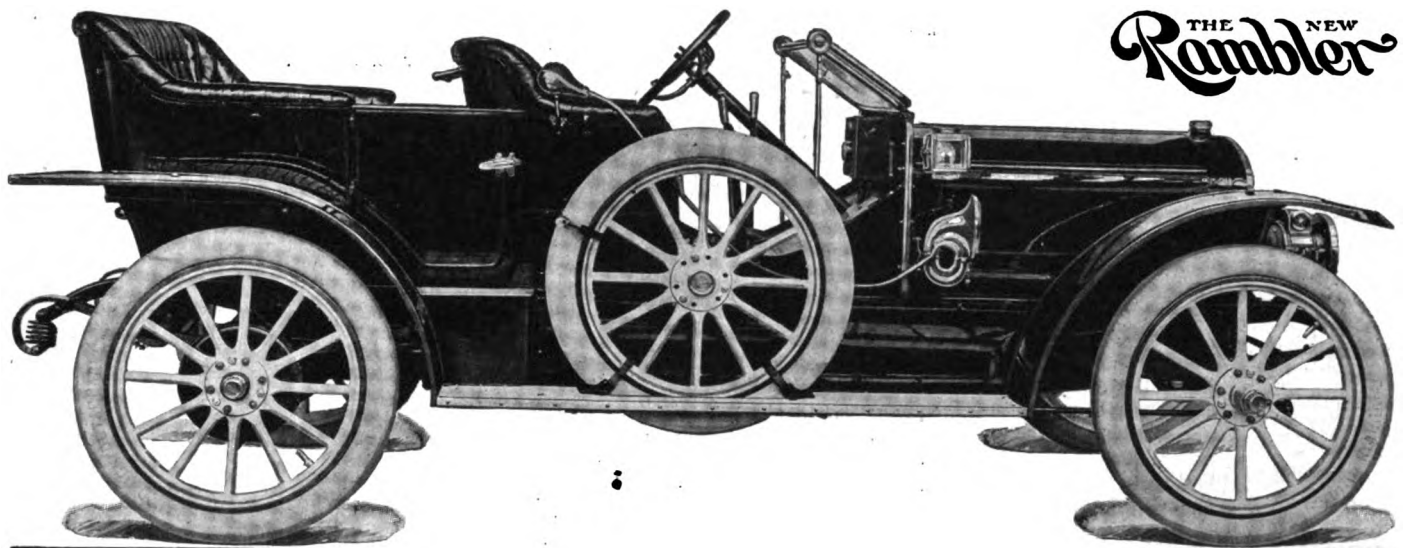
STOCK ROOM SHOWING LARGE QUANTITIES OF RAW MATERIAL

and good business management and judgment of its founder, Mr. V. St. J. Mayo.

#### Graphite Good for Disc Clutches.

Multiple disc clutches which evince a tendency to drag when disengaged, par-

the lamps be held as rigidly as possible, and where the method suggested does not accomplish the desired result, it is a good plan to take the brackets to a blacksmith and have a tie rod welded across from one to the other.



**T**HE Fifty-four Toy Tonneau is a mid-season New Rambler model. It is an evolution from the Close Coupled model, designed for the same demand, but a little more roomy.

Its advantages are low seats, two inches longer than usual from front to back. Seat cushions tilted and rakish seat-back to correspond. Body smaller and lighter than the touring car but tonneau roomy enough for three people of average size. Three inches more leg room in front than touring car. Rakish steering column.

With five lamps, Prest-o-Lite tank or generator, magneto and storage battery, horn and tools, \$2,250. Top with side curtains, \$100. Wind Shield \$40. Spare Wheel \$85.

**Thomas B. Jeffery & Company**

Main Office and Factory: Kenosha, Wisconsin

Branches: Chicago, Milwaukee, Boston, Cleveland, San Francisco

## PACKING MOTOR CARS FOR EXPORT

Why They Require Protection and How They Should Be Protected—Mexican Instance as "Horrible Example."

Lack of appreciation of the true conditions which obtain in the handling of merchandise in transit to foreign lands has cost the American exporter a great deal, both in prestige and in actual profit on foreign commerce. Instances in which shippers not only neglect to see that their goods are packed in such a way as to withstand the abuse of the carriers and handlers, but also fail to afford them adequate protection against climatic influences, are only too familiar to forwarding agents and consular representatives. But one of the most flagrant instances of the sort which has come to public notice is that recorded by American Consul William W. Canada, of Vera Cruz, Mexico.

"On March 18," writes the consul, "a steamer arriving from New York brought a large, fine automobile for a concern in Mexico City, shipped by a Massachusetts house. The machine was simply enclosed by an open slat crate, with pieces of thin cotton sheeting on the inside to cover the contents. The crate was well made, but neither it nor the inside flimsy covering afforded any protection from the elements to this fine machine, for on the two days succeeding the unloading from the vessel there were heavy rains, but, thanks to the vigilance of the terminal company's employees who covered the crate with a heavy tarpaulin, no moisture reached the crate or its contents, and the customs authorities gave instructions to load the machine on a flat car for the road."

But though the machine was saved almost accidentally from dangers which might have been prevented by a careful shipper, its troubles did not end with its loading on the railroad car. Apparently the shipping company was more interested in advertising its own name and address to the various people handling the crate than to give its ultimate destination. The address of the consignee had been hurriedly written in blue pencil on the outside of the crate, whence it disappeared at the first rubbing of the elbow or hand, while the name of the shipping firm was stenciled in heavy black letters that could be seen far off. The initials of the consignee were absolutely undecipherable, and as the surname was a common one, the destination of the automobile became a mystery.

Little information could be obtained from the bill of lading, as that document contained no mention of an automobile, but specified merely a "box" weighing so-and-so much. The customs officials, in despair, unloaded the automobile from the freight

car, weighed the empty car, then loaded the automobile on again, weighed the loaded car, and thus discovered the weight of the crate, which had to tally with that given in the bill of lading as being the weight of the "box" shipped by the firm in question.

American railroad agents probably would have taken for granted that the crate shipped by one firm, and weighing several thousand pounds, was identical with the "box" named in the shipping document of the same firm, but in Mexico people have a little more time to give to such matters, and there were so many inaccuracies connected with the shipping of this crate that the authorities had become suspicious and afraid that the steamer had delivered some other machine than that specified in and called for by the shipping papers.

Emphasizing the necessity for the most careful packing of bulky goods to be sent to the interior of Mexico, Consul Canada says: "The freight transit from here to Mexico City consumes time on the railroad, which leads over high mountain ranges, where torrential rains are of almost daily occurrence at this season of the year, and the chances for getting the automobile to its final destination without being thoroughly wet are slight.

"The question of packing and marking goods may seem a trivial matter at the other end, for no thought is apparently given to the endless tangle that it leads to here, besides the delay and trouble caused and the chances of having the car damaged by the rains. Automobiles ought not to be shipped in crates, but always in strong cases with either tarred felt roof and sides, impervious to water, or in cases metal lined and soldered, so that no moisture can penetrate through tops or sides. There is imperative need for this when it is considered that all such heavy and bulky freight must go forward on open flat cars, for the box cars on these roads are not furnished with side or end doors sufficiently large to admit an automobile, as in the United States."

### One Car to Replace 21 Horses.

Oregon is to have a new automobile stage line from Boring to Rhododendron Inn, a distance of thirty miles. At present seven stages and twenty-one horses carry the passengers and mail between these two points, but a new Franklin 45 horsepower touring car which has been secured is intended to displace all these stages. Two trips daily are scheduled, so that the total distance the car travels per day is fully 120 miles. The last ten miles are up mountain roads, which rise 2,500 feet, are thickly covered with sand, and are among the worst in the United States. In many other localities in the Western States the old-time horse-drawn stages are fast disappearing, while modern high powered automobiles takes their places.

## MOTOR CAR IN ALASKAN SERVICE

Great Work it Performs as a Stage in Gold District—Tires, too, Supply Something Like an Inflation Record.

To run 8,000 miles with heavy loads over rough roads within the Arctic circle, without a puncture or pumping up of tires, is a record of which any car can be proud. While it must be admitted that the resisting power of rubber increases considerably with the fall of temperature, this feat is extraordinary enough to excite remark. The news of it was brought from Alaska by H. H. Ross, who visited Syracuse last week.

The car was a 42 horsepower Franklin, seven passenger touring model, used by Ross, who is a gold prospector, for the purpose of establishing a stage service from Fairbanks to Fox Gulch, a distance of a little over eleven miles, five of which consist of a long, rough climb. As many as six trips a day have been made, while on some occasions the car carried as many as seventeen people at a time. Besides the regular passengers it transports bags of gold dust, weighing up to a hundred pounds each. On one occasion the car carried \$35,000 worth of the gold. On the Fourth of July last year the automobile transported no less than seventy-one passengers in five trips. It is said that the lucky owner of this car has found a "gold mine" in it which pays him a better revenue than many a real one. It is in use eleven months of the twelve.

### Fire That Disproved Popular Theories.

Tires remaining intact after being subjected to intense heat and even gasoline tanks which have failed to burst under equal provocation, are familiar sights in the remains of garages which have been damaged by fire. But about the most remarkable instance of the sort which yet has come to notice is reported in connection with the \$35,000 conflagration which the H. E. Frederickson Automobile Co., Omaha, Neb., suffered recently, and which at first was reported to have entirely destroyed its garage. Nearly all of the cars which were in the garage at the time of the fire had gasoline in the tanks, some of the tanks being nearly full—two of them, indeed, were entirely full. It is not a little surprising, therefore, to learn from local authorities that not one of the tanks exploded. Even more remarkable still is the fact that, although no less than 45 Prest-O-Lite gas tanks were in the garage, not one of them was found to have suffered, popular impression as to the impulsive nature of acetylene gas under any and all circumstances to the contrary notwithstanding.





First on Land, First on Sea,  
First in the Hearts of All Motormen



# Mosler Fire Spit PLUGS

## Lead the World



### A TRIUMPH FOR THE SPIT FIRE

The ONLY Plugs in the WORLD that ACTUALLY Spit Fire

INSIST ON THE GENUINE, with Name on Porcelain and Base

A. R. MOSLER & COMPANY, 163 West 29th Street, New York



## Club Elections

Kinsley (Kans.) automobile owners have organized the Kinsley Automobile Club. Col. F. D. West has been made president and J. M. Watson secretary.

M. M. Maxwell has been elected secretary of the Cleveland Automobile Club to succeed C. J. Forbes, jr. The latter recently resigned the office to accept a position on the selling staff of the Studebaker Automobile Co.

A new organization has just been formed in Joliet, Ill., and adopted the name The Will County Good Roads and Automobile Association. Its officers are: President, S. Lager; secretary E. W. Steinhart; treasurer, Robert T. Kelly.

Motorists belonging to the Montgomery (Ala.) Automobile Association elected the following new officers: President, J. H. Cook; vice-presidents, John Flowers and B. Wolfe; secretary, Percy F. Black; treasurer, A. M. Kennedy. The old board of governors was re-elected.

At a recent meeting of automobile owners of Helena, Ark., it was decided to form the Helena Automobile Club. The following officers were elected: President, C. L. Moore, jr.; vice-president, W. A. Coolidge; secretary, J. B. Dunlap; treasurer, R. E. Chew, jr.

At the second annual meeting of the Litchfield County (Conn.) Automobile Club nine towns were represented. The election of officers resulted as follows: President, John N. Brown; vice-president, Earl Baxter; secretary, N. D. Holbrook; treasurer, George E. Cole.

Chauffeurs of New Orleans have formed The White Chauffeurs' Protective Association with 95 charter members. The following were elected the first officers of the association: President, A. Marulla; vice-president, Harry Munson; secretary, J. F. Ryan; treasurer, Pierre Crabites.

The Yale Automobile Club, which is made up of students at the university of that name, has reorganized with the following officers: President, J. H. Hammond, jr.; first vice-president, L. T. Bates; second vice-president, H. H. Logan; secretary, L. S. Allen; treasurer, C. D. Winslow.

At a recent meeting of the Knoxville (Tenn.) Automobile Club the election of officers resulted as follows: President, N. E. Logan; vice-president, J. W. Brownlee; secretary, James Wrinkle; treasurer, A. C. Harmon. The board of governors comprises, besides the officers, David Chapman, J. J. Price and E. G. Oates.

At the annual meeting of the Blue Grass Motor Club the following officers were elected: President, K. G. Pulliam; vice-president, E. H. Alexander; secretary,

James S. Helm; treasurer, W. S. Viley. The following board of governors was chosen at the same meeting: The officers and E. L. March, Alex. Morgan, C. E. Lyons and Dr. H. H. Roberts.

Members of the Winfield (Kansas) Auto Club at their recent meeting voted to call their association the Winfield Automobile Club instead of the shorter name. The following officers were elected at the same meeting: President, George Colthurst; vice-president, R. W. James; secretary and treasurer, J. W. Hanlen. The board of directors includes, besides these officers, J. E. Jarvis, F. R. Schwartz and L. R. Mogle.

### How Motor Cars Help Physicians.

That the automobile is an asset of considerable value to a physician, aside from its actual monetary worth, is the opinion of doctors who own motor cars. One such, in speaking of the services his automobile has rendered him, said: "During the first year, after I bought my runabout, my practice increased over seven hundred dollars. During the following year over fifteen hundred dollars, and during the third year it was nearly three thousand dollars greater than when I bought the car. I believe the cause to be partly my increased ability of attending to calls coming from more distant quarters, my quicker return from calls, and to some extent, perhaps, the advertising value of the automobile. It is useless to deny that the public seem to have more confidence in a doctor who is able to buy a motor car than one who calls on foot after a ride in trolley or subway. That's why it is a good investment for a physician to buy an automobile. Within a year or two his increased practice pays for the car and its support, and a reputation once gained is not easily lost afterwards."

### Here's the "Shock Absorbing" Coat.

Not satisfied with the resiliency offered by good upholstery, a comfort loving German motorist has invented a new kind of overcoat. This wonder of the textile industry has a rubber pillow "built" into its back. When the roads become a little too bumpy, the happy owner of one of these new-fangled coats blows a little air into the pillow, leans back against the cushions of the car, and all the bumps, even the hardest, are taken up by the pneumatic "shock absorber" behind his shoulders.

### "Universal Signal Code" Up Again.

What the famous "C. Q. D." signal in wireless telegraphy is to the fleet of ocean steamers, a blue light is to become to the motorist, namely, an urgent appeal for help from passing automobiles, according to the project of C. W. Christman, of Waterville, Minn. In common with a number of other reforms he has suggested a code to be adopted by all drivers of motor cars the world over, made up of horn and light signals, which at present are used locally by

Minnesota drivers. The horn signals are as follows: One short toot, "Stop;" two short, "Going Ahead;" three short, "Going Back;" one long and two short, "C. Q. D." call; two short and one long, "Let me pass." Additional danger signal at night, a blue light, produced by covering with a blue glass one of the front lamps, if the machine stands in the roadway, or if the machine should be ditched, by setting such a blue light in the roadway.

### Fruit Growers Issue an Appeal.

English farmers seem to have reached the conclusion that a conciliatory tone towards the automobile owner and driver is likely to be more effective than browbeating, and the establishing of police traps. As the British touring season opens, fruit growers' associations, whose members have suffered greatly in the past owing to the prevalence of motor cars on the highways adjoining their farms, publish broadcast the following appeal: "We, the fruit growers of Hampshire, earnestly ask motorists to exercise consideration for fruit growers in the Hampshire fruit districts during the summer season, when passing the grounds, in regard to speed, as in dry weather the dust raised by high speed is liable to settle on the fruit, picked and unpicked, thereby doing damage to it and decreasing its market value. We feel sure that motorists have only to know this to be considerate in this respect."

### Novel Advertising Car Tours South.

Although advertising automobiles have been used extensively in the larger cities, comparatively few have been sent on long trips through the rural districts. An innovation in this line is the big yellow automobile built by the Studebaker Automobile Co., South Bend, Ind., for the Quaker Oats Company. This car is of 40 horsepower, surmounted by a sort of cupola of glass under which a small cannon stands, which discharges "puffed rice" in a golden shower, to reproduce in miniature the process of puffing rice and wheat, which is one of the patented cereals of the Quaker Oats Company. The tonneau is divided into compartments to carry samples for distribution during its tour of the South. The car left Richmond, Va., and now has reached Jacksonville, Fla., where it is attracting considerable attention.

### May Bar Tourists from Okerthal.

The German Imperial Automobile Club is urging all foreign motor tourists to pay special attention to the traffic regulations in force in the Okerthal district in the Harz mountains. The authorities of the government of Brunswick have threatened to close the entire Okerthal to automobile traffic unless the regulations are heeded. This would mean that one of the most beautiful valleys of Germany would be barred to motoring tourists.

## RECENT PATENTS.

952,055. Automobile Headlight. William H. Tonne, Trenton, N. J. Filed May 17, 1909. Serial No. 496,475.

1. In a device of the class described the combination with an axle and a guiding member, of a bracket carried by said guiding member and comprising a primary and an auxiliary section, said primary section provided with an upwardly extending angularly disposed portion, a pivoted bar member, a supporting bolt secured to the outer end of said bracket and supporting said pivoted bar member for swinging the same when said guiding member is actuated.

952,144. Mud Guard Attachment. Joseph A. Sauer, Hamilton, Ohio. Filed May 28, 1909. Serial No. 498,804.

1. An attachment of the character described, comprising curved parallel bars pivoted to the under side of a mud guard at one of their ends, the free ends of said bars having longitudinal slots formed therein, a transverse shaft adjustably mounted in said slots, means for securing the shaft in its adjusted position, a brush

rotatably mounted on said shaft, the periphery of said brush being concave for engagement with the periphery of a vehicle wheel, a rod secured to the under side of said guard and movable through the brace bar, a spring disposed between the brace bar and the mud guard upon said rod adapted to tensionally hold the brush in contact with a vehicle wheel, and means carried by the rod to regulate the tension of said spring.

952,166. Automatic Timer. Gilbert Wright, Schenectady, N. Y., assignor to General Electric Co., a corporation of New York. Filed Dec. 24, 1908. Serial No. 469,085.

1. A timer for internal combustion engines, comprising a tubular hub, a plurality of contacts carried thereby and insulated therefrom, insulated conductors led through said hub and connected respectively with said contacts, a casing rotatable concentric with said hub, and a movable contact carried by said casing.

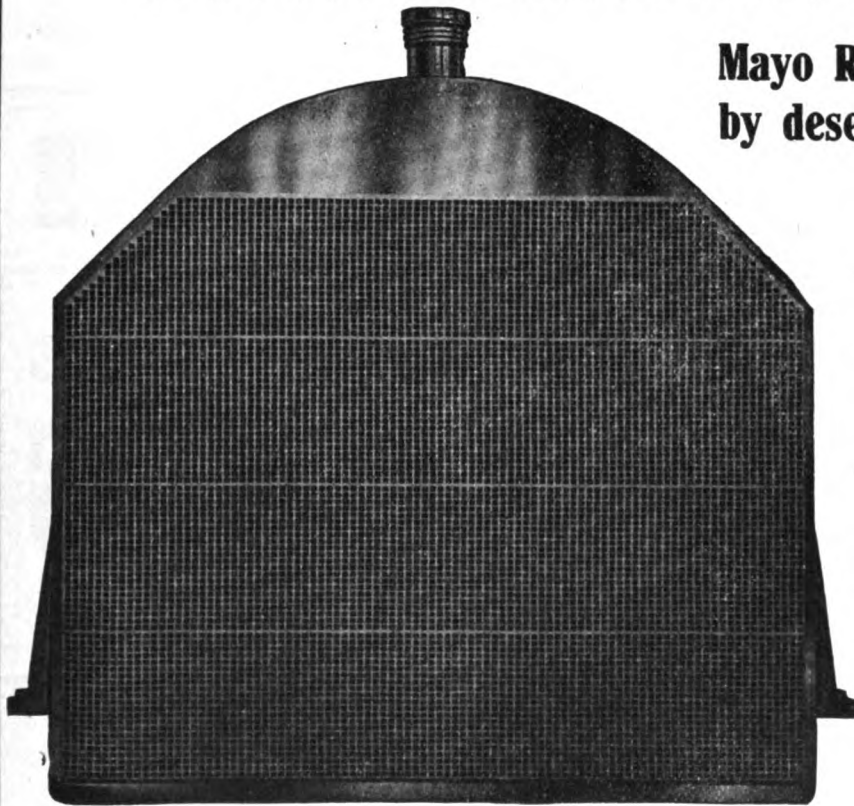
952,175. Pneumatic Tire. Robert T. Badgley, New York, N. Y. Filed March 13, 1909. Serial No. 483,308.

1. A pneumatic tire having its tread surface provided with projections, depressions within the area bounded by said projections, and air chambers beneath said projections, as set forth.

952,188. Armored Tire for Vehicles. Comfort D. Farr, Detroit, Mich. Filed Dec. 2, 1908. Serial No. 465,590.

1. An armor for vehicle tires, having in combination an annular retaining plate adapted to be clamped along its inner edge between the side of a wheel tire and the adjacent portion of the rim, a plurality of individual retaining plates adapted to be similarly clamped on the opposite side of the tire and rim, bolt members whereby the individual plates may be correlated to form an annular retaining member, all of said plates having their outer edges bent over to constitute a retaining groove, and warped guard plates adapted to engage transversely over the tread portions of the tire, their lateral edge portions being bent over complementarily to the adjacent edge portions of the guard plates, and being adapted to engage therewith and to be held in place over the tire thereby, substantially as described.

*'Tis not in mortals to command success, but we'll do more—deserve it.*



**Mayo Radiators have achieved success by deserving it, and in no other way.**

¶ Therefore that success is presumably of the permanent and abiding kind.

¶ Price is the cause of the absence of MAYO RADIATORS from cheap cars.

¶ Quality is the reason for the presence of MAYO RADIATORS on most of the good cars.

¶ The only argument against MAYO RADIATORS is their price.

¶ Every other consideration dictates their use.

¶ MAYO RADIATORS combine sound mechanical principles, exact design, construction and workmanship, together with graceful appearance and perfect finish; in short, all the good qualities that go to make the ideal radiator.

¶ MAYO RADIATORS are stamped with the hallmark of class.

¶ MAYO RADIATORS are really the thoroughbreds of the radiator world.

¶ MAYO RADIATORS are made in the kind of a factory that befits them and by the MAYO RADIATOR COMPANY, at New Haven, Connecticut.

**Kelly-Springfield Auto Tires**

Made by the Makers of the famous Kelly-Springfield solid tire

952,268. Electric Battery Holder. Carl T. Mason, Sumter, S. C. Filed March 12, 1909. Serial No. 482,977.

1. An electric battery holder comprising an insulating head formed with vertical openings, a plurality of connectors secured to the under side of said head having means to contact with the exterior electrodes of the cells, conducting tongues projecting from said connectors and upwardly through the openings in said head and terminals extending through the head and having their lower ends engaged with interior electrodes of the cells and their upper ends engaged with said tongues.

952,326. Carburetter. Franklin W. Hagar, Nashville, Tenn. Filed Oct. 1, 1908. Serial No. 455,712.

1. In a carburetter of the type set forth, in combination, a shell having a mixing chamber therein, a liquid supply nozzle located centrally and axially of said mixing chamber, said mixing chamber having an inlet for air and an outlet for gas, a strangler part movable freely and axially of the mixing chamber, a companion relatively stationary part concentric to the strangler part and defining therewith a throat-way through which air passes prior to its mixture with the liquid fuel discharged from said nozzle, one of said parts having an inclined face forming a wall of said throatway, said strangler part being moved by the influence of the suction in the mixing chamber, to proportionately increase the effective size of said throatway and exteriorly manipulate manually operated means for adjustably moving said strangler part in the direction of its movement by suction influence and for supporting said strangler part in the positions into which it is adjustably moved.

952,353 Wind Shield. Henry B. Pitner, Dubois, Pa. Filed Aug. 31, 1909. Serial No. 515,457.

1. The combination of a wind shield having upper and lower sections, the lower section having its upper edge beveled downwardly and rearwardly, and the bottom edge of the upper section being correspondingly beveled, parallel link connections uniting the two sections at their ends whereby the upper section may swing downwardly and rearwardly against the rear face of the lower section, co-acting devices adjacent the ends of the two sections to engage each other when said sections are superposed, a keeper at the center of the upper edge of the lower section, and a catch at the center of the bottom edge of the upper section to engage said keeper and retain the sections in superposed position.

952,413. Universal Joint. Preston H. Breed, Pittsfield, Mass., assignor to Alden Sampson Manufacturing Co., Pittsfield, Mass. Filed Nov. 13, 1909. Serial No. 527,922.

1. In a box type of universal joint, the combination of a box having an inner straight bearing surface, a shaft extending into the box and having a laterally projected portion, of a two part bearing block between the projection of the shaft and the inner surface of the box, the outer member of the two part block having a straight bearing surface in engagement with the bearing surface of the box and the adjacent surfaces of the two parts of the block constructed to interlock with each other.

952,435. Socket Wrench. Charles Miller, Syracuse, N. Y., assignor to C. M. B.

Wrench Co., Syracuse, N. Y., a corporation of New York. Filed March 20, 1909. Serial No. 484,613.

1. A wrench of the class specified comprising a holder having a detachable nut socketmember, and an operating handle pivotally and detachably connected to said holder, said nut socket member and handle being interchangeable in their attachments as set forth.

952,436. Ratchet Wrench. Charles Miller, Syracuse, N. Y., assignor to C. M. B. Wrench Co., Syracuse, N. Y., a corporation of New York. Filed March 20, 1909. Serial No. 484,612.

1. A wrench of the class described comprising a head, a ratchet wheel journaled therein, a pawl carried in the head for actuating said ratchet wheel, a hollow ball formed on the head, a hollow handle provided with the socket having a loose pivotal connection with the ball, and means extending through the socket and into the ball for retaining said parts in frictional engagement as and for the purpose set forth.

## LASCO FOLDING GLASS FRONT

Simple, effective, correctly designed mahogany finish wood frame—trimmed in brass—3-16 crystal plates—steel stay rods—bottom of frame shaped to dash of any standard automobile—can be attached easily and quickly. We make the London Tops. Write for details and prices.

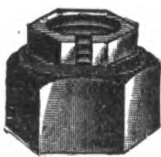
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A Necessity on Automobiles—WHAT?

## COLUMBIA LOCK NUTS

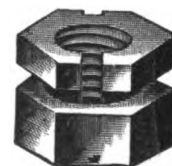
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Is superior in efficiency to any other on the market.

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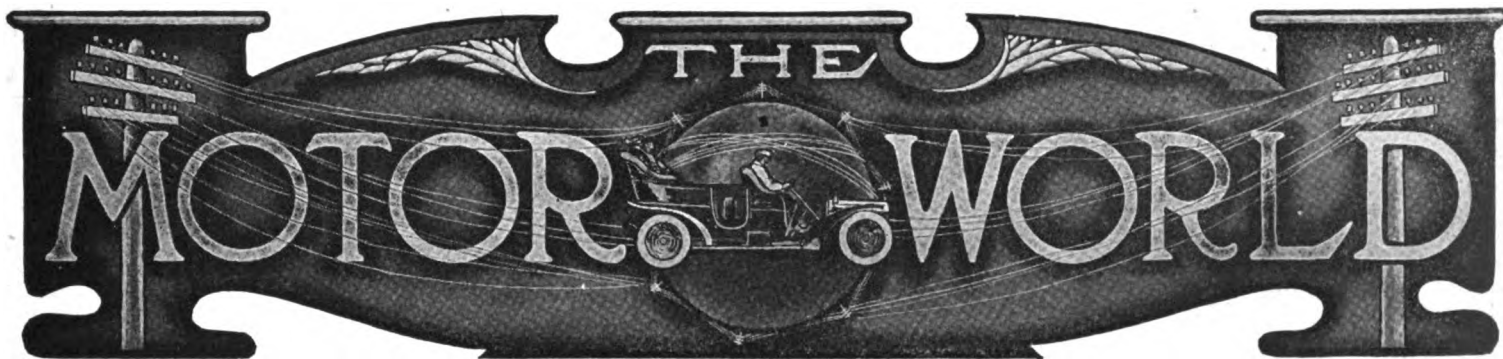
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*Licensed under Selden Patent*  
The White Line Radiator Belongs to the Stearns.

## AJAX TIRES

Guaranteed for 5000 Miles or 200 Days' Service. Write for a copy of our Guarantee.

AJAX-GRIED RUBBER CO., 1777 Broadway, New York  
Branches in 15 cities.

**THE ACME MOTOR CAR CO.**  
Reading, Pa.



## TIRE MAKERS TO ASSIST DEALERS

Seven of Them Form an Association for the Purpose—Evils Which They Expect to Eliminate.

To assist the legitimate automobile dealer in handling tires at a profit and generally to make his way pleasanter, the Dealers' Protective Association has been formed, and already it has established offices at 25 West 42d street, New York City.

Despite its name, however, the association is not composed of dealers but of tire manufacturers, the members being as follows: Diamond Rubber Co., Continental Caoutchouc Co., Hartford Rubber Works Co., Morgan & Wright, Fisk Rubber Co., B. F. Goodrich Co. and the G & J Tire Co. L. W. Bennett has been appointed general manager of the organization and will have active direction of its affairs.

While it is admitted that the so-called "automobile leagues" and other price-cutters and cutthroats and abuses generally will receive attention, Mr. Bennett states "in no way, shape or manner will the association undertake to maintain the selling price on tires of the various independent companies concerned. Each company," he adds, "will be free to nominate its own selling prices; no price agreement of any nature is involved."

"To promote and foster the interests of the dealers of the United States engaged in the purchase and sale of automobile tires and accessories and to assist in the marketing of said tires at a profit," is the manner in which the objects aimed at are officially expressed.

Some of those interested in the movement frankly state that the prevailing abuses are such that it is not possible for the dealer to sell tires at a profit, and as a result not many dealers are selling them or trying to sell them. If these abuses are corrected they figure that the market and distribution channels will be enlarged and a more

wholesome state of affairs be effected. In working to this end the new association will also seek to improve the public education as to the proper use of tires and will conduct a campaign designed to cause a better understanding of the evils of overloading, under-inflation and the like.

### Watt Charged with Bankruptcy.

Six creditors have filed a petition in bankruptcy against the Watt Motor Co. of Detroit, Mich., which has been skirmishing for money and which only two weeks since was dropped by the citizens of Lapeer, Mich., after they had advanced some capital to bring about its removal to that place. The petitioning creditors all were identified with the company, their claims being for labor and money loaned; the largest claim is that of George Watt, for \$1,800. The petition alleges that the company has committed acts of bankruptcy in that some of its property has been concealed and some has been transferred to Michael G. Delany, president of the company, and other directors. It also is said certain creditors have been favored.

### Goodyear Canadian Company Completed.

The Goodyear Tire & Rubber Co., of Canada, Ltd., has been incorporated with \$250,000 capital, and these incorporators: D. B. Simpson, W. F. Stearns, Norris Wilson, D. C. Betts, J. S. Moorcraft, A. W. McMillan, and J. H. McMurtry, all of Bowmanville, Ont. The company, which is the offspring of the big Akron establishment, has established its factory in Bowmanville and its offices and salesrooms at 85-87 Queen street, East, in Toronto.

### Harvester Making Holsman Buggies.

The Independent Harvester Co., Plano, Ill., has taken up the manufacture of high wheeled motor buggies of the type made by the defunct Holsman Automobile Co. The Harvester company is operating under the Holsman patents and has engaged H. K. Holsman, the patentee and former manager of the Holsman company, as consulting engineer.

## NEW INDEPENDENTS JOIN HANDS

Michigan Defendants Take the Initiative and a New Organization Results—Anti-Selden Attitude Defined.

Regardless of their other effects, the suits for infringement of the Selden patent instituted three weeks since by the Association of Licensed Automobile Manufacturers against nine Michigan manufacturers, served first to bring eight of them together and later to bring about the organization of another "independent" association, which has been talked of ever since the American Motor Car Manufacturers' Association, in February last, voted to "go out of business." The new organization was formed on Monday last in Detroit, when the name Association of Motor Car Manufacturers was adopted. Officers will be chosen at a meeting which will be held on May 16th.

The getting together of the "interested eight" was due to a call issued by Hubert Dalton, of the Flint Wagon Works and the W. A. Paterson Co. The invitation was extended only to the nine Michigan manufacturers who had been sued, but the ninth one, the Owen Motor Car Co., did not attend the meeting, which was quietly held in Detroit on Friday, April 22d. Those represented were the Anhut Motor Car Co., Carhartt Automobile Corporation, Demotcar Co., Flint Wagon Works, Imperial Automobile Co., Paige-Detroit Motor Car Co., W. A. Paterson Co. and the Warren Motor Car Co.

A temporary organization committee of five was elected, "and charged with the duty of formulating tentative plans for permanent organization, and of calling a general meeting of representatives of active manufacturers of automobiles, not affiliated with the A. L. A. M., for the consideration of these plans."

Acting for this organization committee, Henry C. Walters, who is a Detroit lawyer, called this general meeting, which was held



in Hotel Pontchartrain, Detroit, on Monday last, 2d inst. About 40 manufacturers were in attendance, or were represented by attorneys, but the meeting was enshrouded in such secrecy that nothing is known of its transactions save the fact that it was decided to adopt the title Association of Motor Car Manufacturers.

Mr. Walters's call for Monday's meeting, however, disclosed the attitude and opinions of those who attended the initial gathering. Excepting that part of it which announced the holding of the preliminary meeting, this call was as follows:

"The opinion of those present at Friday's meeting is that the manufacturers outside the Licensed Association must form an immediate alliance for the protection of their business; that this protection can best be assured by a legitimate and dignified campaign of educational advertising, and by the presenting of a solid front in defense of companies compelled to defend their rights to do business in actions now pending or that may be instituted later. Eminent counsel, thoroughly versed in patent law, advise that the entering of a decree sustaining the Selden patent in any court of the United States in an action against even the smallest and most humble manufacturer will warrant the court, on application, in issuing a preliminary injunction against any manufacturer upon whom service of process can be had in that particular circuit.

"It is apparent, therefore, that the companies not yet sued are almost as much interested in the pending litigation as those which have been selected as court targets.

"All the unlicensed companies are equally interested in the publication throughout the country of facts showing the real motives and aims of the Licensed Association. That association is now divided against itself, and the time is opportune for us to take the aggressive and strike a telling defensive blow in support of our investments. We will have the support of the general public in any proper action, and of about one-half the members of the Licensed Association. To the everlasting credit of many members of the A. L. A. M. it must be said that they do not approve of the present tactics of the combination. They recognize the fact that the unfair and coercive methods which are being followed are taken at the instance of manufacturers whose product cannot compete with that of many of the unlicensed producers. The public should be made acquainted with this interesting condition of affairs and informed at once that members of the Association responsible for what is being done are engaged in an attempt to advance their own interests by destroying their competitors, instead of proceeding along legitimate upbuilding lines.

"The gentlemen who met on last Friday will form an association whose aim will be to gain a lawful end in a lawful manner, and your company is invited to become a member of that association. Your repre-

sentative—or better still, representatives—may attend on next Monday, and discuss the situation pro and con, without committing you to the proposed plan in any manner or to any extent. The name of any company sending representatives and not joining the association will not be made public."

#### Maxwell Now Heads Maxwell-Briscoe.

Benjamin Briscoe having resigned the office in order to devote himself wholly to the United States Motor Co., in which the Maxwell-Briscoe company is the chief cog, J. D. Maxwell has been elected to the presidency of the Maxwell-Briscoe Motor Co., as the Motor World last week stated would be the case. Previously Mr. Maxwell was vice-president and general superintendent of the company and busied himself chiefly with its mechanical affairs; now as the head of it he will, of course, take over its general direction. Messrs. Maxwell and Briscoe have been associated since 1903, when the former induced Mr. Briscoe, then of Detroit, to take an interest in the automobile, which he had evolved as the result of experience dating back to 1894, when he (Maxwell) and Elmer Apperson conducted a machine shop in Kokomo, Ind., and were induced by Elwood Haynes to build the first automobile.

#### Brewers and Bakers to Build Trucks.

Detroit's remarkable roll of automobile manufacturing establishments has been lengthened by the addition of the Oliver Motor Car Co., capitalized at \$300,000, which purposes to engage in the production of motor trucks and wagons. The principal shareholders are Louis W. Schimmel, secretary and treasurer of the Tivoli Brewing Co.; Paul Wagner, dealer in brewers' supplies; Henry Wagner, Henry Wagner, Jr., and Christopher Wagner of the Wagner Baking Co.; Charles Brushaber and Robert F. Hartenstein. Several factory sites are under consideration.

#### Parts Makers to Produce Cars.

The Standard Metalwork Co., Thompsonville, Conn., an offshoot of the G. H. Bushnell Press Co., of the same place, and which for several years has been making automobile parts, among other things, is preparing to engage in the manufacture of complete cars. The Bushnell company, which produced heavy oil presses, has sold that portion of its business, and the principals henceforth will devote themselves to the Metalwork company, which is a \$75,000 corporation of which Mark W. Bushnell, James A. Calvin and Lucius F. Robinson were the corporators.

#### Hoffman to Superintend the Homo.

Jacob Hoffman, who for seventeen years was connected with the A. & M. F. Brown Machine Co., of Elizabeth, N. J., has been engaged as superintendent of the Gasolene

Moter Efficiency Co. of Jersey City, and hereafter will have to do with the manufacture of the Homo efficiency device. Hoffman is reputed to be a mechanical genius, and that he was held in high esteem by his former employers is evidenced by the fact that when he resigned they tendered him a farewell dinner and presented him with a smoking set.

#### Sibley Purchases a Detroit Factory.

The Sibley Motor Car Co., which recently was formed in Detroit with C. P. Warner as president and Eugene Sibley as secretary and treasurer, has purchased a former valve plant located at Solvay and Mackie avenues, in Detroit, and will at once prepare it for operation. Meanwhile a temporary office has been established at 870 Woodward avenue. The purchase includes a plot of two acres and the factory building thereon, 60x280 feet. The company's car, a 20 horsepower touring model, which will sell for less than \$1,000, will not be ready for this winter's market, however, although demonstrating models will be on the road.

#### Clarkson Leaves A. L. A. M. for S. A. E.

Coker F. Clarkson has been elected general manager and editor-in-chief of the Society of Automobile Engineers. To assume his new duties Clarkson resigned the assistant general managership of the Association of Licensed Automobile Manufacturers, with which he has been associated for some three years past, first as the active director of its mechanical branch and, until his recent resignation, as assistant general manager, also.

#### Again Enlarging the Stewart Factory.

Due to the demand for Stewart speedometers, the Stewart & Clark Mfg. Co., of Chicago, again has been compelled to enlarge its plant. Work on the addition, which it is expected will be completed and in operation by July 4th, already has commenced. It will be 110x125 feet, two stories and basement.

#### May Establish Two Assembling Plants.

During the course of a visit to Minneapolis, F. H. Goss, secretary of the General Motors Co., who at the time was accompanied by a Chicago architect, was quoted as stating that his company was contemplating the establishment of an assembling plant in that city. Another establishment of the same order, he said, might be located in Kansas City, also.

#### Horner Assumes Rapid's Management.

George A. Horner has been chosen general manager of the Rapid Motor Vehicle Co., Pontiac, Mich., to fill the vacancy caused by the recent death of H. G. Hamilton. Horner has been identified with the company for the past three years and is, therefore, well acquainted with its affairs.



**MARCH EXPORTS PASS MILLION**

**New High Water Mark Reached, Canada Accounting for Half of Record Sum—Big Gain in Italy, Also.**

Exports of automobiles established another record during the month of March, when they passed the million dollar mark. They attained a value of \$1,007,387 as compared with \$615,681 during March, 1909. The total number of cars was 751, as against 361.

Canada during the month took more than all the rest of the world combined, the figures being \$524,209 for British North America, and \$483,178 for all other nations. The increase in the trade with Canada amounted to \$384,729, or 257 per cent. On the other hand, there was a falling off in the shipments to France and the United Kingdom, the former taking less than one-half the amount of March, 1909. Germany was but a small buyer of American motor cars, the amount, \$4,336, being, however, over four times that realized in the corresponding month of 1909, when but one car was exported.

Italy increased its imports, also, from \$60,011 to \$111,073, as did the West Indies and Bermuda, which took \$57,171 worth, as compared with \$27,153 in the preceding March.

Although individual countries during the past month took a smaller amount than in former years, the total exports for the past nine months show that every foreign market into which American cars enter, without a single exception, increased its purchases. British North America leads, with \$2,509,810, as against \$923,475 for the same months of 1909, and it is far ahead of Great Britain, the next largest customer, which shows a total of \$1,344,600, as against \$931,534.

The total for the nine months of the fiscal year was \$6,382,271, as against \$3,279,036 for the nine months of the previous year, while the cars numbered 4,180, as against 1,610. The record in detail follows:

	March—		Nine Months Ending March		
	1909	1910	1908	1909	1910
Automobiles and parts of—					
Automobiles .....	\$548,640	\$806,184	\$3,159,147	\$2,845,750	\$5,372,458
Parts of .....	67,041	201,203	429,464	433,286	1,009,813
Exported to—					
United Kingdom .....	160,184	133,679	1,183,425	931,534	1,344,600
France .....	58,435	26,751	393,678	215,956	376,166
Germany .....	1,030	4,336	91,245	61,458	117,805
Italy .....	60,011	111,073	153,076	163,336	217,927
Other Europe .....	27,812	36,612	103,141	159,753	184,654
British North America .....	149,580	524,209	649,641	923,475	2,509,810
Mexico .....	60,105	40,189	327,091	279,739	406,870
West Indies and Bermuda .....	27,153	57,171	230,294	217,593	372,579
South America .....	28,865	26,476	177,892	105,947	231,834
British East Indies .....	2,078	4,366	20,989	17,009	27,145
British Australasia .....	7,569	14,793	142,964	80,308	297,301
Other Asia and Oceania .....	20,645	9,854	87,506	82,147	179,307
Africa .....	10,683	15,845	7,161	29,450	75,963
Other countries .....	1,531	2,033	20,508	11,331	40,310
Totals .....	\$615,681	\$1,007,387	\$3,588,611	\$3,279,036	\$6,382,271

**Dealers Tackle Second-Hand Problem.**

With the object of simplifying the always troublesome used car problem, the Licensed Automobile Dealers' Association of the City of New York has formulated a project for the disposal of all cars taken in trade by its members. At a full meeting of the association, held on Monday of this week, initial steps were taken looking toward the establishment of an outlet of such goods. Although full details of the plan are withheld pending the completion of arrangements, it is understood that a large establishment in the nature of a second-hand mart is to be operated more or less on a co-operative basis, thereby relieving the Licensed dealers themselves of the burden of conducting that branch of the business. It is expected that the plan will be in operation within three months.

**Becker, Sr., Dead at Ripe Age.**

Harmon B. Becker until recently the nominal president of the Elmore Automobile Co., Clyde, Ohio, died on Tuesday last, 3d inst., at his home in that city. He was aged eighty-four years and had not been active in the business for a long time. The Elmore company was made up of Mr. Becker and his two sons, James H. and Burton B., and was the outgrowth of the bicycle manufacturing business in which they previously had engaged. A few months since the Elmore company was taken over by General Motors Co., and is now listed as one of the properties in which that merger is "interested."

**Cleveland's Loss Is Detroit's Gain.**

The American Distributing Co. of Jackson, Mich., has closed its office in Cleveland and opened one at 1514 Ford Building, Detroit, Mich. This office will be the headquarters of D. K. Moore, who managed the Cleveland place.

**Stevens-Duryea Secures More Land.**

The Stevens-Duryea Co. has acquired a large tract of land adjoining its present factory in Chicopee Falls, Mass. It signifies, of course, an enlargement of the plant.

**SCENT "GENTLEMEN'S AGREEMENT"**

**Licensed Association Hears One Exists Between Tire Makers—Special Meeting Called to Discuss Subject.**

The tire situation again has caught the eye of the Association of Licensed Automobile Manufacturers, and as a result there is promise of "something doing" at a special meeting which has been called for Wednesday next, 11th inst. There are those in the association who believe they have scented the existence of a "gentlemen's agreement" between the tire manufacturers and the desire exists to smoke it out, if it be in existence. This is made plain by the call for next Wednesday's meeting, which says:

"One of the important things for consideration at this meeting will be the tire situation, which is extremely critical, and one that demands consideration at this time by the entire membership, as it affects every manufacturer, as well as the present and future owners of motor cars.

"In this connection it is requested that each board member, before attending the meeting, will endeavor to investigate the rumors which are current to the effect that there exists among certain tire manufacturers of this country an understanding or 'gentlemen's agreement,' to increase the price of tires and to refuse to sell or deliver to manufacturers at this time any tires for 1911 equipment.

"It is hoped that you will obtain all the information available relative to the tire situation, so as to be prepared for an open discussion at this meeting, which promises to be one of the most important (from a manufacturer's point of view) that the association has held.

"A number of other important subjects will come up for consideration at the meeting and it is hoped that nothing will prevent your having your board member in attendance."

**Rippen Organizes the Penn-Unit.**

The Penn-Unit Car Co. has been formed in Allentown, Pa., and already has secured a part of the Grape Capsule factory in that city and installed the machinery necessary for the manufacture of automobiles. Paul P. Rippen is the prime mover in the venture. With him are associated Walter Rippen, Samuel P. Byers and James K. Bowen.

**Two New Men on Hudson Staff.**

Richard Bacon, Jr., until recently sales manager of the Haynes Automobile Co., and Percy D. Stubbs, formerly with the White and Overland companies, have been added to the staff of the Hudson Motor Car Co., Detroit. They will be associated with E. C. Morse, manager of sales.

## C. T. JEFFERY ASSUMES CONTROL

Father Leaves Him Half of Rambler Business and He Takes Charge—Mr.

Jeffery's Other Bequests.

Charles T. Jeffery, who for 16 years was a partner with his father—who died suddenly in Italy on April 2d last—in the firm of Thomas B. Jeffery & Co., Kenosha, Wis., has assumed complete control of the manufacture and sale of Rambler automobiles. As, subject to the direction of his father only, he had managed the business for the past several years, the duties will not be strange to him.

Under the terms of his father's will, which was admitted to probate last week in the Kenosha County court, Charles T. Jeffery became possessed of a half interest in the firm, the other half being bequeathed to the widow who is given one-half of the entire estate, which is estimated to be worth between \$3,000,000 and \$4,000,000, together with the splendid Jeffery home on Durkee avenue in Kenosha. The interest of Mr. Jeffery in the firm of Thomas B. Jeffery & Co., with the exception of real estate owned by the company, is, as stated, equally divided between the widow and Charles T. Jeffery, the eldest son.

The real estate owned by the company, as well as nearly all of the other real estate of the deceased, is left in equal shares to the widow and Harold W. Jeffery, the younger son. Property in the William Deering subdivision in Chicago is given in trust to Charles T. and Harold W. Jeffery, with the understanding that one-third of the income from this property is to be paid to Mrs. Elizabeth C. Trant, of Stoke, Devonshire, England; one-third to Frederick J. Jeffery, of the same place, and the remaining third to Charles W. Parker, an old friend of the deceased in Manitoba.

At the death of these three persons the trustees are directed to transfer this real estate to Mrs. Eva Jeffery Carqueville of Chicago and Mrs. Florence J. Hudson of St. Louis, Mo., the surviving daughters of Mr. Jeffery.

The will makes a bequest of \$30,000 to Edwin W. Jeffery of Cleveland, O., a nephew of the deceased.

After the payment of this bequest and the carrying out of the other provisions of the will, all the remaining personal property of the deceased is bequeathed in equal shares to Mrs. Kate E. Jeffery, the widow; Mrs. Carqueville and Mrs. Hudson.

### Orson Gets Factory Room in Springfield.

The Orson Automobile Co., the organization of which was announced in New York with a flourish of trumpets, and which, it was stated, would make a specialty of building cars for the bankers and brokers of

Wall street and embodying their ideas, will locate in Springfield, Mass. A portion of the factory building formerly occupied by the Bailey Automobile Co. has been leased and the necessary machinery is being installed.

### Johnson to Take Up Commercial.

In order to engage extensively in the manufacture of light delivery wagons and heavy trucks, the Johnson Service Co. of Milwaukee, Wis., has increased its capital stock from \$1,000,000 to \$1,500,000. While new headquarters will be secured for this department, the present plant will be retained for the manufacturer of automobile parts. At the stockholders' meeting at which this action was decided on, the financial statement of the company then presented showed assets of \$1,186,626.03, and that the profits of the fiscal year were \$186,626.03. It was the twenty-fifth annual meeting of the company, and in recognition of the fact, and also of his services, Professor Warren S. Johnson, vice-president of the company, was presented with a Tiffany vase of solid silver, twenty inches in height.

### To Produce Motors in Fort Wayne.

The Fort Wayne Auto Motor Co., which will manufacture an engine designed by G. G. Bowersox of Rochester, N. Y., has completed its organization by the election of the following officers: President, A. D. Cressler; first vice-president, Henry P. Scherer; second vice-president, G. G. Bowersox; secretary, D. Burns Douglas; treasurer, George H. Loesch. The former Haberkorn engine building in Fort Wayne, Ind., is being put in shape for the manufacture of the new product.

### Canadian Rivals for Regal Plant.

The Canadian cities which are across the river from Detroit have commenced to bid against each other for the branch factories of the manufacturers on the American side of the stream. The Regal Motor Car Co. is the first of those who have profited by the rivalry. As a result of inducements offered by Windsor, the Canadian Regal plant will be removed from Walkerville to that place. The Windsor factory will be 100x60 feet.

### Chadwick May Move from Pottstown.

It is not improbable that the Chadwick Engineering Co. may remove from Pottstown to Norristown, Pa. The proposal has been made to the Chamber of Commerce of the latter city that if \$100,000 is subscribed for it will be sufficient to bring about the removal.

### Barrett Goes with Studebaker.

O. S. Barrett has been appointed by the Studebaker Automobile Co., of South Bend, Ind., to handle its advertising interests. He will make his headquarters at South Bend.

## ARE LIABLE FOR LOANED CARS

Court Holds Borrowers Responsible for Their Damage—New York Firm Victor in Somewhat Unusual Suit.

That the purchaser of an automobile who, while awaiting his car, may be accorded the courtesy of the use of another car is responsible for the latter was the sense of a decision rendered last week by Justice Gavegan in the New York Supreme Court. The parties to the action in question were Wyckoff, Church & Partridge and J. H. Durnell, the well-known turfman, who, in 1908, placed an order for a car valued at \$4,600, on which he paid a deposit of \$2,000.

While awaiting the receipt of the car, the New York firm gave Durnell the use of a second-hand machine, which one day was taken out of the garage by Durnell's chauffeur without the knowledge of his employer. During the course of his joy ride the chauffeur ran over and killed a man and injured his wife and two children and completely wrecked the car. The chauffeur—Benedict, by name—was arrested and sentenced to imprisonment for one year, Durnell appearing as a witness against him.

Durnell then refused to pay Wyckoff, Church & Partridge the remaining \$2,600 due on the new automobile, claiming that the firm had no right to permit his chauffeur to use the old car without his permission. He coupled this refusal with a demand for his deposit of \$2,000, and when this was refused he sued for the amount. Wyckoff, Church & Partridge, in turn, filed a counter suit for \$5,742, the value of the wrecked car. In his decision, Judge Gavegan held that Durnell not only could not recover his \$2,000 but that he must pay the full amount of the counter claim.

### Knox Declares Two Dividends.

Holders of preferred stock in the Knox Automobile Co. of Springfield, Mass., are to receive two dividends of 4 per cent. each, as a result of the action of the board of directors at a meeting on the 19th inst. The first dividend will be paid on May 15 and the second on July 15.

### To Make Tops in Waterloo.

Waterloo, Ia., has a new enterprise in the Auto Top Co., which has taken temporary quarters in the Corn Belt Garage on Fifth street. The concern, which is a project of Chicagoans, will make tops and later will secure a factory exclusively for itself.

### Simplex Has a New Jersey Plant.

The Simplex Automobile Co., of New York City, is transferring a part of its manufacturing operations to New Brunswick, N. J., where a factory has been built for it. More buildings are to be added later.

## LIGHT ON RUBBER CONDITIONS

London Market Takes Queer Turn—Two Americans Returned from South America Add to Enlightenment.

According to cablegrams from London, the rubber situation took a peculiar turn on Tuesday last, when 180 tons of plantation rubber were offered in various lots by ten different brokers without a single sale being effected. It appears that the rubber buyers have determined to force down the high prices which are prevailing, but their bids were so low that the brokers withdrew the entire lot, which by agreement will be offered again on Monday next. The cablegrams naively remark that the brokers are confident that the American demand for rubber will keep up prices to the recent record-breaking figures.

In the interim the rubber market and, consequently, the tire situation, remains unrelieved, and that it is becoming more tense is indicated by rumors that most of the leading American tire makers may resort to extreme measures of one nature, or another. Meanwhile two keenly interested Americans who recently returned from the Amazon country have given it as their opinion that the demand and the prices prevailing are not artificial and are due solely to the law of demand and supply. Henry C. Pearson, editor of the *India Rubber World*, a recognized authority, and F. A. Sieberling, president of the Goodyear Tire & Rubber Co., are the gentlemen whose opinion has been referred to.

"The rubber manufacturer, from the beginning of the industry," says Mr. Pearson in his publication, "has been in a position of not being able to control in any way the cost of the chief material required in his business; or to contract very long in advance for supplies at a fixed price; or even to cultivate with accuracy the cost of material at any given time ahead. The uncertainty involved has been exceedingly inconvenient to the manufacturers and it is not surprising that at times the changing prices of raw rubber have been attributed to other than the actual causes.

"For some reason or other many manufacturers seem disposed to consider every rise in the cost of rubber to be due to 'speculation'—in other words the idea obtains that rubber is 'cornered' somewhere and held for sale at prices not justified by trade conditions. Of late this impression apparently has been strengthened by reports that rubber is being 'held up' on the Amazon with the aid of the government, under the new law authorizing banks to advance money on rubber stocks, whereas formerly Amazon rubber had to go forward to market whenever it came down the rivers, without regard to prices realized.

"Whatever may be the ultimate effect of the new regulations, it is a mistake to suppose that rubber is being stored on the Amazon today, with the aid of bank advances or otherwise. The price of \$3 a pound is so alluring that every producer in the world is hurrying his rubber to market, in order to realize on it before a decline comes. It may be that rubber will go still higher, but it would be superlatively foolish to pay storage charges and interest on bank advances to hold rubber from the market under present conditions.

"Another point against the idea that rubber is being stored in the countries of production is the fact that the imports of consuming countries were never before so large as at this time. On the whole, it appears safe to assert that rubber prices today are as fully controlled by conditions of supply and demand as at any other time in the history of the trade."

"Are the causes artificial or natural that have produced the present situation, and is the world to be deprived of the great boon of cheap rubber?" asks Mr. Sieberling, in leading up to an amplification of the opinion he expressed on his return from his tour of investigation through South America that took two months' time and more than 2,000 miles of travel in the fever-laden district of the Amazon river. Incidentally, Mr. Sieberling was, so far as known, the first American rubber manufacturer to take this perilous trip.

"The high prices prevailing for crude rubber," he says, "are fairly attributable to two primary causes: First—the abnormal draft upon the world's supply in providing tires for automobiles; second—the wild speculation in rubber and rubber shares in England, which has taken on the aspect of a 'South Sea Bubble' in a mad scramble of people of all classes to 'get rich quick' on rubber. London is the financial center of the world's rubber market, and the craze now running its course there is having a tremendous sentimental influence toward lifting prices. This will correct itself in the collapse which—in due time—is certain to come, and which will carry with it its trail of disaster and ruin to the rubber gamblers in the manner always attending the bursting of financial bubbles.

"Stories are being circulated to the effect that the rubber supply is being rapidly exhausted, and that the world is facing a famine; but a careful review of the situation justifies an opposite opinion.

"The past year more than 70,000 tons of crude rubber, having a value approximating \$300,000,000, were produced, of which 40,000 tons came out of the Amazon district. This was wholly wild rubber, gathered almost entirely from a belt extending along the Amazon and its tributaries and running less than three miles into the interior. The vast forest beyond these borders is substantially untouched; but with the building of the railroad around the falls of the Ma-

deira—which will be completed in 1911—and with the building of roads through the forest connecting up rivers, the introduction of the automobile and the gasoline boat, vast districts heretofore inaccessible will be brought within reach of the rubber gatherer; and, while the gain in production each year has been approximately but 10 per cent. over the previous year, there is no question that this percentage will increase largely from this time forward.

"But a very important factor toward relieving the existing situation is found in the plantation rubber in the East Indies, which is now coming into the market in large quantities, each year's production being substantially double that of the preceding year. Whereas we had less than 4,000 tons in 1909, we shall receive approximately 8,000 tons in 1910 and well up to 16,000 tons in 1911, and within five years a quantity larger than is now furnished by the Amazon, which is a remarkable result considering the fact that three years ago the production of the entire East Indian district represented but a few hundred tons.

"That product of nature which exists in abundance, and which the world needs, it will find a way to obtain. Wild rubber trees in almost limitless quantities exist in Brazil awaiting the touch of human energy to yield up their latex, and the world will undoubtedly find means to obtain its required supply.

"The ruling classes in Brazil are an intelligent people, and though they have been slow to realize the advantage of planting rubber, they are now following the lead of the East Indians, and within a few years the Amazon Valley will be furnishing plantation rubber far in excess of the wild rubber now coming down the river.

"As an indication of the immensity of its opportunities, one island in the mouth of the Amazon River, Isle Marajo, which is larger than the State of Maine, is capable of furnishing plantation rubber in quantity more than the entire world is now consuming. The government is enacting legislation to stimulate the planting of trees, and, while we shall temporarily be subjected to high prices of crude rubber, since it is known that plantation rubber can be produced for 25 cents a pound, as certain as night follows the day we will within a few years have a large over-supply that will bring the cost lower than it has ever been heretofore.

"Users of rubber tires, on account of the present high prices, will have thought toward prolonging their life and increasing their mileage, which can readily be done by carrying proper pressure of air, and particularly with Clincher Tires, which, semi-deflated, will rim-cut and speedily disintegrate. Watching the adjustment of brakes will largely extend the life of the treads. Tread cuts that reach the fabric should be quickly repaired to prevent moisture reaching the cotton thread."

**THE WEEK'S INCORPORATIONS.**

Newark, N. J.—Taxicab Service Co., under New Jersey laws with \$50,000 capital.

Milwaukee, Wis.—A. G. Spalding & Bros., under New York laws with \$50,000 capital.

Milwaukee, Wis.—Morrison Motor Car Co., under Illinois laws with \$15,000 capital.

Philadelphia, Pa.—The Bartlett Garages, Inc., under Pennsylvania laws with \$65,000 capital.

Louisville, Ky.—Weber Auto Truck Mfg. Co., changes name to Frank Weber Motor Vehicle Mfg. Co.

Birmingham, Ala.—International Automobile Railway Switch Co., under Alabama laws with \$10,000 capital.

Wilmington, Del.—Delaware Automobile Co., under Delaware laws with \$10,000 capital; general automobile business.

Owosso, Mich.—Owosso Motor Co., under Michigan laws with \$200,000 capital; to manufacture motor delivery wagons.

New York, N. Y.—Hartford Suspension Co., under New York laws with \$100,000 capital; to manufacture automobile accessories.

Lakota, N. Dakota—Beek Auto Co., under North Dakota laws with \$40,000 capital. Corporators—R. H. Beek, G. F. Lamb, J. H. Kirwain.

Hartford, Wis.—Kissel Automobile Co., under Wisconsin laws with \$5,000 capital. Corporators—G. A. Kissel, W. L. Kissel, H. K. Bullerfield.

Appleton, Wis.—Appleton Garage Co., under Wisconsin laws with \$12,000 capital. Corporators—John Conway, T. W. Orbison, D. J. O'Connor.

Bridgeport, Conn.—Matthews Garage Co., under Connecticut laws with \$5,000 capital. Corporators—J. W. Matthews, Nelson F. Hunt, J. W. Walsh.

Pittsburg, Pa.—Forbes Motor Co., under Pennsylvania laws with \$10,000 capital. Corporators—E. H. Niedringhaus, L. Germain, Jr., H. N. Munhall.

Oklahoma City, Okla.—Southwest Motor Co., under Oklahoma laws with \$25,000 capital. Corporators—E. H. Eggleston, James S. Bryan, W. J. Black.

Buffalo, N. Y.—Chenango Auto Top Co., under New York laws with \$2,000 capital. Corporators—F. R. Hansell, John A. MacPeak, William F. Eidell.

Port Huron, Mich.—Case Auto Truck Co., under Michigan laws with \$40,000 capital; to manufacture motor trucks. Corporators—H. G. Barnum and others.

Abercrombie, N. Dakota—Richland County, Auto Co., under North Dakota laws with \$10,000 capital. Corporators—A. K. Twets, O. N. Hattie, J. B. Moe.

Indianapolis, Ind.—McCullough Motor Supply Co., under Indiana laws with \$10,000 capital. Corporators—Lester McCullough, Myrtle McCullough, C. C. Hauge.

Cleveland, O.—Cleveland Taxicab Service Co., under Ohio laws with \$100,000 capital. Corporators—C. S. Wachmer, F. B. Williams, B. A. Gage, R. A. Wilbur, J. B. Graham.

Chicago, Ill.—Dominick Automobile Co., under Illinois laws with \$10,000 capital; general automobile business. Corporators—William F. Dominick, George B. Wood, John W. Ross.

Chicago, Ill.—Locomobile Co. of America (a New York corporation), with \$5,000,000 capital; dealing in automobiles of its own manufacture. Corporators—A. J. Banta, Chicago, and others.

Westfield, N. J.—Martine Motor Car Co., under New Jersey laws with \$25,000 capital; to manufacture automobiles, bicycles, etc. Corporators—Levi D. and Harry C. Darby, George W. Frederick.

New York, N. Y.—Short & Wright, under New York laws with \$1,000 capital; to manufacture and deal in motor vehicles, etc. Corporators—Orville E. Short, Fred W. Wright, Samuel J. Fuller.

Syracuse, N. Y.—The Radell Co., under New York laws with \$1,000 capital; to deal in automobiles, mechanical devices, etc. Corporators—J. Emma L. Radell, William A. O'Brien, Arthur J. O'Connor.

New York, N. Y.—Auto Delivery, Inc., under New York laws with \$2,000 capital; to manufacture and deal in auto trucks and supplies. Corporators—Alexander Pell, Julius Mariany, Louis S. Elias.

Brooklyn, N. Y.—Fulton Auto Garage Co., under New York laws, with \$5,000 capital; to maintain and repair automobiles, etc. Corporators—E. J. Forhan, J. J. Harper, G. F. Martin, all of New York City.

New York, N. Y.—Crafts & D'Amora Co., under New York laws with \$3,000 capital; to operate garages, deal in automobile supplies, etc. Corporators—J. C. Leuze, Howard T. Graves, Joseph A. Mitchel.

New York, N. Y.—A. J. Myers, Inc., under New York laws, with \$25,000 capital; to manufacture and deal in carburetors, automobile supplies, etc. Corporators—A. J. Myers, Hugo S. Radt, Martin B. Cohn.

Chicago, Ill.—Factory Auto Supply Co., under Illinois laws with \$10,000 capital; to deal in automobiles, motorcycles, accessories and supplies. Corporators—George W. Stephens, William A. Conover, Spencer Ward.

Amityville, N. Y.—Long Island Automobile, Machine & Plumbing Co., under New York laws with \$15,000 capital. Corporators—Thomas Blyth, New York City; William E. Hulse, Amityville, L. I.; William F. Couran, Jr., Brooklyn.

Kingston, N. Y.—W. A. Wood Automobile Mfg. Co., under New York laws with \$3,000,000 capital. Corporators—William A. Wood, Charles W. Kahlerth, E. C. Dekay, Francis Fitch, Samuel S. Slater, New York

City; Frederick E. Moskowitz, Los Angeles, Cal.; Henry W. Johns, Ardsley, N. Y.

New York, N. Y.—Garage Equipment Co., under New York laws, with \$20,000 capital; to build and repair garages, etc., general engineering and machine work. Corporators—Samuel M., Annie W., and Emma W. Hodkinson.

Memphis, Tenn.—City Auto & Rubber Co., under Tennessee laws with \$10,000 capital; to deal in and repair automobiles, bicycles and rubber goods. Corporators—A. R. Woollen, J. H. DuBose, James T. Dolan, Frank Taylor, Robert Hulme.

Detroit, Mich.—Johnson Kellan Motor Sales Co., under Michigan laws, with \$10,000 capital. Detroit Carburetter Co., with \$25,000 capital. Oliver Motor Car Co., under Michigan laws with \$300,000 capital, Peninsular Gear Works, with \$60,000 capital.

Clinton, Mass.—Connery Transportation Co., under Massachusetts laws with \$10,000 capital; to deal in automobiles and supplies and operate a livery business. Corporators—James R. and William H. Connery, Clinton; James F. Stratton, Milford.

New York, N. Y.—General Motor Securities Co., under New York laws, with \$100,000 capital; to deal in government and industrial securities. Corporators—J. C. Matlack, Milltown, N. J.; C. R. Hatheway, Brooklyn; T. S. Merrill, New Rochelle, N. Y.

**Increases in Capitalization.**

Hartford, Conn.—Parker Motor Co., from \$50,000 to \$100,000.

Cincinnati, O.—Schacht Mfg. Co., from \$100,000 to \$500,000.

Milwaukee, Wis.—Johnson Service Co., from \$1,000,000 to \$1,500,000.

Detroit, Mich.—American Motor Castings Co., from \$100,000 to \$125,000.

Chicago, Ill.—Monarch Automobile Top & Supply Co., from \$2,500 to \$20,000.

**Buckeye to Make Gasolene Street Cars.**

The manufacture of gasolene operated street cars, with a carrying capacity of twenty-five passengers, has been added to the productions of the Buckeye Manufacturing Co., of Anderson, Ind., manufacturers of the Lambert friction driven car. The cars will be equipped with the Lambert patented friction transmission. An addition is being made to the factory, which will be devoted to the manufacture not only of these street cars but of commercial trucks.

**New Commercial Factory for St. Paul.**

Contracts have been let by the Schurmeier Motor Car Co. for the erection of an automobile plant at University and Hamline avenues, St. Paul, Minn. The building will be 50x150 feet, of brick, with steel trusses. The concern, formerly engaged in carriage production, is building a commercial car.

## IN THE RETAIL WORLD.

C. F. Elliston, Williamstown, Ky., has obtained the Ford representation for Whitley County.

Benson & Weideranders, Kearney, Neb., have purchased the business of the Kearney Automobile Co.

Manuel Bros. & Co., Richford, Vt., have taken possession of their new garage. It includes a repair shop.

A Regal branch has been established in Buffalo, N. Y., at 728 Main street. H. D. Van Brunt is the manager.

W. H. Flig, Waterford, Va., has entered the selling field and will undertake the introduction of Ford cars locally.

The E. M. Jennings Automobile Co., Bridgeport, Conn., has let the contract for its new garage on Fairfield avenue.

Formed to exploit Pierce-Racine cars, the Pierce Motor Co., of Brooklyn, N. Y., has established itself at 515 Greene avenue.

Houk & Gildow, Chillicothe, O., are having built a garage in the rear of the Warner House. Its dimensions will be 33x90.

Plans have been drawn for a new garage for the Autocar Co., Philadelphia, Pa., at Market and Twenty-third streets. It will cost \$125,000.

E. F. Anderson, Summit, N. J., is having built a concrete garage at Chestnut street and Park avenue. The building will be two stories, 50x50.

Charles W. Scott, Hillsboro, O., has embarked in the automobile trade and has secured the Brush and Maxwell agencies for Hamilton County.

The Pacific Motor Car Co., San Francisco, Cal., has located a branch in Oakland at Twelfth and Madison streets. A. E. Morrison will be in charge.

E. A. Benson, Audubon, Ia., has embarked in the automobile business, and has purchased the Burnside Building, which will be converted into a garage.

J. Z. Wilklow, South Bend, Ind., has let the contract for a garage south of the new hotel. It will be a one story building, constructed of pressed brick.

Charles Ham, Lonoke, Ark., has supplied that town's "long felt want," a garage and repair shop. It is a concrete establishment, 30x60, and is well equipped.

Griffin & Scott, Appleton, Wis., are having built a garage on Washington street, which will cost \$25,000. Their line consists of the Kissel, Cameron and Buick cars.

E. Y. Crockett, Atlanta, Ga., has disposed of his garage business at 68 Pryor street to the Fain-Hagle Co. The new proprietors will specialize on repairs and accessories.

Howard C. Robinson and A. J. Mills, Cleveland, O., have joined forces and opened a garage on Emily street. Mills formerly was manager of the Rauch & Lang Co.'s garage.

The Pacific Motor Car Co., Spokane, Wash., formerly at 1005 First avenue, has established itself in a new home at Maple and First streets. It has the Stevens-Duryea representation.

The Leachman & Claiborne Co. has been formed in Des Moines, Iowa, to specialize on rebuilding, repairing and storage. It is occupying a three story building at Eighth and Mulberry streets.

P. H. Haber, Fond du Lac, Wis., who is the local Ford dispenser, has leased the Hass garage on Macy street and will operate it under the title of the Ford Garage. Renting will be featured.

Contracts have been let by the Buick Auto Supply & Garage Co., Detroit, Mich., for the erection of a garage on West Grand Boulevard, near Cass avenue. It will be a two story structure, 100x250 feet.

Fitzsimmons Motors, Inc., is the style of a new concern in Atlanta, Ga., which has "opened up" at 45 Auburn avenue. It will act as distributor for Everitt cars in Virginia, Alabama, South Carolina and Florida.

The White-Robbins Co., Boston, Mass., has established itself at No. 459 Boylston street, where it will undertake the marketing of Babcock electrics and Sterling trucks. Both members of the concern hail from the west.

Having consummated a fifteen years' lease of the property, the Franklin Automobile Co., Cincinnati, O., is to have a new home erected for it at 1114-16 Race street. The building will be two stories and basement, 38x100, and will be built of concrete.

The Howard-Cregor Co., Nashville, Tenn., has placed a branch in Chattanooga, with temporary quarters in the Burk Automobile Co. garage, and which will be presided over by Eugene Howard. Chalmers, Hudson and Detroit electric cars will be exploited.

Consolidation of the Taxicab Co. of New Orleans (La.) and the Crescent City Automobile Co. has been effected, but the concerns will retain their individual names under the new regime. A new garage building is under way at Lafayette and Dryades streets and is expected to be ready by July 1.

Devoted exclusively to the needs of electric vehicles, the Electric Vehicle Co., Minneapolis, Minn., new garage at Hennepin avenue and Fifteenth street, was placed in commission last week; it is the second establishment of the sort in the Flour City. The building is two stories and basement, 47x125.

The Georgia Motor Car Co., Atlanta, Ga., has taken over the agency business of McLandon Bros., who represented the National, and who will continue with the company. The Georgia Company's line now consists of the Studebaker, E-M-F., National, Flanders, Benz and Randolph trucks,

and the concern contemplates entering the manufacturing field with a low priced car.

The Studebaker Minneapolis (Minn.) branch now is installed in its new eight story home at Sixth street and Second avenue, south, which is a model structure of its class. It is 125x50, the first two stories being constructed of white tile and the remainder of pressed brick, and the cost was \$125,000.

Portland, Ore., is to have a garage exclusively for electrics, which is being built for the Rose City Electric Co., on Twentieth street, between Washington and Everitt. It will be a one-story brick structure, 100x100, and part of it will be occupied by the Oregon Taxicab Co. The Rose City company handles the Babcock electric.

With the intention of eventually transferring its entire business to the new location, the Pence Automobile Co., Minneapolis, Minn., one of the largest dealers in the Northwest, has purchased a large tract of land at Washington and Eighth avenues, north. The plot, which is 222x150, changed hands for \$65,000. Work soon will be begun on a temporary warehouse which will cover the entire property, and plans are being made for an immense permanent building. The present Pence headquarters are at Hennepin avenue corner of Eighth street.

## Trade Association Moves Its Headquarters.

Headquarters of the New York Automobile Trade Association have been removed from 42d street to the Thoroughfare Building 1777 Broadway, which is in the heart of the gasoline section of the metropolis. Four new members were added to the roll at the last meeting of the organization, viz.: Fisk Rubber Co., Rothschild & Co., Thedford Auto Garage and the Correja Motor Car Co. These accessions bring the membership up to seventy-five, of whom thirty-five operate large garages, a fact which, according to the statement issued by the New York Automobile Trade Association, has caused the "major portion of those interested in the promotion of the proposed exclusive garage association to abandon the idea." And this despite the fact that the garage association only two weeks since was incorporated under the laws of New York.

## Steenstrup to Locate in Seattle.

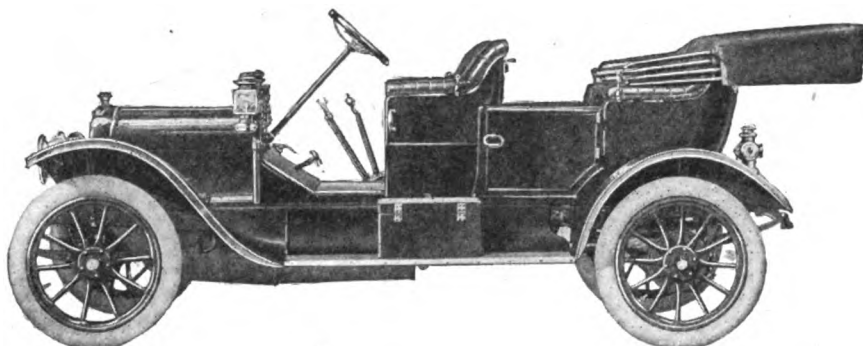
"Pete, the Hyatt man," as a Detroit phraseologist last week styled Peter S. Steenstrup, the Hyatt Roller Bearing representative, in announcing that he had taken his rods and guns and gone for a long vacation, will not return to his old post. He has been appointed manager of a new branch which the Columbia Motor Car Co. is about to establish away out in Seattle, Wash. As Steenstrup is secretary of the Motor & Accessories Manufacturers, Inc., it follows that he will resign that office, also.



Some Features of the

# White Gasoline Car

which result in unusual  
Economy of Up-Keep



The White gasoline car is designed and built to run at a lower cost of up-keep, mile for mile, than any other car on the American market. Some of the factors which insure economy both in fuel consumption and in cost of maintenance are:

### Intake Gases Heated

By including the intake passages within the block engine casting, the intake gases are heated. As a result, every particle of gasoline is completely vaporized and each cylinder receives a uniform mixture of the proper richness, thus ensuring very low fuel consumption.

### Exhaust Gases Cooled

By water-jacketing the exhaust passages, the temperature of the exhaust gases is reduced as soon as they leave the cylinders. As a result, the pressure of these gases is greatly reduced and there is a minimum loss of power due to back pressure. This factor also results in low fuel consumption.

### Four-Speed Transmission

The direct drive is on third gear and practically all driving in town is done on this gear. For high-speed running, the fourth gear is used. There is, therefore, no racing of the engine and no undue strains upon it when the car is run at high speed. Furthermore, the engine may always be run at very close to its most economical speed.

### Valve Mechanism Enclosed

There is no chance for dirt and grit to work their way into the bearing surfaces and cause wear and faulty timing, as is the case when the valve mechanism consists of a series of external and unprotected springs, rocker-arms, push-rods, etc.

### Accessibility of Every Working Part

The cost of making an ordinary adjustment on any car is determined largely by the accessibility of the several parts. In the White, accessibility has been developed to a much greater degree than in any other car. For example, as there are no external manifolds, or no overhead valve contrivances, a valve may be removed for regrinding without removing or disturbing any other part. As another example, the magneto and water-pump are on opposite sides of the engine and are driven independently, so that either may be reached without disturbing the other.

Write for catalog of the White Steam and Gasoline cars.

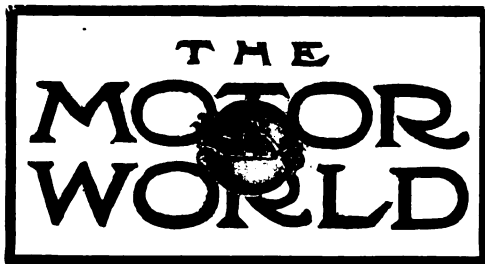
## THE WHITE COMPANY

Licensed under Selden Patent.

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#### The Ways of a "Wizard."

J. P. Morgan should feel proud! And why not? For has not the "Napoleon," the "wizard," etc., of the automobile industry paused in his wonder-working to repudiate the cruel reports which linked their names and enterprises? Is not such notice from such a source just cause for pride on the part of even such world figures as Morgan?

Who could have started those reports, anyway? Is it possible that Mr. Morgan or some of his agents did so? Can it be that they require such publicity? Surely it was not the new Napoleon or any of his agents! For he himself has denounced such publicity as "undignified" and regretted—deeply regretted—the publication of such reports. Yes, indeed, he has. His regrets are almost visible and his opinion of publicity—and the way to obtain it—are so well known to some persons that they will have small trouble in picturing the "wizard's" great mental

distress at any report that mixes his affairs with Morgan's.

When a man has a \$60,000,000 article on his hands and has had himself constituted the "pool" in which its stock is deposited in order that he may the better boost the value of the shares—under such conditions to link them with the Morgan name is most exasperating! It tends to scare off purchasers and to make investors timid! It is in every way injurious and deserves the denouncement and the deep regrets which are rendered so impressive when uttered by a Napoleon or even by a would-be Napoleon of any industry.

Mr. Morgan, however, is not alone in meriting felicitations. The constituent units of the General Motors Co. also are deserving of a share. For did not the chairman of its executive committee, after having been censured for making use of confidential data, actually ask and receive their permission to print the number of cars they have produced and accounted for in Selden royalties during the first quarter of this splendid year? How gracious the request! How gracious the consent! How truly Napoleonic! And how very informing! One of the companies has produced 22 vehicles, another 35 and still another 39, all during the short period of three months. It is not short of wonderful! The ten companies which so gracefully acquiesced produced an average of 1,100 cars during the 90 days—a record that should impress any investor. As not all of the constituent companies are listed, is it possible that the absent ones dared to refuse the chairman's request? Or—or is it possible that they have not produced anything and are "dead ones?"

The situation is distinctly touching. If the wizarding Napoleon is not careful he will bring tears to even the Schwarzkopian eyes of his special envoy and more or less official organ; and they may well be spared.

#### The Shipment of Replacements.

Merely to mention the subject of spare parts either to an automobile manufacturer or dealer is, in many instances, to touch upon a very raw spot in his business anatomy and possibly to open an old sore. While it is true that not a few motor car builders take great pains and equal pride in attending to the prompt dispatching of such replacements as may be requisitioned by their local representatives, it is an unfortunate fact that not all of them are in a position to do so; while others, it is

to be feared, are not as keenly alive as they might be to the importance of taking care of their agents in such a way as to enable the agents to take care of the customers just in the way they ought to be cared for.

Theory and practice are as widely separated as the seas, and the business man who succeeds in carrying out all the plans which he conceives, in just the way he aspires to do, is apt to be either a modern marvel or else devoid of proper ambition. But at the same time, there are certain considerations which make it appear very essential to strive in the matter of replacements with vigilance and persistency equal to that expended in the obviously important matter of original production. This the older and more successful makers have been doing as rapidly as they have been able to get their affairs in shape, and invariably with strikingly beneficial results. Among those who have not yet arrived at a satisfactory state in this particular respect there are not a few, doubtless, who are not in a position, or so they believe, to warrant concentrating a greater amount of effort on the parts sales business.

In order to develop a proper system of handling the requisitions of branches, agencies and private owners, close attention to detail, accurate accounting and a continuous inventory are necessary; also a well organized shipping department which is sufficiently familiar with the entire field to be able to route goods intelligently and rapidly. Further, while the service seems in a way to be secondary to that of the direct production and shipment of cars, and to be more in the nature of a promotion of the retailer's undertaking; it must be borne in mind that upon the good will of the latter his ability to develop his territory and strengthen his hold upon it depends. For his own sake the manufacturer must do what he can to keep his customers' cars on the road as much of the time as is possible, and to do this he can do no better than to begin by arranging to take care of the man who takes care of the man who runs the individual car upon the open road.

#### The Noise of the Motor 'Bus.

Like the aged and decrepit trolley car, the motor omnibus, in its most familiar present forms, promises to become a noteworthy addition to the noise-creating mediums of any great and growing city which happens to be progressive enough to sup-

port its presence. Such already has been the case in London and Paris, where the vehicle in question has come into its greatest popularity; and such is coming to be the case in New York City, where a certain proportion of the large number of foreign chassis which are in 'bus service have commenced to go into a groaning decline. The problem of reducing the noise in the commercial vehicle chassis, of this or any other sort, by no means is a trifling or fancied one. It is destined to become far more real and serious as time goes on and the number of such vehicles in constant service increases, as it is bound to do to a tremendous extent.

The great progress which has been made within the last two or three years in the reduction of noise in pleasure car practice lends a touch of probability to the hope that an equal measure of success may attend the efforts of commercial car manufacturers in a similar direction. The use of high grade materials of construction, proper heat treatment, grinding in of gears and proper provision for lubrication are points which must be taken into account with great care. Their consideration is a step in the development of the commercial vehicle which, up to this time, its builder has had little time to look into. Before long, however, it will be positively demanded because of the growing numbers of such machines and the increasing attention which the general public is bound to bestow upon them, in consequence of their increasing conspicuousness.

In this connection, the London General Omnibus Co. has ventured on a particular line of effort which, at the outset, appears to be meeting with a high degree of success. That is in the use of chains of the so-called "silent" type in the gearboxes of their omnibus equipment. Mechanically, the use of chains for this purpose presents no serious difficulties, while from the point of view of operation and maintenance, it is thought to hold a slight advantage over the simpler and constructionally less expensive spur gear system. The main point in its favor, from the point of view of the public, however, is that, practically speaking, it is noiseless. This is a big advantage in public service work, and one which is destined to increase in comparative importance in the future. Generally speaking, the noise of the mechanism is about the last thing the commercial vehicle designer would re-

## COMING EVENTS

May 5-7, Richmond, Va.—Richmond Times-Despatch endurance run.

May 5-7, Atlanta, Ga.—Opening spring race meeting on Atlanta motordrome.

May 6-7, Santa Rosa, Cal.—Santa Rosa Automobile Association's race meet.

May 7, Chicago, Ill.—Chicago Automobile Trade Association's floral parade.

May 9, Santa Rosa, Cal.—Santa Rosa Automobile Association's second annual road race.

May 9-11, Harrisburg, Pa.—Motor Club of Harrisburg's fourth annual reliability contest.

May 10-11, New York City—Motor Contest Association's reliability contest to Atlantic City and return.

May 11, Birmingham, Ala.—Birmingham Police-Relief Association's race meet at state fair grounds.

May 13, Denver, Colo.—Automobile races at Overland Park.

May 13-14, New York City—Motor Racing Association's 24 hours race at Brighton Beach track.

May 14, Kansas City, Mo.—Automobile Club of Kansas City's hill-climb on Dodson hill.

May 14, Vicksburg, Miss.—Vicksburg Automobile Association's hill climb on Mackey's hill.

May 18, Cheyenne, Wyo.—Cheyenne Motor Club's race meet on motordrome.

May 18-19, Norristown, Pa.—Norristown Automobile Club's third annual endurance run to Scranton and return.

May 19, Chicago, Ill.—Chicago Motor Club's second annual demountable rim test.

May 19-21, Hartford, Conn.—Automobile Club of Hartford's All-Connecticut reliability contest; 600 miles.

May 22, Fort Worth, Tex.—Fort Worth "Star-Telegram" endurance run.

May 22-23, Brooklyn, N. Y.—Crescent Athletic Club-Long Island Automobile Club amateur touring contest on Long Island for Pardington trophy.

May 25, Columbus, O.—Columbus Automobile Club's reliability run to Indianapolis, Ind.

May 27, 28 and 30, Indianapolis, Ind.—Grand Circuit meeting and national championship races on Motor Speedway.

May 27-31, Washington, D. C.—Washington "Post" five days endurance run to Richmond, Va., and return.

May 28, White Plains, N. Y.—Amateur Automobile Contest Association's hillclimb.

May 28-31, Syracuse, N. Y.—Central New York inter-club relay run.

May 29-30, San Francisco, Cal.—San Francisco Motor Club's two days race meet at Tanforan.

May 30, Bridgeport, Conn.—Bridgeport Automobile Dealers' Association's hill-climb on Snake hill, Fairfield.

May 30, Denver, Colo.—Denver Motor Club's road race.

May 30, Briarcliff Manor, N. Y.—Amateur Automobile Contest Association's hill-climb.

May 30, Denver, Colo.—Denver Motor Club's annual road race.

June 1, Berlin, Germany.—Start of Prince Henry tour, finishing at Homburg on 8th.

June 2, New York City—Annual Orphan's Day outing at Coney Island.

June 3-4, Buffalo, N. Y.—Automobile races at Fort Erie track.

June 4, Worcester, Mass.—Automobile Club of Worcester's annual hillclimb on Dead Horse hill.

June 6, Atlanta, Ga.—Start of second annual New York-Atlanta Good Roads Tour, ending in New York June 14.

June 7, West Haven, Conn.—Yale Automobile Club's third annual hill-climb on Shingle hill.

June 11, Newark, N. J.—New Jersey Automobile and Motor Club's 280 miles reliability run.

June 11, Portland, Ore.—Portland Automobile Club's annual road race for Wemme Cup.

June 11, Wilkes-Barre, Pa.—Wilkes-Barre Automobile Club's annual hill climb on Giant's Despair.

June 15-30.—American Automobile Association's seventh annual national touring and reliability contest for the Glidden trophy, starting from Cincinnati and finishing at Chicago.

June 16-22, Albany, N. Y.—Albany Automobile Club's sixth annual tour to Atlantic City, N. J., and return.

July 1, 2 and 4, Indianapolis, Ind.—Grand Circuit meeting on Motor Speedway.

July 2, Wildwood, N. J.—North Wildwood Automobile Club's roadability run from Philadelphia to Wildwood.

July 4, Wildwood, N. J.—North Wildwood Automobile Club's annual beach race meet on Ocean Drive.

August 6, Wildwood, N. J.—North Wildwood Automobile Club's beach race meet on Ocean drive.

gard himself bound to consider; actually it may have a not inconsequential bearing on the reputation of his product, if not on

its wearing qualities—of which the amount of noise developed may be supposed to be a fair indication.

## GUESSING SEASON IS INAUGURATED

**Quakers Start the "Who's-Got-the-Button" Game—Longstreth Gets a Silver Cup as the Best Guesser.**

The season for "guessing contests" was inaugurated on Saturday last, 30th ult., and in Philadelphia, where they originated. The Quaker motorists evidently like to throw off the cares and responsibilities of grown-ups occasionally as more than 100 of them participated in the third annual roadability—or, more properly, "guessability"—contest of the Quaker City Motor Club from Philadelphia to Atlantic City, N. J., on Saturday last.

Whether because of previous practice or natural ability the guessing was unusually close, the winner turning up in W. C. Longstreth, who drove an Alco car, and who made the run of 68.2 miles in 3:36.05. This was a variation of but  $4\frac{1}{2}$  seconds from the official secret time of three hours, thirty-six minutes, nine and one-half seconds which was set by Mayors Reyburn of Philadelphia and Stoy of Atlantic City. Longstreth accordingly was awarded the mayors' cup for his "strenuous" performance and mind-reading.

Longstreth was closely pressed—or guessed—by Charles J. Swain in a Winton, who finished in 3:36.02 $\frac{3}{4}$ , only  $2\frac{3}{4}$  seconds behind. Swain captured the Hotel Strand cup. Third prize went to B. F. Richardson in a Mitchell, who tied with H. C. Rosen, Cadillac, both having guessed 39 $\frac{1}{4}$  seconds out of the way. Lots were down to break the tie and Richardson was the lucky one; Rosen was awarded fourth prize. The other remaining trophy went to Frank Fanning, who drove a Thomas. The first five awards were silver cups.

Nearly every contestant, however, received a prize of some sort, there being five classes designated, from A to E, and the first twenty in each class who finished nearest to the winners' times were given the choice of clocks, cut glass, smokers' articles and similar things. There also were divisions for manufacturers' cars arranged on a price basis, three awards being given to the makers having the greatest number of cars in their respective classes. Class 1, for cars costing \$3,500 and over, went to the Stearns company, which was represented by five machines. Winton cars were the winners in Class 2, for machines costing from \$2,000 to \$3,500, mustering five cars, and Class 3, for cars selling under \$2,000, was a Buick triumph.

The excellent weather contributed largely to the success of the contest, and the roads were in fine shape after the rain of the previous night, which laid the dust and packed the soil firmly. But few mishaps occurred along the route, 91 participants

checking in at the finish. The start was made from the Hotel Walton at 1 p. m. sharp, the cars being sent away at half-minute intervals. As each car left the driver was handed a card bearing its starting time and upon reaching its destination the finishing time was inscribed on it. The cars were gaily decorated with pennants bearing the club and other colors and made a pleasing appearance as they rolled along. Among the contestants was the Regal "Plugger," which is on a 5,000 miles demonstrating tour around the country; it finished well up in front. After the last car had checked in the cars were parked on the million dollar pier, where Mayor Stoy announced the winners and awarded the prizes.

### Cobe Cup Race to Be Run on Track.

All hopes that the Cobe cup race this year would be a road contest were shattered this week by the announcement from Chicago that the Chicago Automobile Club had decided to stage the 1910 race on the Indianapolis Motor Speedway on July 4. In order to land the contest the speedway management submitted a proposition to President Cobe of the club and donor of the trophy, offering the club a percentage of the gross receipts on the day of the race, and at a meeting of the board of directors this offer was accepted. This action decisively knocks the underpinning from the Chicago speedway projects which were discussed and which now are said to have been abandoned for this year at least. By their coup in securing the Cobe race the wide-awake Hoosier promoters have stolen a march on their rivals, and together with their other rich prizes seem to have compiled the red letter track program of the year.

### Native Car Scores on Georgia Grade.

First honors in the automobile hillclimb held at Dublin, Ga., on the 28th ult., and an event of the season in the little Georgia town, were captured by a native product, the White Star, an Atlanta made car, which, driven by Eberlein, topped the hill in 35 seconds. Second place was closely contested and resulted in a tie between Marshall, piloting a White, and Meller, in a Buick, both of whom made the climb in 37 seconds. Bashinski drove an Ohio up the hill in 40 seconds, and the last man was Marshall, E-M-F., who required 42 seconds for the trip. The tie was not run off.

### Munn Heads Texas Association.

Directors of the Texas State Automobile Association, at a meeting held in San Antonio, following its incorporation, elected the following officers: J. W. Munn, Galveston, president; A. H. Evans, Eagle Pass, first vice-president; R. E. McKie, San Marcos, second vice-president; W. W. Seley, Waco, third vice-president; R. W. Carr, secretary-treasurer. The full board will hold its next meeting in the city of Galveston, August 2.

## GOOD SPORT AT SAN FRANCISCO

**Oldfield Turns Several Swift Miles, but King is Biggest Winner—Two Sensational Accidents Occur.**

With excellent weather, large crowds and prompt work in running off the events, the two days' race meet held on the Ingleside mile dirt track near San Francisco, Cal., Saturday and Sunday, April 24th and 25th, proved a successful affair. The meeting was promoted by the Islam Temple of the Mystic Shrine, and the presence of several well known drivers and cars was responsible for a crowd of 4,000 people on Saturday afternoon, and the excellence of the racing on that day caused about 10,000 persons to visit the track on Sunday, the closing day of the meet.

Although "Me & My car" were billed as the features, the greatest interest centered in several close finishes provided by drivers in the stock car events. Several of the finishes were of the bonnet-to-bonnet order. The track was soft in spots, but despite this fact Oldfield managed to drive a mile exhibition in 51.56 seconds, which, however, is slower than Ralph DePalma's mile at Minneapolis, Minn., last year; DePalma's time was 50 $\frac{1}{4}$  seconds—the fastest ever recorded on a mile dirt track.

The largest individual scoring at the meet was made by Maxwell cars, which won four events, finished second once and third twice. Knox cars also figured well.

Saturday—April 24.

The best sport of the first afternoon's racing was furnished by smaller cars in the stock car events. In the race for cars selling for between \$1,200 and \$1,600, C. O. King in a Maxwell and George Nelson in an Oakland fought it out for every foot of the 5 miles, the former winning by a narrow margin. Again in the five miles free-for-all handicap King and Nelson hooked up at several stages and finished in the same positions as in the first race.

Oldfield and his side partner, Kircher, competed in a handicap match in which Oldfield, driving a Knox, was allowed 8 seconds handicap in two miles, by Kircher in the big Darracq. Oldfield won the first heat and might have won the second had he not loafed in the homestretch, for Kircher to come up and make a close finish. As a result Kircher won. Oldfield, however, won a 10 miles handicap, driving a Knox, and drove a mile against time in 52 12-100 seconds, while Kircher turned a mile in 54 9-100 seconds. The summaries:

One mile, for "Brownie cars"—Won by Robert McNight; second, Lloyd Schully. Time not taken.

Five miles free-for-all, for motorcycles—Won by Charles Balke, Thor; second, W.

G. Collins, Indian. Time, 4:43 16-100.

Five miles, for cars listing at \$1,200 and under—Won by Joe Nickrent, Buick; second, A. Ruddle, Ford; third, Frank O'Brien, Ford. Time, 5:29 94-100.

Five miles, cars listing between \$1,200 and \$1,600—Won by C. O. King, Maxwell; second, George Nelson, Oakland; third, T. F. Holmes, Maxwell. Time, 5:37 52-100.

Five miles, cars listing between \$1,601 and \$2,000—Won by Frank Murray, Buick; second, Walter C. Morris, Autocar. Time, 5:33 75-100.

Five miles free-for-all handicap—Won by C. O. King, Maxwell; second, George Nelson, Oakland; third, Walter C. Morris, Autocar. Time, 5:18 35-100.

Two miles handicap match—First heat won by B. Oldfield, Knox; second, B. Kircher, Darracq. Time, 2:22 56-100. Second heat won by Kircher; second, Oldfield. Time, 2:02 90-100.

Ten miles free-for-all handicap—Won by B. Oldfield, Knox; second, Walter C. Morris, Autocar; third, Frank O'Brien, Ford. Time, 11:08 2-100.

One mile time trials—Won by B. Oldfield, Benz, 0:52 12-100; second, B. Kircher, Darracq, 0:54 90-100.

#### Saturday, April 25.

With 10,000 persons looking on, the second day's meeting went well until the final race of the afternoon, when a spectacular accident occurred in which William Nelson nearly lost his life. The event was a 5 miles handicap for members of the Mystic Shrine, and young Nelson, together with his father Fernando Nelson, were among the entrants. William Nelson was making the upper turn when one of the front wheels of his car collapsed, and in less time than it takes to tell, the car had broken through the strong outer railing and plunged down an embankment. A. B. Bright, the mechanic, was thrown from the car but landed in a soft spot and escaped with a sprained wrist and a lacerated right knee. But Nelson was not so fortunate. His worst apparent injury was a circular cut to the bone around the right eye, which required 130 stitches to close. He was also badly bruised and lacerated and, it is feared, sustained internal injuries. The race was won by W. T. Warren, Matheson.

Another exciting incident happened in the 10 miles free-for-all handicap—one of the big events of the afternoon. Kircher in his big Darracq was behind Oldfield's Knox and he was reeling off a sizzling pace in an endeavor to cut down the lead of the field. He followed Oldfield for nine of the ten miles, and when rounding the turn into the last mile his steering knuckle broke. Kircher went through the muslin inside fence and the front wheels spread, causing the axle to dig into the ground. The machine stopped within 30 feet, but Kircher kept right on going. He executed two beautiful somersaults in midair and landed without

turning a hair. A few minutes later he was traveling around with Oldfield as serenely as though nothing had happened. The race was won by C. O. King, Maxwell, after an exciting battle against Frank Murray, Buick. King also scored a pretty win in the five miles free-for-all handicap. The summaries:

Five miles free-for-all, motorcycles—Won by W. G. Collins, Indian; second, Charles Balke, Thor. Time, 4:46 51-100.

Five miles match, motorcycles—Won by Charles Balke, Thor; second, W. G. Collins, Indian. Time, 4:37.

Five miles, cars listing at \$1,200 and under—Won by Joe Nickrent, Buick; second, Norman Cowan, Ford. Time, 5:56.

Five miles handicap, private owners, for members of the Mystic Shrine—Won by W. T. Warren, Matheson; second, Palmer-Singer. Time, 6:08.

Five miles, cars listing between \$1,200 and \$1,600—Won by George Nelson, Oakland; second, C. F. Hoag, Maxwell; third, A. Ruddle, Ford. Time, 5:32 75-100.

Five miles, cars listing between \$1,600 and \$2,000—Won by Frank Murray, Buick; second, Frank Free, Autocar. Time, 5:58 28-100.

Five miles free-for-all handicap—Won by C. O. King, Maxwell; second, George Nelson, Oakland. Time, 5:10 30-100.

Four miles handicap match—Won by B. Kircher, Darracq; second, B. Oldfield, Knox. Time, 3:56 98-100.

One mile time trials—B. Oldfield, Benz, 0:51 56-100 and 0:52 21-100; B. Kircher, Darracq, 0:53 56-100.

Ten miles free-for-all handicap—Won by C. O. King, Maxwell; second, Frank Murray, Buick; third, Walter C. Morris, Autocar; fourth, B. Oldfield, Knox. Time, 8:36 85-100.

#### Twelve to Start in 24 Hours Race.

With many of the veterans of former twice-around-the-clock contests again entered, as well as several new aspirants for honors, the entry lists for the opening 24 hours race of the season at Brighton Beach track, New York City, on May 13-14, closed this week with 12 nominations, the full quota which will be permitted to line up for the long journey. Among the old timers who again will come to the scratch are a pair each of Stearnses and Buicks, while the representatives of the Ranier, Fiat, Marion, Simplex, Houghton-Rockwell, Selden, Croxton-Keeton and Cole will pin their faith to a single car each. The three last named are making their debut at this style of racing. Significant by their absence, the Loziers, which last fall established the present record of 1,196 miles, prefer to rest on their laurels for the present. A new scoreboard is to be erected in front of the grandstand to keep the "fans" informed as to the drivers who are on the track at all times, and the inner pole will be marked by the usual cloth fence, which at night will further be indicated by

green lights instead of the usual red ones. The latter change was made to avoid any possible accidents by the drivers confusing the tail lights of leading cars for the pole lights. As usual, "fabulous sums" will be spent in rebuilding the track, which, of course, is expected to prove "faster than ever." Although no announcement to the contrary has been made, the coming race will differ from its predecessors in that it will be a free-for-all event instead of being open to stock cars only.

#### "Guessability" on Relay Plan.

Although automobile relay races are unpopular in certain sections of the country since one contest of the sort which was attempted last year was stopped by the authorities because of a fatal accident, the official organ of the New York State Automobile Association is arranging an inter-club relay, from which, so it is announced, the speed menace will be eliminated. The affair will start from Syracuse, May 28, and embrace the large cities in the central section of the state. Local clubs will furnish the relays in their territories, the route lying through Auburn, Cortland, Ithaca, Watkins, Elmira, Owego, Binghamton, Oneonta, Cooperstown, Richfield Springs, Utica, Rome, Oneida and back to Syracuse. It is planned to have the contest occupy three days and finish on Memorial Day. Inasmuch as there will be secret time schedules for each leg of the run, it really will take that form of infantile motoring amusement known as a "guessability" run, but distinguished from the ordinary kind by the relay feature.

#### Work Stops on Narragansett Track.

Work on the conversion of the Narragansett Park mile dirt track at Providence, R. I., into a motordrome, which has been in progress for several months, ceased suddenly last week, and from the reticence of the promoters regarding their future plans it seems probable that the projected speedway will not be completed. Several thousand dollars already has been expended in preliminary work, and the course has been plowed and made ready for the filling and top foundation. The Rhode Island Automobile Club has a two days' race meet billed at the track on September 9-10, and unless the course is in condition by that time the meeting probably will be abandoned, as there is no other suitable oval to be had in the state.

#### New York Registrations Pass 100,000 Mark.

The registrations of New York State this week passed the 100,000 mark, that number being assigned to Peter Barlow, a New York City magistrate. While the registrations apparently stand for 100,000 separate cars, very many represent cars that have changed hands several times, while probably one-third of the number long since were consigned to the junk pile.



**MOTORISTS AS ROAD IMPROVERS**

**Louisianans Do More Than Talk—Give Money and Support Convicts and Provide Fine Object Lesson.**

While the movement for better roads has attained great headway all over the country, and automobile organizations have added impetus to it, it is doubtful if any of them

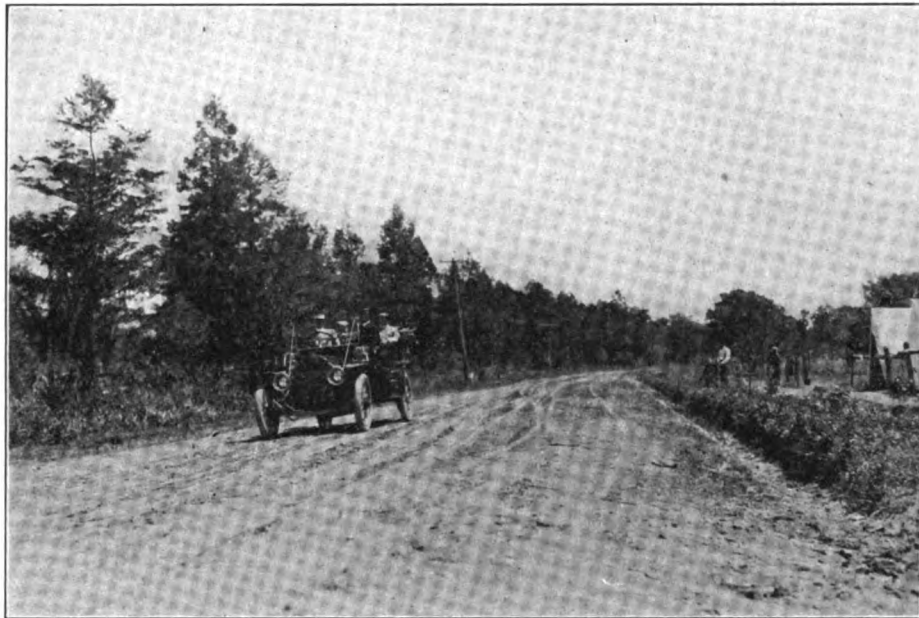
In Louisiana the Governor has a right to furnish convicts for other work than on the cotton and sugar plantations of the state as long as they are not leased. On these farms they have paid their own expenses, but at times there are more convicts than are necessary, so in conjunction with the automobilists it was arranged by the state authorities late last fall to organize camps of twenty-four negroes each for work on the roads. The white prisoners are used

a week; the state agreeing to furnish the camp equipment, consisting of a commissary wagon, one or two berth wagons, a portable screened jail and such tents and other outfit as was necessary.

On February 21st of this year the actual work on this roadway was started and the first formal inspection took place on April 17th. In just about two months, working six days a week, the convicts have dug ditches and graded and crowned roads for a distance of about four miles, from Gentilly Road to Michoud Station, and they have given positive assurance of the success of this great undertaking. It is estimated that it will take eight months longer before the preliminary or comparatively rough work is completed, and perhaps within this time they may have an opportunity of putting on the top coat, which will be one of gravel with a heavy dressing of asphaltum oil.

The state and city officials recently drove in motor cars over four miles of recently constructed surface at a lively clip, and the new road appeared to be particularly solid and well drained. But beyond the point to which the improvements have at present reached there are miles where an automobile would be useless, and, indeed, one of the cars sank so deeply as to necessitate taking it out. This was an apt illustration of the "before and after treatment" and showed the necessity for the enthusiasm now abounding.

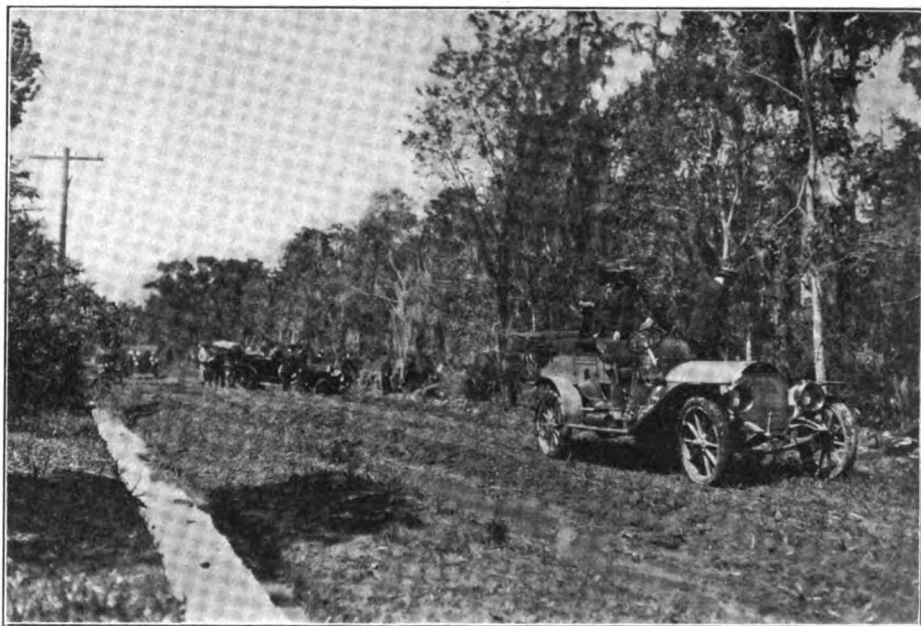
The Motor League has paid for the plows, scrapers and other machinery and a large



NEW CHEF MENTEUR ROAD SHOWING SMOOTH GRADING AND CAMBRE

ever went to such length as the Motor League of Louisiana, a state in which good roads are few and far between.

Having convinced the state authorities of the desirability of utilizing the work of its negro convicts in building better roads, the Motor League took up the practical solution of the problem. For the sake of an experiment and in order to show exactly what could be done in the matter of road construction, the old trail leading from New Orleans to Chef Menteur, the origin of which dates back more than eighty years, was chosen for improvement. When the route was announced, the failure of the plan was at once predicted because the road was at that time practically an impassable swamp and lay through a country of luxuriant southern foliage, where splendid live oak trees and hanging Spanish moss formed an archway overhead. The estimated cost of the improvement was placed at \$30,000 and the Motor League endeavored to raise the money among its members. Seven members subscribed \$100 each and this money was used in surveying the road. City Engineer Hardee, who superintended the survey, reported favorably on it, and the City Council then appropriated \$2,000 for preliminary experimentation. The Mayor gave his assurance that if the road was built it would be maintained by the city, as its eighteen miles are within city limits.



CHEF MENTEUR HIGHWAY IN ITS UNIMPROVED STATE

in the commissary department and all of the men are watched by armed guards.

The Motor League agreed to take such camps of twenty-four negroes each and to pay for all feed, the salary of the armed guards, one-half of the cost of the resident engineer, and the fee of the visiting physician who inspects the prisoners three times

number of the members have contributed between \$100 and \$200 each to assure the furtherance of the operations. Their success is leading other parishes to inquire about the movement and Governor Sanders has assured them that any one in the state may receive organized camps of convict labor.

## OFFENSE THAT CAN'T BE PUNISHED

**Connecticut Lawmakers Meant Well but Provided no Penalty—Motorists with But One Tag Are Freed.**

Although the Connecticut automobile law which was passed last year specifically provides that all cars licensed in accordance with its provisions shall carry two number plates, the framers of the measure neglected to insert provision for a penalty to be imposed for violation of that particular clause. This point having been clearly established at a special police court hearing in Bridgeport, recently, a bunch of nine defendants, held jointly for trial on the charge of displaying but one marker on their cars, was discharged by Judge Carl Foster.

The case rather relieves the anxiety which developed in the breasts of some motorists living outside the Connecticut boundaries, but who occasionally motor across them, when Attorney-General Holcomb voiced the opinion, a few weeks ago, that the two-tag provision applied to all cars used within the state, irrespective of the residence of their owners. As a matter of fact, it would seem to have settled the point absolutely, since no less than five of the nine defendants in the test case came from New York State.

Acting on orders issued by Mayor Buckingham, the local police arrested as violators of the automobile law the following: Elgin Davis of Bridgeport, Fire Commissioner F. A. Strong, Henry H. Sprague, Robert Butt of Brooklyn, James Dennis, William Taylor of Yonkers, Edward Hannon of New York City, John B. Stevenson, chauffeur for Henry Burr, a Fairfield County millionaire, and F. C. Farrell of Brooklyn. In each the offense was that of displaying but one tag instead of the two prescribed by the law.

Assistant Prosecuting Attorney Redden asked Judge Carl Foster for a conviction and fine in each case. Foster ruled that ignorance of the law was no excuse, and fined each man \$5. Before they could pay their fines, however, someone stepped in and asked under which provision of the statute the fine was imposed. A hurried search through the laws showed no clause authorizing any punishment. A later and more careful scrutiny had the same result. Judge Foster then pleaded "ignorance" and discharged all the prisoners, first remanding the fines.

### "Statesmen" Scuttle Schultz's Bill.

As a result of the storm of protest which arose as soon as its true purpose was disclosed, Senator Schultz, of New York City, and practically all of the other statesmen who were in any way concerned with the introduction of the so-called Schultz bill have made haste to "stand from under." In

consequence, the measure which was drawn in the interests of a few Brooklyn horsemen who wished to preserve the use of the speedway on Ocean Parkway leading to Coney Island, has been recommitted in both houses, and is looked upon as finally buried. Senator Schultz and the others have been very apologetic since the true nature of the bill was explained to them and have given assurance that had they known that the bill was so framed as to permit any park commissioner to close any thoroughfare under his jurisdiction to automobiles, they never would have thought of supporting it.

### No More Smoking in New York City.

By an amendment to the smoke ordinance section of the sanitary code, the Board of Health of New York City has adopted a measure rendering it unlawful for automobiles to emit smoke while on the city streets. The new rule, which was passed on Thursday last, 28th ult., practically extends to all streets the same provision which heretofore has been effective in thoroughfares under the jurisdiction of the Park Department only. The new rule will go into effect on July 1 next, prior to which notices of its enforcement will be sent out to all owners, dealers, manufacturers and garagemen. In the meantime, with a view to securing a fair adjustment of the motorists' cause and to prevent police oppression in the enforcement of the rules, the Licensed Automobile Dealers' Association of the City of New York has appointed a committee to confer with Health Commissioner Lederle.

### Another Advantage of Electricity.

One marked advantage of using electric lights on the car is the facility which it provides for the adoption of a portable inspection lamp. Where such a lamp is used on a car designed to carry batteries for ignition purposes alone, of course a considerable length of flexible cable is required in order to provide means of access to all parts of the machine. But where the car is wired for electric lights, it follows that, with a relatively short length of cable and a socket plug of standard type, it is possible to connect in the inspection lamp at any one of no less than five points about the machine, permitting free use of the lamp.

### To Prevent "Catching on Behind."

When driving in the city, operators should take pains to see that unused trunk racks are folded and well secured. Unless this precaution is taken the ubiquitous small boy is apt to find a secure and comfortable resting place on the rack, where, if the top happens to be down, he is perfectly concealed from the driver. Besides tending to work injury to the finish of the tonneau, such ride stealing exploits are quite apt to result in injury to the youngsters, not infrequently causing inconvenience and delay to the driver of the car, even though he may be wholly blameless in the matter.

## A. A. A. ELECTS A NEW SECRETARY

**Elliott Resigns and Is Succeeded by Bruce —Other Transactions at Meeting of Executive Committee.**

The American Automobile Association has a new secretary, Robert Bruce, of New York City. He was elected to the office at a meeting of the executive committee held on Tuesday last, 3d, and succeeds Frederick H. Elliott, who, after more than three years' faithful service, resigned to become secretary of the so-called Touring Club of America, the New York proprietary corporation, which enlists "subscribers" as distinguished from voting members.

For several years past Bruce has been engaged in Blue Book work and is therefore well posted on roads and touring matters. He is an earnest, studious, methodical man who knows how to apply himself to any task he may take in hand.

Charles Thaddeus Terry, chairman of the legislative board, who was present, reported his intention of going to Washington to look after the fate of the Federal registration bill, which, despite the assurances of the lawmakers to the contrary, has been allowed to slumber throughout the present session. A delegation from the Chicago Motor Club, having in charge a petition carrying over 5,000 signatures secured in Congressman Mann's district, is about to press the matter with Mr. Mann, who is chairman of the Interstate and Foreign Commerce committee, which has had the measure in charge.

From Governor T. M. Campbell of Texas, Mayor S. J. Hay and the Board of Trade of Dallas an invitation was presented urging Chairman Butler to include the State of Texas, and the city of Dallas in particular, in the itinerary of the forthcoming Glidden tour. The pathfinder, who has already moved on into Kansas, has included Texas in that part of the Glidden map already plotted. The week of June 6 was officially designated as "Orphan's week" for the A. A. A. clubs.

Among those present were President L. S. Speare, First Vice-President Robert P. Hooper of the Automobile Club of Germantown, Powell Evans, chairman Touring Information Board and president of the Automobile Club of Philadelphia; A. H. Knoll, Automobile Club of Buffalo; J. H. Edwards, Automobile Club of Hudson County, N. J.; H. A. Bonnell, New Jersey Automobile and Motor Club; A. E. Lerche, Automobile Club of Springfield, Mass.; S. A. Miles, National Association Automobile Manufacturers; A. G. Batchelder, chairman executive committee; Charles Thaddeus Terry, chairman legislative board; S. M. Butler, chairman contest board, and Robert Bruce, the newly elected secretary.

**"PLUGGER" ARRIVES IN NEW YORK**

**Mile-Hunter from Michigan Pays a Visit and Goes On—Its Picturesque Appearance and Record.**

Splashed with the mud of many states and its body panels "tattooed" with a motley collection of hotel labels, advertising stickers, initials and other decorations which attest to its wide travels, the Regal "Plugger," which left the Regal factory in Detroit, Mich., on April 11, on a 5,000 miles "plug" among the Regal representatives,

"circle." Its total mileage is said to be 18,000, and it brought back to New York the travel stained American flag which former Mayor McClellan presented to it at the start of its transcontinental trip last year. After resting for a day, the car started on the second leg of its trip, which includes Philadelphia, Pittsburg, Wheeling and back to Cleveland. Leaving the Forest City, the wanderers will "leave their cards" at Kansas City, St. Louis and Minneapolis.

An opportune arrival in Philadelphia on the 30th ult. permitted the crew to participate in the Quaker City Clu's "guessability" run to Atlantic City, and the battle-scarred car furnished quite a contrast to the other 100

**GLIDDEN ROUTE IS LENGTHENED**

**Omaha's Plea Is Heeded, Which Adds Another Day—Pathfinders Now Near to the Turning Point.**

Strenuous indeed has been the past week in the peregrinations of the Glidden pathfinders who are exploring the great Southwest, laying out the route which the great national caravan will traverse next June. Worn by the racking and exhausting efforts of the previous week's battles with mud and swollen rivers, Driver Joe Gardham succumbed to the scorching heat of the Texas plains near Decatur Tex., on Saturday, 30th ult., and was prostrated at a ranch nine miles from that town. After a good rest, however, he was able to take the wheel again on the following day and the scouts made Lawton, Okla., on Saturday night.

Good roads on Sunday enabled the pathfinders to progress to the extent of a hundred miles, and that night they enjoyed the hospitality of Enid, still in Oklahoma. Another good run on Monday, 1st, brought the loggers into Kansas, the prohibition state, and they put up for the night at Wichita, the day's mileage being 120. Over 1,800 miles of the tour have been mapped out at this writing, but after reaching St. Joseph, Mo., the scouts will deviate from their original schedule in compliance with instructions from Secretary Butler of the American Automobile Association.

Returning from California, Secretary Butler stopped off at Omaha, Neb., and after President W. R. McKeen of the newly organized Nebraska State Automobile Association had his ear for a few minutes he succeeded in convincing the A. A. A. official that Omaha's recent efforts in behalf of the A. A. A. should be recognized by switching the tour that way for a night stop. Accordingly, Dai Lewis, who is plotting the route, received instructions to include Omaha in his itinerary, so the pathfinders now are headed that way and will not arrive in Chicago, the end of the tour, as soon as expected. By the same token the route will be longer than at first announced, which will add an extra day to the tour. The new stretch commences after leaving St. Joseph and the original route will be picked up again at Des Moines, Ia.

**Motor Stages for Famous Battlefield.**

The directors of the Chambersburg, Gettysburg and Waynesboro Electric Railway intend to operate an automobile line between the terminal of the line and the Gettysburg battlefield. They propose to purchase several large passenger automobiles and inaugurate a regular schedule between the two places.



REGAL "PLUGGER" LEAVING NEW YORK FOR PHILADELPHIA

rolled into New York City on the 28th ult., escorted by an enthusiastic party of local Regal owners headed by Manager E. S. Hilton of the metropolitan branch. The car is driven by Lee Cuson and R. W. Dean, factory representatives, and on reaching the metropolis completed the first lap of its schedule, 1,335 miles, having visited Toledo, Buffalo, Rochester, Syracuse, Albany, Boston and Providence in that order since leaving its home city. According to its routing, it will have crossed 14 states and touched 64 cities when the circuit is completed.

The car first began its long distance stunts last July, when it made a transcontinental trip from New York to San Francisco, 4,032 miles, in 30 days, and is said to have piled up an additional 11,281 miles in demonstratng work in the interval between the finish of its ocean-to-ocean jaunt and the present girdling of the Regal

spick and span machines. True to its name, the "Plugger" plugged along consistently and checked in well inside the time limit.

Regarding its extensive travels the car "speaks for itself," for one has but to glance at the hood and body to learn its past career. On the hood and tonneau panels are signs telling of its 'cross-continent ramble and the mileage, and this respectable jaunt in itself is considerably swelled when the eye rests on the side panels of the front seats, where "all who run"—or walk, either—may read of its extensive demonstrating service. Each tonneau door is embellished with the Regal "Plug-o-meter" and the distance of the present trek. Significant of the road conditions which are met, the shovels and rope which are carried on the running board are impressive evidence that there still remains much unimproved "high-way" in this wide land.

## AUTOMOBILES FOR EVERYBODY

**Bright Young Man Offers "Any Make" on Instalments—No Security Required—Prospective Purchaser's Experience.**

To coin a more or less legitimate word, "autotopia" has arrived, that long expected day when any man, however humble, can purchase an automobile for "so much down, so much per week," that happy day "has come" at last—that is, it has come unless the plans and projects of one Guernsey Stevenson go sadly awry.

Stevenson, a very nervous young man of 30 or 32, who lived interestingly in Philadelphia before coming to the bigger city, is operating as the Terminal Auto Co., in the basement arcade of the Hudson Terminal Building in New York, and it is there the seeker for automobiles "on easy payments" must betake himself.

Stevenson really hoped to have the glad news spread to the wide, wide world ere this. He had prepared fine, large advertisements for a large number of daily papers, but somehow or other they have not yet appeared—due, however, to no unwillingness on the part of the former Philadelphian. He still is hoping that others will do as one Jersey City publication has done—i. e., print his advertisement and let the dear public know where "any make of automobile on instalments," may be procured. That is the tenor of his ad. and of his business cards, which, however, do not bear his name.

When the Motor World man called at the Terminal Auto Co.'s "salesrooms," Stevenson was absent, but as the office boy said he would return shortly, the visitor decided to wait, and was shown to a chair in the private offices. The "salesrooms" consist of a plush-rope space, nine-tenths of which is occupied by a Western made car that closely resembles a well-known foreign model. The remaining space constitutes the private office.

When the Terminal Auto Co. arrived in person and the Motor World man made known his "desire" to purchase a medium-priced car on the instalment plan, the negotiations commenced. Stevenson appeared to be suffering from Philadelphia nervousness, but between pencil taps, finger-drumming and picking at his trousers leg seam he managed to tell the prospective purchaser that he could supply "any car that is made" on payment of 20 per cent. cash down and the balance at the rate of 10 per cent. per month. He would guarantee to produce the car within two weeks after the first instalment was paid. Usually, he said, he could get a car within two or three days, but he always specified two weeks, as he didn't want customers to be dissatisfied. He inquired the make of car the Motor World

man preferred. Being told that a Maxwell or Overland would do, Stevenson delved into the recesses of a desk drawer and brought out a bunch of catalogs. He found the Maxwell book, but was sorry—so sorry!—that he had lost the Overland catalog. However, the loss didn't matter, as he knew the prices. A Maxwell car listing at \$1,000 could be had by paying \$200 down and \$100 per month for eight months. The possession of an Overland would entail \$210 down and the remaining \$840 in eight monthly instalments.

In view of the fact that immediate deliveries of most cars are difficult to secure, the Motor World man wanted assurance that he could get his car within two weeks. He also wanted to know what kind of security he would have to give.

"You do not have to give any security," replied Stevenson. "All I require is the names of two persons who know you."

Purchasing an automobile at such easy terms and without giving security to bind the payments seemed to present such possibilities that the seeker for knowledge wondered how it could be done. He was told.

"You see," explained the Terminal Auto Co., "the car isn't yours until the last payment is made. In the meantime you are operating it under a lease. I am not afraid, as I am fully protected. Each car put out by me is insured against fire, accident or theft. If you run away with it the company will get after you for larceny, and if anything else happens to it I am fully protected. I buy my cars for cash direct from the manufacturers and take the risk of getting my money."

"Will I give a demonstration? Of course, but I haven't got the cars here just now. I am going to have this entire floor pretty soon and then will have all makes of cars on display. But I'll tell you what to do. You can go up to the Overland and Maxwell places and they will give you a demonstration. Don't tell them you are going to buy a car of me, but say that you are in the market for a car. Don't pay any deposit, because they will expect you to buy a car from them. It isn't necessary, anyhow, as they'll be glad to give you a demonstration. And, by the way, bring me back an Overland catalog."

The Motor World man had a friend—a college student—who might wish to purchase a car at the same terms, but he wanted a much more expensive machine, if it could be secured.

"Any make of car manufactured you can get on those terms—20 per cent. down and 10 per cent. per month," asserted Mr. Stevenson. "What kind of car does your friend prefer?"

He was told that the friend had tried to get a Pierce-Arrow and a Locomobile, but he couldn't get a delivery, because he was informed that the output for the year already was sold.

"Don't you believe it," said Stevenson. "That's what they all say. It sounds good in the papers. Say, looky' here. What the h— are their factories running for if they have sold all their cars?"

It being suggested that perhaps they were working on orders long in hand, or maybe on next year's product, the instalment man's sharp features assumed the expression of a frown, and he grunted:

"Oh, fiddlesticks! I'll guarantee to get you any car made inside of two weeks."

The Motor World man then left, ostensibly to get a demonstration of the Overland and Maxwell cars, but promised to return in the morning with the initial payment for which car he selected. At the Overland and Maxwell establishments they laughed at Stevenson's pretensions, and hoped he would show them how to get more of their own cars, which are badly needed for full cash purchasers.

Doubtless the other metropolitan agents and branch houses that are crying for cars and which yet cannot afford to sell on the instalment plan, will be interested and will learn something from the young man who can get any car he wants whenever he wants it and sell it on easy payments without even requiring security for it. The undertaking cannot well fail to prove uncommonly instructive.

### Automobile Mail Service for Nashville.

Following closely upon the heels of the report that Los Angeles, Cal., had decided to install motor cars for collection of mails comes the news that Nashville, Tenn., is to have a complete automobile mail-collecting service. Postmaster Wills has forwarded to Washington recommendations to that effect, in consequence of a highly satisfactory series of tests with motor cars. He found that by the use of the automobiles for the collection of rural mails, delivery was advanced twenty-four hours.

### Garage "Converted" into Church House.

While a number of churches and parish houses have been converted into garages, a turning of the tables has been recorded. The first instance of the kind occurred, curiously enough, in New York City, where the big garage at Madison avenue, between 74th and 73d street, is being made over into a parish house for the Madison Avenue Presbyterian Church. The work will cost when finished about \$8,000.

### Double Control for "Road Lessons."

As a medium of instructing pupils in "road driving," one of the big New York automobile schools has installed a special car fitted with a double control, so that two persons simultaneously can have control of brakes, clutch, and gasoline pedal. This arrangement is particularly valuable in emergencies when it would be too late for the instructor to reach over and catch hold of the ordinary levers.



## JUNK MAN WHO WAS "UP TO SNUFF"

**Sold Parts and Even Built Engine from Factory Scrap—Then Traded on Manufacturers' Repute.**

Building motors out of parts discarded by the inspection department of a well known automobile manufacturer and afterward offering them for sale under the maker's name was the audacious yet simple project disclosed by an investigation undertaken by the manufacturer upon learning that a motor bearing his name plate was being vended by a man in no wise connected with his organization. The resulting discovery that the junk man who handled the waste material from the plant was disposing of certain parts outside the regular market for scrap, caused an order to go forth providing that all parts be broken up before being thrown out. Incidentally, the discovery reveals a possible method of activity hitherto unnoticed and one which manufacturers in general will make haste to suppress if detected in connection with their own operations.

The enterprise, which in the case in point took shape in Buffalo, N. Y., and resulted in an offer to sell a Pierce-Arrow motor reclaimed from the scrap heap, was made possible by the close methods of inspection which prevail in the construction of the Pierce-Arrow Motor Car Co.'s products. Parts which varied only by a few thousandths from the required standards which were discarded from time to time and frequently for no other reason than that they happened to be a very little over or under size, ultimately found their way into the hands of the enterprising counterfeiter, who with the expenditure of only a relatively small amount of machine work and labor thus was enabled to produce a very good imitation of the genuine article, which he promptly labeled "Pierce-Arrow."

Needless to add, means were taken speedily to prevent further efforts along the same line, and arrangements made to break up all discarded components, as already indicated, in order to render them useless for all purposes save that of raw material. The Buffalo enterprise is a natural growth of close inspection methods and the policy which many of the larger and more successful automobile manufacturers have inaugurated of throwing out all materials, manufactured or otherwise, which fail to come up to specifications.

### How to Oil Chains While Driving.

Where double chain drive is employed on cars which are called upon to make long runs under unfavorable road conditions, it is a good scheme to provide a method of oiling the chains at frequent and regular intervals. Where the oil-tight chain case is

used, of course this is automatically provided for. Otherwise it readily is possible to contrive an arrangement for the purpose by mounting a couple of small funnels, one over either of the driving sprockets and at such height as easily to be reached from the driver's seat. From the funnels copper tubes can be led to points directly over the chains. By this means it is possible to reduce the friction of the chains and, if employed in connection with frequent and thorough cleaning of the links and sprockets, the method should work no harm to the transmission.

### 3-In-One as a Magneto Lubricant.

That remarkable lubricant, 3-in-One oil, which already had been applied to a wide variety of uses, now has been found equally useful for the bearings of magnetos. Even before its makers, the 3-in-One Oil Co., 42 Broadway, New York City, had decided to place it on the market for this specific purpose, it had been tried and found satisfactory and its use recommended by one of the most prominent makers of high grade cars, and now its use as a magneto lubricant is to be aggressively pushed. 3-in-One is a clear oil compound free from acid and that does not dry out or gum nor tend to collect dust like mineral oils. The 3-in-One Oil Co. always has maintained the policy of trial before purchase, and this is to be carried out in connection with the new application of the oil, which is to say that a liberal sample bottle of the oil, sufficient to enable it to be given a thorough test, will be supplied free of cost to anyone asking for it.

### Trying to Lift Gas Truck's Embargo.

With the growing use of gasoline trucks, efforts have been renewed to induce the New York insurance authorities to reduce the extra fire hazard of 10 per cent. which is imposed upon the owners of piers who permit such trucks on their properties. Since the extra hazard was imposed, some two or three years since, it has served practically to bar gasoline vehicles from the New York waterfront, few of the pier owners being willing to assume the risk and added expense. Relief rests with the New York Fire Insurance Exchange, the manager of which states that the Exchange committee probably will recommend a reduction of 5 per cent., but he appears to have small faith that the Exchange itself will adopt the recommendation.

### Locking Ignition Saves Batteries.

Whatever may be said of the futility of installing locking devices in the ignition circuit as a means of preventing the car from being stolen, there is one important argument in favor of the practice. It prevents meddlers from switching on the batteries and causing them to run down when the machine is left unattended for any length of time.

## GETTING RID OF THE GLOBULES

**One of the Many Efforts to Improve Carburation—Good Results of Breaking Up the Gasolene.**

With implicit confidence in the manufacturer of his car, the motorist long has solaced himself with the conviction that, whatever mystery surrounded the performance of the machine in other respects, the action of the carburetter was one simple of understanding and perfectly understood. True, numerous theories have been advanced about carburetter action, and a bewildering variety of shapes, sizes and patterns have been offered for use. Notwithstanding, the average automobile owner who ever gave the matter a thought, has been certain that air flowing into the mixing chamber to satisfy the partial vacuum created by the movement of the piston in the cylinder, has gasified a thin stream of fuel which is squirting out of the nozzle. The mixed fuel vapor and air thus created is known in automobile language as the "gas," and ordinarily is supposed to be a body of uniform constituency and inflammability, and to respond unvaryingly in quantity and quality to the exact requirement of the motor.

Growing intelligence on the part of the motoring body, coupled with a certain eagerness on the part of those who are inflated with their own ideas on the subject, however, has brought about a marked change in regard to the popular understanding of what the gas really is, as served to the average motor in automobile use. Candor compels the admission that in most cases it is not a gas at all, but plain fresh air, partially impregnated with fuel vapor, but also laden with an unwieldy mass of gasoline in liquid form unaltered, save that it is subdivided into a multitude of very fine particles. That the ideal requirement of a uniform vapor seldom is attained even under the most favorable of conditions largely is a matter of theory, it is true, but theory supported by the best of circumstantial evidence. For example, when running with a rich mixture, it occasionally is possible to catch a few drops of pure, unaltered gasoline on a sheet of paper held near the muffler discharge pipe of an engine. This, of course, shows that, theory aside, a certain small quantity of fuel actually passes through the cylinder, suffers the intense heat of the explosion, and escapes unvaporized, let alone being burned. By more abstruse—and to the layman less convincing—methods it has been shown that in many cases pure gasoline vapor is present in the exhaust of an engine which, seemingly, is running under normal conditions, and performing its expected amount of work. It is possible to show this by means of a chemical analysis of the exhaust.



Little windows let into the sides of the intake manifold at various points also have been used by experimenters to study carburettor phenomena, the result being that under some circumstances, the glass panes in the manifold were covered with a fine spray of liquid fuel which occasionally accumulated in sufficient quantities to trickle down, just as water gathers and runs down the southeast window when a southerly fog-laden wind is blowing.

By these and other methods of investigation and reasoning those who are most familiar with the carburettor problem have arrived at a point where they have embraced the "globular" theory. Philosophical observation of the performance of the ordinary garden hose assists materially in understanding the principal part of the globular theory. Those who have opportunity to study the action of this implement, or whose memory is sufficiently good to permit its operation to be recalled vividly to mind, are aware that after the water has been projected for a relatively short distance it is broken up into a fine spray which is composed of very fine globular particles. Precisely similar is the action which goes on within the ordinary carburettor. The gasolene, lifted from the jet by air pressure on the body of fuel in the float chamber, and urged forward by the frictional contact of the rapidly flowing air in the mixing chamber, follows practically the same law which obtains in the performance of the ordinary hose.

But it must be borne in mind that what is desired is not to spray the fuel, but to vaporize it; since that is the first of the several functions which the carburettor is called upon to perform. Vaporizing gasolene, or any other liquid fuel, is precisely similar to the process of vaporizing water—that is to say, converting it into steam. It requires the application of heat. When heat is applied to any liquid, the first effect is to raise its temperature; after a certain amount of heat has been absorbed, however, the temperature ceases to rise, and the addition of more heat goes to promote the conversion of the liquid into a gas. Pressure also is an important consideration in general, but in the case of the carburettor, it is not taken into account ordinarily since it is reasonably constant.

Converting the fuel into a fine spray and causing it to mingle with the air in a misty state promotes its evaporation, since by subdividing it into a mass of tiny globules it causes a maximum amount of surface to come into contact with the air. And it is important to note that the rate of heat interchange between the air and gasolene depends both upon the difference in temperature between the two substances and also upon the total area of contact through which the interchange may be effected.

Why, then, does it happen that a perfectly good engine will draw in, compress, burn, expand and exhaust a body of gas, carrying

with it a few particles of gasolene which pass through absolutely unscorched, so to speak? The answer must be that it is because (1) either insufficient time is given the mixture to permit the globules to become thoroughly absorbed and the vapor disseminated throughout the air, (2) that the globules are too coarse or, what amounts to the same thing, too closely arranged to permit the air to mingle with them perfectly, or (3) that the difference in temperature between the air and gasolene is not sufficiently great to promote a rapid interchange of heat. Obviously the question largely is one of vaporization, though the imperfect intermingling of the ingredients of the mixture also may have something to do with it.

Various methods of preventing this difficulty have been adopted by different designers. One clings to the idea that the time element is the most important one to consider, and therefore constructs an intake manifold having a very long path for the gas to travel, believing that by this means a better intermingling of the constituents can be accomplished and hence, a more nearly perfect gas developed. Another inventor adopts some ingenious method of promoting the spraying effect of the nozzle, such as providing a baffle surface for it to impinge against upon leaving the orifice, increasing the velocity of the air by reducing the cross-sectional area of the mixing chamber, or even replacing the single nozzle with two or more, with the same end in view. Still a third carburettor maker, certain that the whole difficulty lies in a lack of heat supply in the gas, increases the temperature of the mixing chamber, extends the jacket to cover a large proportion of the manifold, or even provides a jacket close up to the cylinders, in order to ensure an adequate heating effect.

In what has been said will be found no reference to compensation. That is another and no less intricate phase of the carburettor problem, and one which for a time engaged the attention of inventors almost to the exclusion of all else. But continued experiment revealed the fact that the perfectly satisfactory carburettor was not to be achieved by way of the automatic air valve alone, nor by any other of the several methods of compensation which have been proposed and tried out. Just at present the globule practically has eclipsed the compensating device in the eye of the carburettor man, to use a rather extravagant figure of speech.

Not that the need of compensation ever was overrated or its difficulties of accomplishment unduly magnified, but rather that a better compromise has been effected in respect to this obstacle than as yet has been applied in the suppression of the obstructing globule. It is absolutely essential that the mixture of gasolene vapor and air shall be proportioned correctly at all speeds and under all conditions of throttle opening.

Also it is recognized as being by no means an easy matter of accomplishment when the widely varying conditions which have to be subserved in the operation of the ordinary automobile engine are considered. But it is recognized as an even more pressing necessity just now, to secure the absolute and perfect vaporization and intermingling of the constituents, regardless of the degree of success which has been attained in regulating their proportions.

As for the part which the average motorist is permitted to play in this most important and—to the technically minded—interesting part in the development of the motor car power plant, it is for the most part that of the remote and partially mystified looker-on. Some there be who are willing and sufficiently interested to buy one and another new carburettor, thereby openly questioning the judgment of the manufacturer, and try them out after their own peculiar fashion. Nor are such experiments to be discouraged, either on grounds of futility or expense. They contribute in no small measure to the fund of general information and not infrequently breed new and sometimes helpful conclusions. Save in one respect, however, the average motorist in abandoning the exact arrangement provided by the manufacturer is striking out pretty much at random and in the dark.

Experience has proved that one practical method of assisting the work of the ordinary carburettor exists in a device of which the "Homo" is a good type, which in attachment form may be inserted in the intake line of any engine and which in the case of the Homo is a small pinwheel fan, mounted on ball bearings, which is caused to revolve by the flow of gas, and which in its revolution carries a wire mesh. The constant agitation of the gas produced by the spinning of the mesh results in the splitting up of the globules as well as in the diffusion of the heat which is in the air and thus perfects the vaporization and intermingling of the fuel with the air.

In this principle is found a method of improving the carburation of the average car, which may be carried out by the owner himself, and which in practice has been known to develop really astonishing results. As has been pointed out, the action of the ordinary form of jet and mixing device is unsatisfactory for reasons which are not clearly determined, though the inherent difficulty is well understood. By agitating the mixture it is plain to see that the gas within the intake pipe is caused to be thoroughly mixed and also that the globules tend to be split up into finer particles which more readily yield to the vaporizing influence of the air. The very simplicity of the method, coupled with the direct way in which it furnishes a means of combating the globular difficulty should render this class of device a particularly useful acquisition.

## WEIGHT'S RELATION TO UPKEEP

Franklin Man Indicates the Effect It Has  
on Car and Tires—Argues for Air-  
Cooling.

Speaking of the importance of economy in the maintenance of an automobile, George Babcock, of the H. H. Franklin Mfg. Co., of Syracuse, N. Y., in his lecture before the Brooklyn Y. M. C. A. called attention to the rapid increase of use of the motor car by doctors and other professional men, who are compelled to study the cost of upkeep even more than the first cost. He divided the question of economically running a car into two subdivisions—one relating to the cost of operation, the other to that of maintenance, including repairs. Included in the subdivision maintenance he names "investment" as being greatly influenced by the probable maintenance cost. In fact, he stated as a positive fact that the item of investment can seldom be considered when compared to the item of maintenance.

"It is unusual, said Mr. Babcock, "that investment in mechanical equipment which has somewhat high first cost does not turn out in the long run to be the most satisfactory from the standpoint of total cost; therefore, economy if considered in its best form will direct the selection of the machine that will require the least operating expense for a given output and one which will have the longest life. This is especially true now, as the time is past when the owner must change his car from year to year to be in continuous possession of a modern machine."

Turning from the mere general discussion of economy in operation, the speaker then named as one of the most important single factors in economical car operation weight of the body of the car. Besides the injurious effect which overloading the springs has upon the latter, and the discomfort it causes the passengers, the power of the engine is influenced in a very large degree by the weight of the car. Roadbed and wheel friction are increased by the car weight; raising of the car up the grades is purely a matter of car weight and is directly proportional to the latter. A heavy car, therefore, requires a heavier and larger engine; this heavier engine makes a heavier car, and this, in turn, causes more car and roadbed friction. A heavy car is hard to get started quickly. If the power of the engine is applied too quickly, the tires slip; in trying to stop quickly a heavy car will slide for some distance on the tires.

Taking up the matter of cooling the gas engine, the apparatus for which has considerable to do with the weight of the car, Mr. Babcock then proceeded to show his audience why, in his opinion, air-cooling is

more efficient, more economical and more satisfactory than water-cooling, the former, of course, being the chief characteristic of the Franklin car.

"The engine power," he explained, "is developed by the expansion of the gas due to the heat which it generates in burning. This limit of heat is measured by its destructive action on the cylinder lubricating oil. Cylinder oils have now been developed to a very high degree of heat resistance for use in gas engine work. The limiting continuous temperature under which oils will lubricate is 350 degrees. The piston rings and cylinder walls of cast iron and valves of nickel steel—if you will recall the materials of a common stove—are not destroyed at exceedingly high continuous temperatures. The allowance in the design for expansion due to heat can be easily cared for. Lubricating oil is therefore the only other substance in this heated area, and, as this is the least refractory, provision need only be made for its durability.

"It will be noticed that the safe temperature which we have mentioned is considerably above the boiling point of water. If water surrounding a cylinder boiled at the cylinder wall the steam formed would prevent the circulation of colder water in the confined space, and no cooling could occur. In a water cooled engine the temperature at the wall must not, in continuous operation, be raised above 212 degrees; usual practice is 200 degrees. Therefore to secure a higher wall temperature some medium must be used that will not vaporize at less than 400 degrees, or vapor—such as air—must be used.

"If we can then lubricate other wearing parts of the engine satisfactorily and the temperature of the cylinder wall is kept below the burning point of the oil we have no need to fear engine trouble. With the modern positive feed oiler such lubrication can easily be obtained.

"Again, as we have seen, we should maintain, for economy's sake, the highest possible temperature in the cylinder that will allow of reliable operation. Ignition is surer at a high than at low temperatures, and the resulting burning mixture is more rapid. Therefore, the economical temperature will be limited by the safe limit of the oil. Economy in heat means economy in power, and economy in power means a light weight engine and car, and this means economy in maintenance of car and tires.

"Up to this time the automobile gasoline engine has been compared in weight and economy to the steam engine, electric motor or stationary type of gas engine, and the public has been satisfied. This is, however, now changing. The economical operation of gas engines in certain motor vehicles is being compared to the operation of similar installations. This is the only true comparison.

"The particular reason that the Franklin company adopted the method of air-cooling

was that after a considerable amount of experimental work it was found that an engine could be readily cooled by air if sufficient amount of cylinder surface could be exposed and the air changes sufficiently rapid over this surface. Various methods were tried to secure this desirable feature.

"In the 1910 model the entire engine is enclosed by the boot and diaphragm. The suction by the sirocco fan flywheel draws the air through stacks about the cylinders. This passes uniformly over the cylinder walls and flanges and gives absolutely positive and uniform cooling. It is a very easy matter to maintain the cylinder wall temperature by this method as low as 210 degrees, but the design is such as will allow of about 350 degrees."

### Court Rules Taxicabs "Preferred Risks."

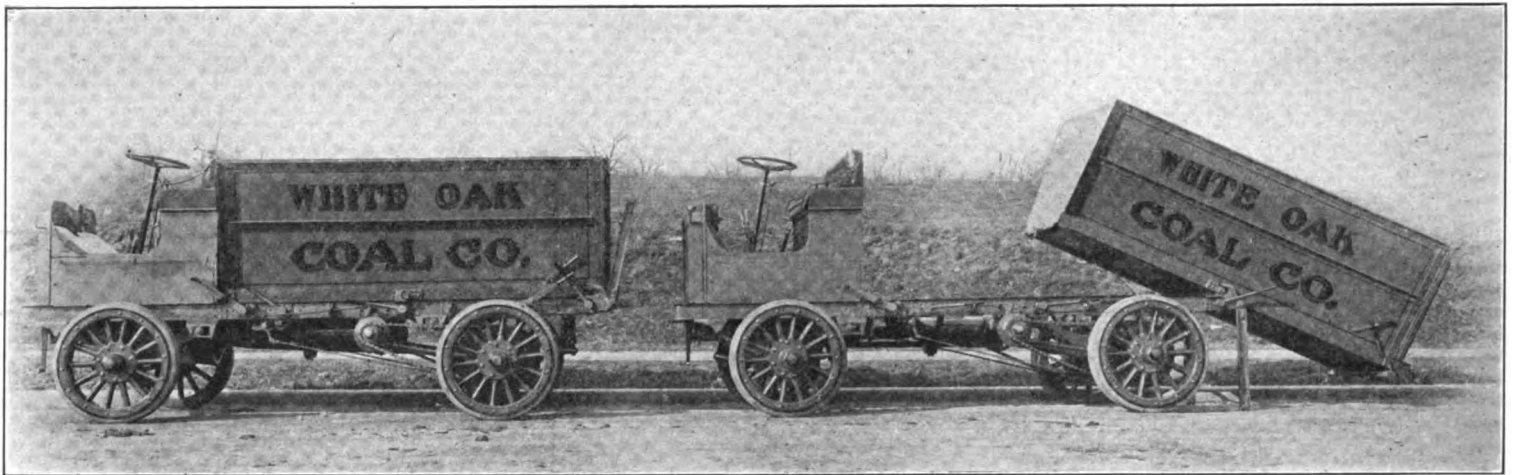
By the granting of a double indemnity in a suit to recover the full amount of an accident insurance policy, the Court of Common Pleas, in Philadelphia, has placed the public motor cab in the class of "preferred risks," which is to say that, besides being given full recognition as a public conveyance, the taximeter cab is automatically given the same position in the accident insurance field as railway cars, steamships, trolley cars and elevators. The decision arises out of the purely legal opinion that, from the nature of its mission, the public service motor car becomes a public conveyance in the eyes of the law.

The action in which the opinion was rendered was brought by Annie E. Primrose against the Casualty Co. of America to recover for the death of her husband, Frank J. Primrose, who received fatal injuries in an accident while riding in a taxicab from Essington to Philadelphia. Primrose carried a \$10,000 accident policy in the Casualty Co., which contained a clause providing for double indemnity in the case of an accident to the insured while riding in a public conveyance. The company paid the \$10,000, but contested the claim for double indemnity on the ground that the motor vehicle was not a public conveyance within the meaning of the policy. Such a vehicle, it was asserted, had no regular route on the public streets, no unchanging termini, and while hired out was in the absolute control of the hiring individual.

Judge Kinsey, who first heard the case, directed the jury to award the widow the additional \$10,000 under the policy, and his action was sustained by the per curiam opinion of the court, which in part says:

The Automobile Company of Philadelphia was a common carrier within the ruling of *Lloyd vs. Haugh*, 223 Pa., 148; its conveyances were, therefore, public conveyances within the terms of the policy, and the testimony shows that they were provided for carrying the public as passengers for hire. The deceased husband of the plaintiff was at the time of the accident riding and being carried in one of those conveyances for a stipulated fare or reward. He was being carried as a passenger from one point to another.

SPECIAL COMMERCIAL DESIGNS FOR LARGE LOADS.



GRAMM DUMPING GASOLINE COAL WAGON SHOWING OPERATION



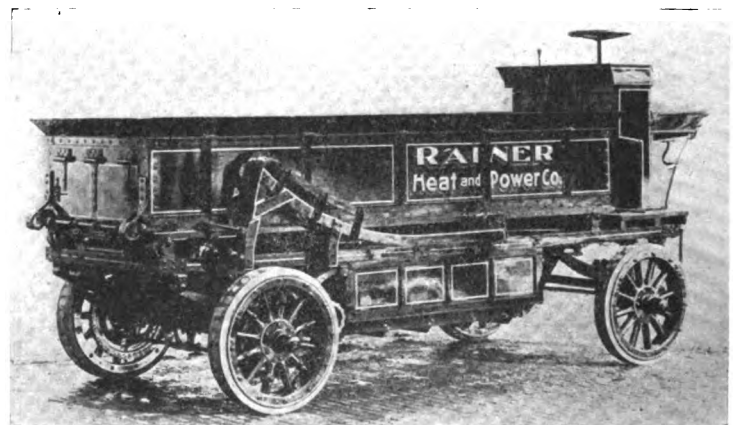
HAULING COKE IN DETROIT



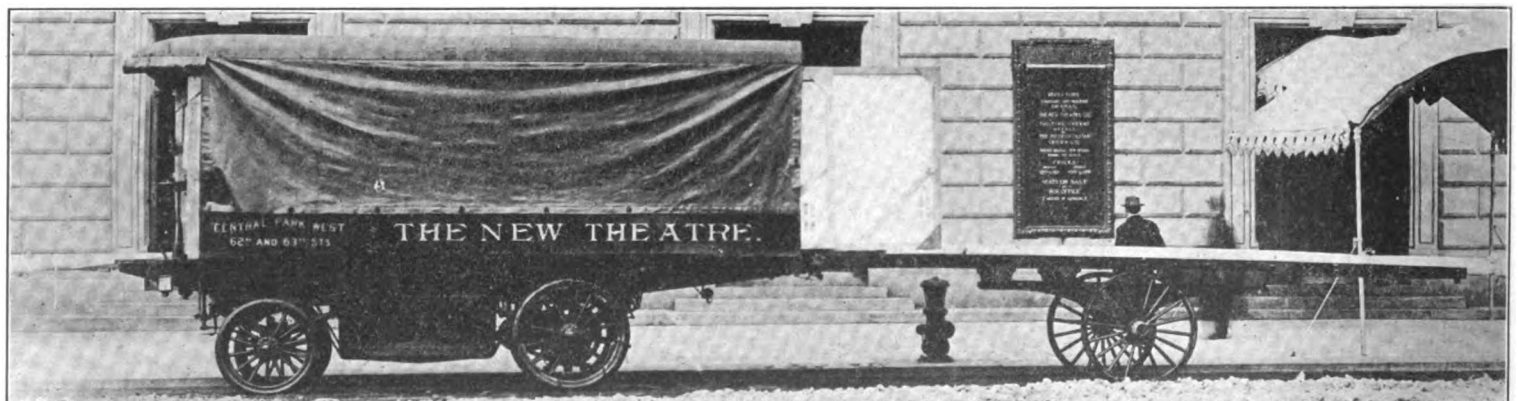
HAULING COAL IN NEW YORK



DUMPING GEAR OF STUDEBAKER WAGON



STUDEBAKER ELECTRIC COAL DUMPING WAGON



ELECTRIC PROPERTY TRUCK WITH TRAILER USED FOR HAULING SCENERY

## WHAT TO DO IN CASE OF ACCIDENT

### Why Motorists Should Have Knowledge of First Aid—Some of the Commoner Injuries and Treatments.

That accidents will happen in the best of regulated families is an uncontrovertible truth, and the frequent recurrence in the daily papers of that stock phrase "died before medical attention could be summoned" drives home the force of the argument, that every person should acquaint himself with the rudimentary essentials of first aid to the injured.

Particularly is this true with automobilists, for although the record of automobile accidents is less than is occasioned in other ways, as proved by statistics, it follows that the motorist has greater reason for such knowledge than other persons, for the very simple reason that because of the character of the vehicle, when accidents do occur they generally happen in remote places where it is not always possible to secure prompt medical assistance.

A knowledge of first aid to the injured also is useful for the automobilist because he may at any time be called upon to play the role of good samaritan. In many cases where a person is bowled over by a street car, or injured in some other manner, it is a passing automobile that is requisitioned as an ambulance or to bring a doctor. The value of knowing what to do at the right time in such instances is apparent.

#### Shock.

One of the first things for a beginner in first aid to learn is the prime importance of recognizing and treating shock. The definition of shock is a depression of the nervous system, and may be slight or profound, according to the constitution of the person and the extent of the injury received. In slight injuries the symptoms may be hardly apparent, while a form that would very well illustrate a severe case of shock would be that following a serious railroad injury, and which could hardly be mistaken. There is no other condition which so closely resembles death. It is very necessary that shock, or collapse, be given immediate attention, for if there is no reaction within a certain time (about an hour) the patient will succumb to heart failure. If the constitution of a person be quite sensitive, however, a fright may be sufficient cause to produce shock.

The symptoms which would denote that shock is present are as follows: There is apathy, partial or complete unconsciousness. The breathing is feeble, the face is pinched and anxious looking; the eyelids are in a drooping position; the eyes are lustreless, sunken deeply and turned upward, the pupils generally being dilated. The pulse may

be absent at the wrist, or, if noticeable, is rapid, irregular and weak. The skin is cold and pale; the surface of the body is covered with a cold perspiration, the forehead being covered with large beads of sweat. The skin is sometimes so cold that the person shivers. The mind may wander, and the fingers and nails may be of a bluish color. While articulation is difficult, there is no paralysis present. The sensibility to pain may be so blunted that an operation can be performed without the patient suffering.

When reaction sets in the color and warmth slowly return, the eyes become brighter and the mind clearer; the pulse becomes stronger, and the patient seems more interested in the surroundings. Vomiting is regarded as a favorable symptom, and is usually a sign that reaction has commenced. Reaction does not always insure the safety of the patient, however, as it may be interrupted by hemorrhage or failure of the heart—and death. In cases where there is an injury to the head, the reaction may be so intense as to produce serious cerebral diseases, such as inflammation or congestion of the brain; for this reason the patient should be watched carefully, and the excessive reaction taken care of by applying cold to the head and warmth to the extremities and placing the person in a sitting position.

#### Treatment of Shock.

Loosen the clothing and ascertain whether hemorrhage exists, or whether there is some other symptom present requiring treatment before the attention be turned to the shock. Unless there is something else very necessary to attend to, the shock should receive the first treatment.

If possible, the patient should be conveyed to a place nearby, where the treatment may be better performed. While being removed, the head should be kept as low as, or somewhat lower than, the body, or the extremities may be raised, so as to help the flow of blood to the brain. If possible, four persons should carry the patient, one for each extremity, care being taken not to let the body sag. If one or more bones of the extremities be fractured, a temporary splint may be applied while transportation is being made. After the place selected has been reached, the patient should be carefully stripped of clothing, cutting it away, if necessary, to avoid delay. He then should be placed in a warm bed, his head still being kept low.

The next thing to be done is to apply warmth to the surface of the body, and, if no hemorrhage exists, internal stimulation. The first may be accomplished by applying hot water bottles, bags of hot salt, hot bricks wrapped in paper, etc., to the extremities, under the armpits, between the thighs, and to the pit of the stomach, but not to the head, as the heat may cause congestion when reaction occurs. Dry heat is the es-

sential element. The heat should not be so intense that burns or blisters are caused, for it must be remembered that the person is not in a position to say whether or not the heat is too great. A hot plate enveloped in a cloth may be placed over the region of the heart, and, if unusual vomiting occurs, mustard plasters applied over the stomach. Friction is invaluable in exciting the circulation, and should be resorted to when heat in other forms cannot be applied.

The internal stimulation is governed by the condition of the patient. If able to swallow, he should be given about two teaspoonfuls of whisky or brandy, with a small amount of hot water, or, better still, hot milk; this may be repeated every ten or fifteen minutes, until four or five doses have been taken, or reaction becomes apparent. When the latter occurs, the above stimulation should be lessened or discontinued. Excessive amounts of liquor should not be given, as it might cause undue vomiting and encourage excessive reaction. If several large doses have been given with no effect, it is a sign that the stomach is unable to absorb the liquid; its further administration would be useless. If the person is not able to swallow, the liquor should not be forced down, as this might cause strangulation. In cases where the fluid cannot be given through the mouth, a tablespoonful or more of the liquor in half a cupful of warm milk or water can be introduced into the rectum by a syringe, and may be repeated every fifteen or twenty minutes; also pint injections of water as hot as can be borne by the hand. One half the amount of alcohol diluted as above would be a substitute for the liquors, if the later are not to be had. Beer and ale, containing but two or three per cent of alcohol, would be worse than useless, simply filling up the stomach, with no satisfactory result. A small amount of spirits of ammonia or other, or about four or five drops of nitrite of amyl, on the palm of the hand, or on a handkerchief, and placed under the patient's nose has a decided stimulant effect. Warm turpentine rubbed up and down the spine can be used with benefit, if it does not bother the treatment already begun. Stimulants can also be administered very effectively with the use of the hypodermic needle, but this should not be attempted by the layman. In desperate cases, artificial respiration may be resorted to, but when a patient reaches such a state that this becomes necessary, it is very doubtful whether it will prove of any avail. It does not hurt, however, to try this means, as a person's life is well worth trying to save.

When the reaction has set in (if it is not a fatal case), some form of nutriment may be administered in small quantities, if the patient cares to take it. It must be of a sort that can readily be absorbed, for it would not be wise to call on the strength of a person to digest food, when he needs



all that he has to overcome the effects of the accident. Warm beef tea, or milk, or a sip of kumys, taken occasionally, will be found quite sufficient for the time being.

#### Contusions.

A contusion is an injury inflicted upon a portion of the body by a blow from a blunt instrument, also from a fall, or severe pressure, and resulting in the lacerations of blood-vessels (usually small) and other structures beneath the skin, the latter remaining unbroken.

The subcutaneous escape of blood is immediately followed by swelling and discoloration of the skin; the color being at first black and blue, then green, yellow and so on, until the the extravasated blood is removed by absorption, and the affected part regains its normal color and appearance—usually within two weeks. A black eye is a familiar example of a simple contusion.

In severe contusions, although the skin may at first be unbroken, the soft tissues are often so badly injured, that death of the affected structures (gangrene) follows.

In contusions which extend deeply into the tissues, the discoloration may not appear for a number of days.

When a contusion is followed by very rapid and extensive swelling, in which pulsation can be detected, it indicates that a large artery has been divided.

#### Treatment of Contusions.

Slight contusions need no special consideration. In those of a more severe nature the treatment depends upon the time that elapsed since the injury, and its gravity. If seen early, the indications for treatment are: (1) To prevent the further escape of blood in the tissues; (2) to counteract the pain, shock, or inflammatory action that may follow; (3) to preserve the vitality of the part which may be endangered in severe contusions; (4) to promote the absorption of the blood which has already escaped. Number one can be met by the use of hot (not warm) or cold applications, the latter proving more effective—particularly if used in the form of ice broken into small pieces and placed in a rubber bag made for this purpose, or in a bladder or towel, and applied to the part and retained only until hemorrhage is controlled. Although ice is valuable in checking the extravasation of blood, it should be used with care and not in all cases. In slight contusions, however, where the vitality of the affected tissue is impaired, the use of ice, by still reducing the vitality, may cause gangrene of the parts. Compresses soaked in dilute alcoholic solutions of whiskey, brandy, cologne, arnica, camphor, etc., or solutions containing acetate of lead (sugar of lead), carbolic acid, alum, vinegar, lemon-juice, or common salt, are also very efficacious. Elevation of the part affected diminishes the tendency to the further escape of blood. If shock accompanies the con-

tusion, it is to be treated according to directions given in a previous chapter.

In severe contusions, where the vitality of the part is greatly impaired by the obstruction to the circulation due to the escape of blood into the tissues and consequent swelling, the temperature of the part is lowered, and cold should not be used. The local application of warmth is then indicated, and should be applied in the dry form, as bottles filled with hot water, a bag with bran or oatmeal which has been heated, or whatever form of dry heat can be easily and quickly obtained, will answer. The part should also be surrounded by woolen cloths or any fabric that will serve to retain heat, and if a limb is the part affected, it should be slightly elevated.

#### Wounds.

A wound is an injury of the outer tissues in any part of the body, associated with more or less division of the skin and deeper soft structures, and produced by some mechanical agent.

An incised wound is one made by a sharp instrument, as a knife, or piece of glass. The edges of the wound, when brought together, fit accurately, and completely close the opening.

Hemorrhage constitutes one of the principal dangers of this form of injury.

Lacerated wounds are made by stones, falling against sharp metal edges, etc., and produce more or less destruction of the tissues about the wound, the edges being torn and ragged.

Punctured wounds are inflicted by instruments which are sharp and narrow-pointed, such as a bayonet, a broken spoke, a long splinter, which might have been torn from a fence that was smashed by a driver going through it, etc. Although the openings are quite small, the wounds usually penetrate to a considerable depth, and may injure important blood-vessels and vital organs.

A contused wound is one in which the division of the soft structures is associated with contusion at the point of injury.

Healing of wounds.—Although the healing of wounds is divided into a number of different classes by surgeons, it will be sufficient for us to recognize but two of them—union by first intention, and union by second intention, or granulation.

Union by first intention usually occurs when the edges of the wound fit together nicely, and are not displaced by hemorrhage or improper dressing; when foreign bodies are removed and the wound properly cleaned, and the injured part kept quiet. It is always desirable to obtain this result, which, besides other advantages, prevents disfiguring scars.

Wounds associated with considerable destruction of the tissue, as in lacerated wounds, heal by second intention, or granulation. The first step of nature is to remove the destroyed and useless tissue about the wound by the process known as sup-

uration, or "maturation," and sloughing. After the wound has been thus cleaned, granulation becomes apparent; little conical shoots about the size of a pinhead, and pinkish in color, are found filling up the cavity of the wound. These little bodies are very vascular, and when excessive in size, and too rapid in growth, they rise above the surrounding part, and are commonly known as "proud flesh." After granulation has entirely filled the wound, the upper surface becomes smooth, shining and red, which appearance is the result of what is known as cicatrization, and is called a scar or cicatrix. The scar gradually becomes even whiter than the normal skin, and undergoes more or less contraction. The glands of the destroyed skin are not reproduced in the scar, consequently hair does not grow from the new formation.

#### Treatment of Wounds.

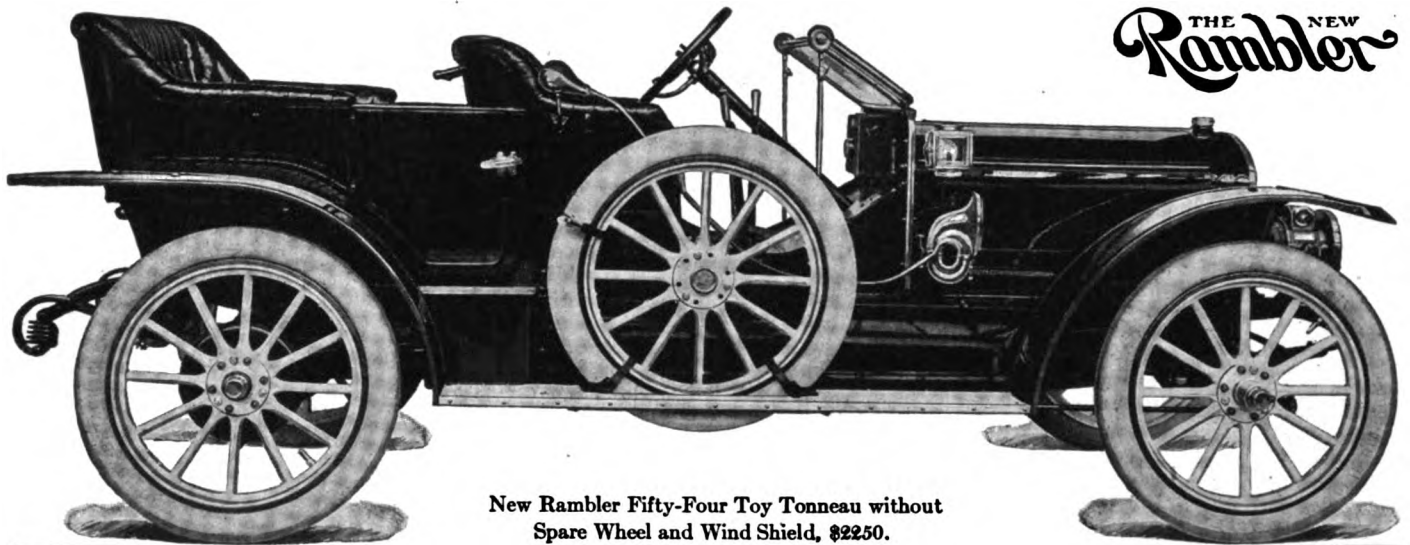
The treatment of a wound consists of the following indications: Arrest of hemorrhage; examination of the wound and removal of all foreign matter; support and protection of the injured part; and rest. The variety of hemorrhage should be determined, whether arterial, venous, or capillary, and arrested in the way described in the chapter on that subject.

A careful search should be made for foreign bodies, which, if allowed to remain, would interfere with the proper healing of the part. Pieces of clothing, splinters, etc., should be picked out with clean fingers or forceps, and the wound then cleaned with a disinfecting solution, or, if this cannot be obtained, pure water, or, better still, water that has been boiled.

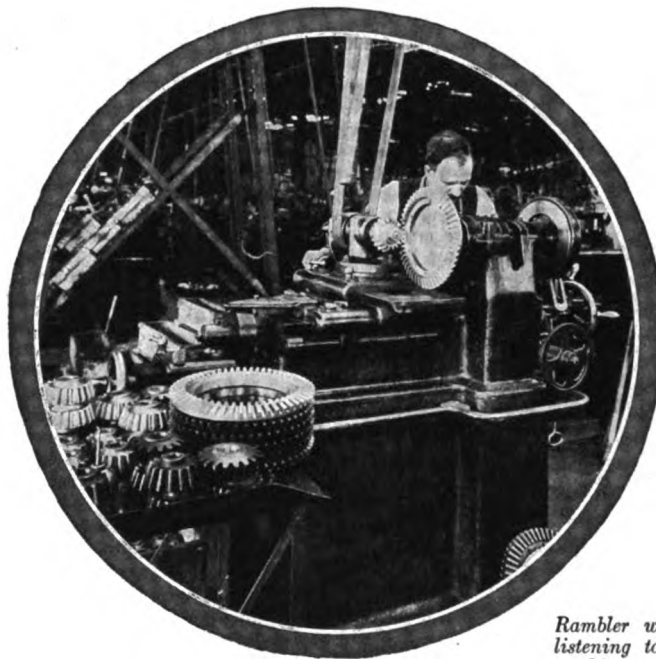
If the wound be one of the incised class, the edges may be brought together closely and accurately, and retained in this position by applying over the wound a compress made of antiseptic gauze, preferably, then holding the parts together by strips of adhesive tape. This is a temporary dressing for the proper closing of the wound by sutures or stitches, which holds the edges closely together and favors accurate union. The strips of plaster should not entirely surround the limb, as this would interfere with the circulation. They should be applied with spaces between them, so as to allow any pus which may form to have a free exit. The proper way to apply adhesive tape is to place a strip on one side of the wound, bring the edges together, and then fasten the other end of the plaster on the opposite side of the wound. It should not be placed over the cut all at one time, as this would not allow the proper closing of the wound. In removing adhesive plaster, both ends should be loosened at the same time and carried from the wound, thereby preventing the separation of its edges, which interferes with the healing process.

Great care should be taken that the compresses which support the wound are made of some clean, soft material, such as linen,



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muslin, lint, flannel, absorbent cotton, or, best of all, antiseptic gauze, which can be bought at any drug store.

The compress should be held in place by a bandage, which also helps to keep the edges of the wound together and prevents hemorrhage. Dressings should be undisturbed until healing takes place, unless they become offensive, or constitutional symptoms occur.

Lacerated wounds, which are associated with more or less destruction of the tissue, heal by granulation. Efforts should not be made to bring the edges closely together, or in direct opposition, as this might interfere with the proper escape of discharges; otherwise the same dressings should be applied as in incised wounds. Owing to the very vascular condition of the face and scalp, lacerated wounds of these parts, if not too severe, heal by primary union, or first intention, and should be treated as incised, until some evidence of suppuration or sloughing appears.

If a punctured wound is caused by a long splinter, the latter should be removed if possible, but not if it is liable to cause further injury. If the main portion of the splinter is removed, and there remained smaller pieces at the bottom of the wound, no attempt to remove should be made unless they come out without injuring the surrounding tissue. In a case of this sort the skill of a surgeon should be called upon.

Wounds of the abdominal walls are very dangerous, particularly so if the injury extends to the abdominal cavity, the external opening being large enough to allow of the escape of the bowels or intestines. If this occurs, the mass should be covered with clean cloths, wrung out in warm or hot water, for protection, until the arrival of the surgeon. Over this application should be placed other material, which tends to retain the warmth and offer general support. A wound of the abdominal walls which does not enter the cavity, although dangerous, should be treated as an ordinary wound. The shock which accompanies wounds of this nature must receive the proper care.

Wounds of the thorax or chest are often associated with injury to the lungs. Should this complication exist, it can be recognized by pain and irritation, coughing, difficult breathing, spitting of blood, and the appearance of blood and mucus, and sometimes air at the external opening.

When this condition is present, the external opening should be closed and a compress and bandage firmly applied, and the patient placed in a recumbent position. Should great distress follow, the dressing should be removed and the patient turned over on the side corresponding to the wound, thus favoring the escape of accumulated blood in the chest, which was the probable cause of the oppression. Rest is absolutely essential to the proper healing of wounds, and should be insisted upon, particularly if the injury is of a serious nature.

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house in New York. It is located at 248-252 West 54th street, adjacent to Broadway, and in the big new building which just has been erected at that address.

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and accessories generally; that the Gibney specialties—the Auto Eleck-Trick vulcanizer and the Gibney wireless and sidewire solid tires—will be prominently featured goes without saying; in fact, the Messrs. Gibney say that the demand for these goods largely was instrumental in inducing them to open the New York branch, in which a complete applying and repairing shop will be included. The New York store, incidentally, will be managed by Walter A. Schott, and it is promised that it will be governed by the same fair dealing policies that built up the Gibney business from such an humble beginning.

The extent and expansion of the business is further attested by the growth of the traveling staff. In 1901 it consisted of one man; today ten travelers are employed, who cover the entire country east of the Mississippi river. The man attached to the new York house will travel New England and the territory adjacent to New York City, while the remainder of the country will be handled from Philadelphia as heretofore.

### When Thick Grease Helps Engines.

When, through neglect of the precaution to keep the cylinders clean by frequent injections of kerosene oil, the motor reaches a state where starting is rendered well-nigh impossible through the failure of the piston rings to expand in their slots, temporary relief may be found by the somewhat drastic expedient of forcing small quantities of very thick lubricating oil into the cylinders. After a few turns of the crank this becomes distributed over the cylinder walls so thoroughly as to form a very good packing for the pistons and to afford a reasonably strong suction—strong enough in most instances to enable the motor to induct and partially compress two or three charges per cylinder. Thereafter, of course, the increasing heat in the cylinders tends to "thaw" out the old lubricant which interferes with the action of the rings, thus permitting them to take up their normal work in the regular way.

### Vacuum Cleaning for: Varnish Room.

One of the more modern developments applied in connection with the finishing of automobiles is the vacuum cleaning system. Carriage and automobile painters long have had to deal with an exceedingly difficult problem in maintaining the varnish room free from dust. A good job depends almost entirely upon having the room in which it is done clean and held at an equable temperature. With the adoption of the vacuum cleaner, it now is made possible to clean the varnish rooms frequently without raising any dust and to do so without the necessity of sprinkling the floors, as formerly was necessary in order to lay the dust. The result is that it is easier to keep the air dry and at the right temperature so that better work can be done and drying more rapidly accomplished.

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## RECENT PATENTS.

952,433. Variable Transmission Mechanism for Motor Vehicles. Leon M. J. C. Levasseur, Puteaux, France, assignor to La Societe "Antoinette," Puteaux, France. Filed Dec. 11, 1906. Serial No. 347,305.

1. In a motor-propelled vehicle, a device for throwing into and out of gear and for changing speed, a driving shaft, a driven shaft for propelling the vehicle, a casing having a guide in a side wall thereof and secured to one of said shafts, a core within the casing and secured to the other shaft, said core having radial slots, blades movably fitting said slots and having parts engaging the guide aforesaid of the casing, a gate within the casing and between it and the core, a steering device for the vehicle, and connections from said steering device for opening and closing the gate to the extent desired.

952,529. Change of Speed Device. Thomas J. Kehoe, Dayton, Ohio. Filed Jan. 4, 1909. Serial No. 470,649.

1. In a change of speed device, a main driving shaft, a driven shaft, means for forming a direct driving connection between said shafts, a pinion on said driving shaft, a pinion on said driving shaft, a gear connected to said driven shaft, and an intermediate reversing pinion arranged between said driving shaft pinion and said gear, a pair of slow speed pinions also arranged between said driving shaft pinion and said gear, and means for alternately establishing a driving connection between said driving pinion and gear through the medium of said reverse and slow speed pinions, substantially as specified.

952,535. Combined Friction and Positive Clutch. Allen Loomis, Detroit, Mich., assignor, by mesne assignments, to Packard Motor Car Co., Detroit, Mich., a corporation of Michigan. Filed Nov. 10, 1906. Serial No. 342,885.

1. In a clutch mechanism, the combination with a driving shaft, a clutch casing connected with said shaft, and primary clutch disks connecting with said casing, a clutch disk hub mounted with freedom to turn on said shaft within the casing, the secondary disks mounted on said hub, the clutch ring arranged to slide on and turn with said hub and adapted to bear on the clutch disks, a positive clutch member on said clutch ring, and a positive clutch member on said driven shaft and adapted to engage with the clutch member on the ring, for the purpose set forth.

952,575. Convertible Automobile Body. Ransom E. Olds, Lansing, Mich., assignor to Reo Motor Car Co., Lansing, Mich., a corporation of Michigan. Filed Dec. 4, 1905. Serial No. 290,077.

The combination with a vehicle body having a permanent seat and an integral sill portion extending in rear thereof, of a supplementary body portion forming a closed permanent deck upon the sill portion and comprising an end, sides and a rearwardly sloping top, said deck formed with a hinged seat section comprising an intermediate portion of the top and portions of the sides adjacent to the ends of the intermediate portion and rigidly attached thereto, and a supporting rail for the seat section upon the rear of the deck, said rail having spherical enlargements and the seat section pro-

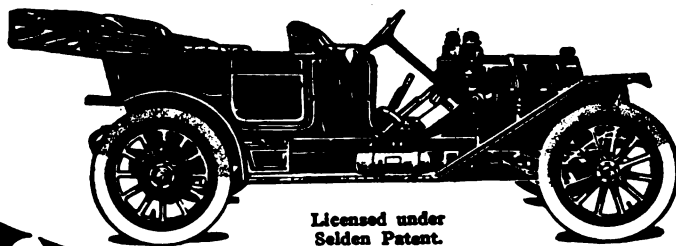
vided with cup-shaped bearings adapted to register therewith when the seat is folded rearwardly.

952,706. Internal Combustion Engine. Ralph Lucas, Blackheath, England, assignor to "Valveless" Limited, London, England. Filed Jan. 28, 1909. Serial No. 474,792.

1. The combination of two cylinders placed side by side, a combustion chamber open to one end of both cylinders, a crank chamber open to the other end of both cylinders, means for supplying air to the crank chamber, a plurality of passages connecting the crank and combustion chambers, means for supplying fuel to one of the passages, and a valve adapted to close the other passages while the latter passage is left open.

952,799. Device for Supplying Compressed Air. Louis Galli, New York, N. Y. Filed April 24, 1907. Serial No. 369,926.

1. An engine comprising a plurality of cylinders; a piston in each of said cylinders; gas inlet and exhaust valves for each cylinder; means for rendering the valves of one cylinder inoperative, said means comprising lift rods; studs rotatable and adjustable upon said lift rods, and adapted to engage the stems of said valves, an air inlet and outlet attachment for said cylinder, removably mounted therein, said attachment comprising an inlet valve operating under atmospheric pressure to admit air to the cylinder; and a valved outlet to said attachment operating to permit the egress of air from the cylinder; and a throttle intermediate said valves and the cylinder for



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interrupting the communication between the valves and cylinder.

952,800. Starting Device for Motor Vehicles. Alphonse E. Garnier, Paris, France. Filed Dec. 7, 1909. Serial No. 531,842.

1. Starting device for motor vehicles comprising in combination a disk keyed on the engine shaft, pins fixed on said disk according to a circle, a lever pivoted on the body of the vehicle, a depending arm pivoted on said lever and adapted to come in engagement with the pins of the disk and a spring acting upon said lever, substantially as described and for the purpose set forth.

953,157. Jack for Automobiles. Edwin I. Spencer, Wichita, Kan. Filed Aug. 2, 1909. Serial No. 510,829.

A jack adapted to pass over the end of an axle close to the wheel thereof consisting of a head, a telescoping supporting member pivoted to and depending from each end of the head, the said members being provided with rigid feet at their lower ends projecting laterally beyond the sides of the said members, a brace pivoted to one of said members and adjustably secured to the

other member, a lifting screw threaded in the head and extending through the same, a hook swiveled on the lower end of said screw, and wheel engaging means suspended on said hook.

953,299. Cooling Device for Pneumatic Tires. Edward J. Schneider, Niagara Falls, N. Y. Filed June 12, 1909. Serial No. 501,822.

1. The combination with the inner tube of a pneumatic tire of a hollow metal cooling chamber mounted on the outside of the spokes of the wheel and having portions of such cooling chamber extending between the spokes, and connections between the chamber and tire.

953,308. Power Transmitting Mechanism. Harry C. Waite, Milwaukee, Wis., assignor of one-half to Samuel W. Watkins, Milwaukee, Wis. Filed Sept. 1, 1909. Serial No. 515,580.

1. As an article of manufacture, a friction gear driving member provided with a driving face, the portion near the center of which has a greater coefficient of friction than the portion removed from the center.

953,332. Search Light Controller. Frank

E. Harris, Lowell, Mass. Filed March 6, 1909. Serial No. 481,733.

1. A shade for automobile searchlights, which comprises a series of curved sections of different sizes which nest one within the other and are pivoted at the same points, and spring connections between them whereby they may be raised successively.

953,427. Sprocket Chain. Frank L. Morse, Ithaca, N. Y., assignor to Morse Chain Co., Ithaca, N. Y., a corporation of New York. Filed June 27, 1908. Serial No. 440,732.

1. An open link chain having links composed of side plates, and pintles formed in two parts, both of said parts extending through the side plates of the two adjacent links at each joint and bearing upon each other throughout the full outside width of the links of the chain.

953,428. Sprocket Chain. Frank L. Morse, Ithaca, N. Y., assignor to Morse Chain Co., Ithaca, N. Y., a corporation of New York. Filed June 27, 1908. Serial No. 440,733.

1. A drive chain having links composed

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of side plates with apertures at their ends, pintles formed in three parts extending through said apertures, and a spacing member mounted on said pintle parts between the side plates for engaging the teeth of the sprocket wheel.

953,477. Pneumatic Tire Rim. Arthur L. Lockwood, Jackson, Mich. Filed Jan. 14, 1907, Serial No. 352,186. Renewed Dec. 7, 1909. Serial No. 531,883.

The combination with the felly of a wheel and a tread thereon, oppositely disposed taper rings seated on said tread, securing bolts passing through the rings with their heads overlapping the tread to prevent lateral movement of the rings on the tread, a rim having a central depressed portion with inclined edges, the inner periphery of the rim having like angular depressed portions, said angular portions resting on the taper rings.

953,609. Lubricator. Otto Hajek, Vienna, Austria-Hungary, assignor to the firm of Alex. Friedmann, Vienna, Austria-Hungary. Filed March 9, 1908. Serial No. 419,967.

1. A lubricator of the class described comprising cylinders, feeding and distributing piston communicating with the cylinder for the feeding piston and the distributing piston serving as a controlling valve for the feeding piston, an operating shaft, a pair of independently movable arms pivoted on a common axis intermediate said pistons and operatively connected thereto, and an eccentric mounted on shaft and common to said pair of arms for imparting reciprocity movements of different relative phases to the respective pistons.

953,645. Wheel. John H. Story and Frank C. Winkel, Woodbury, N. J., assignors to Harry D. Weed, Syracuse, N. Y. Filed May 24, 1907. Serial No. 375,404.

1. In an anti-skidding attachment for wheels, a multiple of chains adapted to extend transversely over the tire of the wheel, cables extending through the ends of the chains upon one side of the wheel, one of said cables having pulleys at each end, and one of said pulleys being detachably connected thereto, the other of said cables passing through said pulleys, and a strap connected to the ends of said last mentioned cable for securing the chains to the wheel.

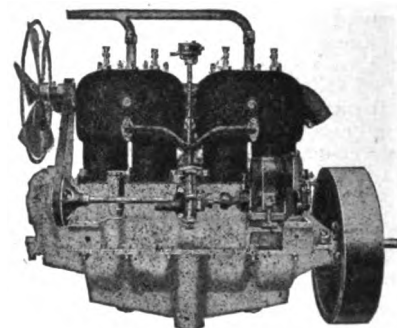
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## FLANDERS FORMS A NEW COMPANY

**A. O. Smith, of Milwaukee, Joins Detroit in New Enterprise—Will Make Automatic Machinery and Parts.**

With Walter E. Flanders, president of the E-M-F. Co., as one of its directors, together with A. O. Smith, the Milwaukee parts maker; Dr. J. B. Book and William T. Barbour, of Detroit, a new company has been formed in Detroit, Mich., for the manufacture of automatic machinery and parts for the automobile trade. It will be known as the Grant & Wood Mfg. Co., and has been incorporated with \$1,000,000 capital.

The company has bought the Grant Automatic Machine Co., of Cleveland, O., and is moving the latter's machinery and equipment to the plant of the Chelsea Stove Works in Detroit, the Chelsea plant having been acquired by the new company. Additional land adjoining the stove works has been purchased and new buildings will be put up immediately. John J. Grant will be the consulting engineer for the concern, and he will bring with him a long experience in the designing of automatic machinery. The officers are: Eben B. Boye, of Cleveland, president and sales manager; A. O. Smith, vice-president; Harry L. Stanton, treasurer and secretary. The board of directors consists of Dr. J. B. Book, John T. Shaw, William T. Barbour, Walter E. Flanders, E. B. Boye, A. O. Smith and Robert M. Brownson.

### Seward to Supervise Kelly-Racine.

William Seward, Jr., who has been representing the Federal Rubber Co. in Chicago, Ill., and who in previous connection with the Hartford Rubber Works Co. and the Michelin Tire Co. has had a wide experience both in the production and the selling end of the tire business, has resigned his connection with the Federal company to become factory manager of the Kelly-Racine

Rubber Co., of Racine, Wis., recently organized by C. F. U. Kelly. The plant now being built on land adjoining that of the Mitchell-Lewis Motor Co. will be equipped under Seward's direction.

### Wood to Make Car of Vaughn Design.

Having developed a new car under the direction of Guy Vaughn at the factory of the New Departure Mfg. Co., at Bristol, Conn., the W. A. Wood Automobile Mfg. Co., of Kingston, N. Y., has been incorporated under New York laws, with \$3,000,000 capital, of which \$1,000,000 is 7 per cent, cumulative preferred and the balance common stock. The directors include William A. Wood, F. E. Moscovics, Charles W. Kahierth, E. C. Dekay, Francis Fitch, Samuel S. Slater and Henry W. Johns.

### Hildebrand Joins Chalmers Selling Staff.

C. C. Hildebrand has resigned as sales manager of the Stevens-Duryea Co., of Chicopee Falls, Mass., with which company he has been identified for a number of years and where he was regarded almost as a fixture by the trade. He has been made assistant general manager of the Chalmers Motor Co., of Detroit, Mich., and is succeeded at the Stevens-Duryea Co. by A. W. Barber, who has been his assistant.

### Vivax Absorbs the Duro Batteries.

The Vivax Storage Battery Co., of Chicago, Ill., has taken over the Chicago Battery Co., which has been making Duro batteries for automobile ignition and lighting. W. R. Gibbs, president and general manager of the Duro enterprise, has withdrawn and will make his home in the East, while Horace W. Beek, manager of the Vivax company, will direct the combined Vivax and Duro battery forces.

### McNutt Non-Explosive Can Goes Up.

Bankruptcy proceedings have been brought against the McNutt Non-Explosive Mfg. Co., of New York City, which was incorporated in 1908 with \$1,000,000 capital to manufacture a patent non-explosive safety can for garages.

## NO "GENTLEMEN'S AGREEMENT"

**Tire Makers Prove an Alibi and A. L. A. M. Agrees with Their Views—Why Tire Contracts Are Refused.**

Despite the fact that the advance notices of the meeting of the board of managers of the Association of Licensed Manufacturers yesterday (Wednesday) had in some degree suggested that the association was to smoke out a "gentlemen's agreement" or something of the sort among the tire makers, the meeting itself resulted not only in the tire makers being freed from suspicion of rapacious connivance against the automobile manufacturers but brought the latter completely around to the tire makers' view of the necessity for holding off on 1911 tire contracts. In fact, the situation was put in such a light that the tire makers, instead of entering compacts to plunder the motor car producers, would seem to have been protecting the car makers and the motoring public by co-operative means and by not accepting heavy 1911 contracts.

The meeting started in the morning and lasted until late in the day, luncheon being served in the association board room during the session, which was presided over by Colonel Charles Clifton, president of the A. L. A. M. Thirty-six of the eighty-odd firms composing the association were represented.

It developed that while it is true that the tire makers have been refusing 1911 contracts for present delivery, their reasons for doing so are quite different from what has been suspected in some quarters. Benjamin Briscoe, president of the United States Motor Co., presented an array of facts and figures concerning the rubber situation that opened the eyes of some of the members. It was shown that for the tire manufacturers to take heavy 1911 contracts for present or early delivery would mean that they would have to go into the open market for rubber, resulting in the raw ma-

terial not only holding its present extremely high price but in its probably going still higher, whereas in the absence of any heavy buying at present the price of crude rubber may be expected to make substantial declines, resulting in correspondingly lessened prices for tires.

As a result of the deliberations, it was decided that the A. L. A. M. members and the tire makers had best co-operate to avoid the necessity of the latter going into the rubber market in its present delicate state, where any substantial purchases might send prices soaring, with proportionate advances for the finished product. To effect this co-operation, the Association's tire committee, consisting of Albert L. Pope, chairman, with L. H. Kittredge, S. D. Waldon and R. D. Chapin, is to be raised to a membership of seven, the three new members to be appointed by the chairman.

S. M. Butler, chairman of the contest board of the American Automobile Association, attended the meeting in the interests of the contest board. He told the manufacturers of the plans that had been made for races and other competitive events throughout the country. He asked all of the makers who have not complied with the A. A. A. rule requiring them to file sworn to certificates of mechanical description of their stock models, to do so at once, as cars that may be entered in contests by their agents or owners can only be allowed to compete under protest until the certificates are on file in the contest board's office.

Howard E. Coffin, president of the Society of Automobile Engineers, addressed those present on the plans of the society, having in view the standardization and general advancement of motor car building.

#### Single Tube Patent Nearing Its End.

Expiration of the Tillinghast "single tube tire patent," which, in addition to being of wide effect and importance in the bicycle tire field, also covered such types of single tube tires as are used on electric and other automobiles, occurs this month, the patent having run its full 17 years since its issuance to Pardon W. Tillinghast on May 23, 1893. The patent, No. 497,971, was controlled by the Single Tube Automatic & Bicycle Co., which exacted royalties from all the manufacturers of single tube tires and was vigorous in its prosecution of those who refused to pay tribute. Its validity was attacked repeatedly, in a series of cases commencing in 1899, but the patent was sustained in every instance, the last decision being in February, 1910, in a decision against the Continental Rubber Works, of Erie, Pa.

#### Van Winkle Tempting the Georgians.

Atlanta, Ga., which is famous among its Southern sisters for its self-induced optimism and boom spirit, is to have another automobile manufacturing enterprise, for which the citizens are being asked to sub-

scribe. The concern is known as the Primo Motor Co., and has been organized with E. Van Winkle, head of the Van Winkle Gin & Machine Co., as its president; W. O. Fields as secretary, and Edward A. Cerf as treasurer. The board of directors includes the officers and J. F. Askew, Edward M. Pearce, H. S. Miles and H. S. Johnson, Jr. On the ground that "every automobile manufacturing concern is making money," investors are appealed to through the public prints to place their subscriptions for the stock at \$50 per share, being assured that the company's stock "will double in value in the first twelve months of its existence." Offices have been established at Rooms 406-8 Forsyth Building.

#### Changes Among Prominent Tradesmen.

L. A. Van Patten has been appointed publicity manager for the Hudson Motor Car Co., of Detroit, Mich. He formerly was a Chicago newspaperman.

J. H. Wagenhurst has been appointed general manager of the United Rim Co. and probably will make his headquarters at Akron, O. Previously he was connected with the Westinghouse establishment.

W. Owen Thomas, who at one time was the manufacturer of a very original car of his own design, has joined the staff of the Fal Motor Co., of Chicago, Ill. He will act in the capacity of consulting engineer.

Harry B. Tuttle, formerly with the Stoddard-Dayton selling organization, has been made superintendent of agencies for the Willys-Overland Co., of Toledo, O. He will appoint new agents for Overland and Marion cars.

Paul C. Kellogg, formerly New England sales manager for Remington typewriters, has been made sales manager for Alvan T. Fuller, of Boston, Mass. L. W. Conklin continues as general manager for Fuller's extensive automobile sales interests.

John D. Murphy has been appointed advertising manager of the Selden Motor Vehicle Co., of Rochester, N. Y. He formerly was a Boston newspaper man, but latterly has been connected with automobile publicity and advertising agency work.

M. H. Pearson has been appointed manager of the branch in Boston, Mass., which the Remy Electric Co., of Anderson, Ind., has established at 214 Pleasant street, in the Motor Mart. He formerly was in charge of the company's Kansas City branch.

H. B. Harper, former advertising manager of the Ford Motor Co., has been appointed export manager of the company and will have his office at 18 Broadway, New York. He succeeds R. M. Lockwood, who resigned. Harper's place will remain vacant, for a while at least.

Harry Scott, assistant sales manager of the New Departure Mfg. Co., of Bristol, Conn., has been appointed head of the technical and racing department of the Chalmers

Motor Co., of Detroit, Mich., and will assume his new duties on May 15. By reason of Scott's resignation from the New Departure organization, H. W. Jones, formerly with the Electric Vehicle Co. and later with the American Locomotive Co., has been made a general representative for the New Departure sales organization.

#### Port Huron Raises Cash for Cass.

Having had a taste of automobile manufacture through the fact that some of the Detroit factories have drawn upon its facilities for making axles and parts, Port Huron, Mich., now is anxious to have a complete motor car plant of its own. To this end the business men of the city, acting with the chamber of commerce, have subscribed \$16,000 towards the Cass Motor Truck Co., which promises to make Port Huron its home.

#### "Spitfire" Pleases "Spit-fire" People.

So closely is the name "Spit-Fire" identified with A. R. Mosler & Co., of New York City, manufacturers of "Spit-Fire" spark plugs, that the appearance of a play with the title "Spitfire" was made the occasion, last week, for a theater party for the Mosler officers and employees. After seeing the dramatic "Spitfire" the party was given a banquet.

#### Canadian Location for Texas Factory.

A Canadian automobile factory in Texas is the apparent anomaly undertaken by R. E. Parker, a Texas promoter, but the matter is cleared somewhat when it is explained that it is in the Texas town of Canadian that he proposes to build his factory. A number of the leading citizens of the place are said to have.

#### Stoddard-Dayton Not Yet Absorbed.

Doubtless due to the fact that the officials of both companies have been in conference, reports are circulating that the Stoddard-Dayton Motor Car Co. has been taken over by the United States Motor Co. A high official of the latter concern, however, yesterday denied that any deal had been consummated.

#### Made Parts; Will Now Make Cars.

Having made automobile parts for some time, the F. W. Spacke Machine Co., of Indianapolis, Ind., is preparing to go further and make complete cars. An addition to the factory is now being made for this purpose, the product to be a four cylinder touring car.

#### Garage Equipment Builders in Milwaukee.

The Garage Equipment Co., of Milwaukee, Wis., making a number of accessories and specialties for the automobile trade, has commenced the building of a new factory, at 142 South Pierce St. The structure will cost \$30,000, will be 150x100 feet and two stories high.

**STEVENSON'S INSTALMENT SALES**

**He Now Won't Even Insist on 20 Per Cent. Down—Gives References, but They Pan Out Poorly.**

Things are getting easier than ever for those persons who wish to buy new cars of "any make" on the instalment plan, if one is to believe the enterprising Guernsey Stevenson, who is operating in the Hudson Terminal building, New York City, as the Terminal Auto Co., and whose entertaining representations and methods of doing business received some uninvited attention in the Motor World of last week. In addition to selling cars on instalments without security, and requiring no references other than the names of two persons with whom the purchaser may happen to do business, Stevenson is now willing to relax his rule about requiring 20 per cent. of the purchase price down when the order is placed. If he cannot get the purchaser to pay 20 per cent. cash preliminary to waiting for the delivery of his car, Stevenson will take less.

An exposition of his "easy payment" scheme already having been given, no small interest attaches to the fact that up to yesterday (Wednesday) he was still doing business and taking deposits on cars to be delivered some time in the future. His willingness to take less than the 20 per cent. called for by his printed terms was disclosed in the course of a visit by a Motor World man, who, however, was not the same one who called on Stevenson last week, but who also was "seeking knowledge" concerning the enterprise.

"Does one make the first payment when the car is delivered?" the Motor World man asked, after making a preliminary noise like "a live one."

"Certainly not!" exclaimed the blooming cheeked Philadelphian, in haughty briskness. "You pay the money when you place the order, just as you do with any automobile agent, and then wait for the machine to come from the factory."

"But, you see," responded the Motor World man with becoming hesitancy and delicacy, "I don't know who you are and I would not like to pay out money until I knew more about you. Do you give references as to your stability and business standing?"

"Go to any bank and ask about us," the Terminal Auto Co. replied, waving his hand expansively as if to include both Maine and California.

"That seems pretty indefinite," his questioner murmured. "What particular bank would you name?"

"Oh, any bank there"—pointing toward New Jersey—"will tell you we are all right; any bank at all."

Then taking up a copy of the Mount Vernon Argus, a newspaper published in Mount Vernon, N. Y., that was one of the few to print the alluring advertisement which he had dispensed so generously, he said: "Now, there is a newspaper that knows us well. They know all about us and will tell you that we are good."

"Of course," he continued, "if you don't want to, you needn't pay the whole 20 per cent. down. If you pay \$100 or so—just enough to bind the bargain—why, then, we can fix it up for you so that everything will be satisfactory."

Literally following his advice to ask any bank, the Motor World man sought information concerning the Terminal Auto Co. from officials of several of the nearest banks, but it appeared that none of them had ever heard of the concern, let alone testifying to its financial soundness. Inquiry made to the business manager of the Mount Vernon Argus disclosed that the Mount Vernon publishers "know nothing as to his financial standing or as to his ability to carry out his promises," but they do know that although a representative of the paper had called to collect for the first advertisement and had seen the Terminal Auto Co. himself, they had been unable to get the money.

**Shifts in the Royal Tourist Forces.**

Changes have been made in the arrangement of the selling forces of the Royal Tourist Car Co., of Cleveland, O., by which E. D. Shurmer, a former head of the Royal Tourist interests, takes charge of the Western selling territory, with Chicago as a center. A. D. MacLachlin, the former general sales manager of the company, takes a traveling sales managership, and will confine his attentions to the East, making his headquarters in New York City.

**Beaver Dam Offered an Opportunity.**

The Minneapolis Motor & Truck Co., of the Minnesota city of that name, is flirting with Beaver Dam, Wis., for the use of a disused factory building at that place, and also for financial support. The company, which is capitalized at \$500,000, desires that the Beaver Dammers subscribe for from \$30,000 to \$50,000 of its stock to induce it to settle "in their midst."

**Evidence of Columbia Nut Prosperity.**

The Columbia Nut & Bolt Co., of Bridgeport, Conn., is adding another story to its factory, increasing the floor space by about 30 per cent. The machinery equipment for the manufacture of Columbia lock nuts is being doubled.

**More Bodies to be Made in Michigan.**

The Lindner Interior Mfg. Co., of Grand Rapids, Mich., has taken up the manufacture of automobile bodies. It has made preparations for an output of 6,000 bodies per year.

**DEALERS TRYING COUPON BOOK**

**Los Angeles Association Seeks to Lessen Sales on Credit—Coupons Interchangeable and Backed by Cash.**

To stimulate a cash basis for sales of accessories and for repair charges, the Licensed Automobile Dealers' Association, of Los Angeles, Cal., has perfected an interchangeable coupon book system which will afford customers what is practically a 5 per cent. discount for cash and which may be used for the purchase of oil, gasoline, accessories, tires and parts and for paying repair bills. The saving effected by the owner who uses a coupon book is looked to as insuring the employment of the system by a large proportion of the dealers' customers, resulting in lessening the volume of book accounts that many dealers begin to find burdensome.

The interchangeable coupon book, containing \$5, \$10, \$20, \$25 or \$50 worth of coupons, may be purchased from any member of the Licensed Association, and the coupons will be honored not only at the place where they were bought but at the establishments of any of the other dealers belonging to the association. The dealers have deposited a sum of money in a Los Angeles bank equal to the value represented by the coupons, and as more coupon books are needed the dealers will buy them from the bank, receiving cash from the customers as the latter take them. The coupons represent so much cash, but are of more value than cash to the owner, in that when payments are made in coupons a 5 per cent discount is allowed.

Several Los Angeles concerns have tried the coupon system individually, giving commutation on the meal ticket principle, and the plan has met with sufficient success to induce the association to try it as a whole. The fact that the coupons are good at the garages and repair shops of all the members instead of being limited to use at once place, and that they are backed by cash deposits in the bank, gives them an advantage over the ordinary form of commutation. In lessening the bookkeeping and avoiding the losses incident to credit accounts, the dealers expect to make up the 5 per cent.

**Bonnell Becomes a "Licensed" Man.**

Horace A. Bonnell, of Newark, N. J., has been appointed assistant to Alfred Reeves, general manager of the Association of Licensed Automobile Manufacturers, taking the place made vacant by the resignation of Coker F. Clarkson, who is now with the Society of Automobile Engineers. As treasurer of the American Automobile Association and manager of the automobile show in Newark, N. J., Bonnell is well versed in the fiscal side of the trade and sport.

**THE WEEK'S INCORPORATIONS.**

Detroit, Mich.—Wisner Carburetter Co., under Michigan laws with \$6,000 capital.

Smyrna, Del.—Smyrna Automobile Co., under Delaware laws with \$25,000 capital.

Wilmington, Del.—Automobile Union Oil Co., under Delaware laws with \$250,000 capital.

North Stonington, Conn.—North Stonington Garage, Inc., under Connecticut laws; articles of association.

Chicago, Ill.—Whipple Car Co., a Maine corporation with \$2,000,000 capital admitted to do business in Illinois.

Chicago, Ill.—Hartford Suspension Co., a New York corporation with \$100,000 capital admitted to do business in Illinois.

Madison, Wis.—Studebaker Automobile Co., an Indiana corporation with \$100,000 capital admitted to do business in Wisconsin.

Indianapolis, Ind.—Gearless Steering Device Co., an Arizona corporation with \$100,000 capital admitted to do business in Indiana.

Indianapolis, Ind.—German-American Car Co., a West Virginia corporation with \$350,000 capital admitted to do business in Indiana.

Scranton, Pa.—Scranton Taxicab Co., under Pennsylvania laws with \$5,000 capital. Corporators—R. A. Amerman and others.

Philadelphia, Pa.—Philadelphia Motor-drome Association, under New Jersey laws with \$2,000,000 capital; to operate an automobile track.

Fitchburg, Mass.—Bickford Auto Livery Co., under Massachusetts laws with \$5,000 capital; automobile livery. Corporators—O. E. Bickford and others.

Sandusky, O.—Sandusky Auto Parts & Truck Co., under Ohio laws with \$150,000 capital. Corporators—Daniel E. Storms and J. M. Woods, Indianapolis, Ind.

Atlanta, Ga.—Fitzsimmons Motors, Inc., under Georgia laws with \$5,000 capital; general automobile business. Corporators—George Fitzsimmons and others.

Portland, Me.—Automatic Lock, Nut & Bolt Co., under Maine laws with \$1,500,000 capital; locks, nuts, bolts, etc. Corporators—A. G. McPherson, B. Smith.

Atlanta, Ga.—Georgia Motor Car Co., under Georgia laws with \$50,000 capital; to deal in and manufacture automobiles. Corporators—G. W. Hanson and others.

Boston, Mass.—American Rapid Transit Co., under Massachusetts laws with \$200,000 capital; general automobile business. Corporators—G. A. Smith, F. L. Townsend.

Worcester, Mass.—Alsten & Goulding Co., under Massachusetts laws with \$75,000 capital; to manufacture automobile tires. Corporators—J. A. Alsten, H. C. Goulding.

Martinsville, Ind.—Martinsville Auto Co.,

under Indiana laws with \$10,000 capital; general automobile business. Corporators—K. I. and Blanche M. Nutter, W. E. Clark.

Norfolk, Va.—Seaboard Auto & Storage Co., Inc., under Virginia laws with \$20,000 capital; general garage business. Corporators—R. L. Reams, C. B. and E. G. Orrell.

Worcester, Mass.—Worcester Electrical Mfg. Co., under Massachusetts laws with \$30,000 capital; to manufacture electrical devices. Corporators—J. and J. P. McGrady.

Paterson, N. J.—Bonom International Turbine Co., under New Jersey laws with \$100,000 capital; to manufacture steam turbines. Corporators—A. Bonom, A. Brunner, A. Romella.

Meriden, Conn.—Blue Ribbon Garage, Inc., under Connecticut laws with \$50,000 capital. Corporators—Johannes Schiott, William E. Seeley, Sanford Stoddard, all of Bridgeport.

Stockton, N. J.—The Autoplume Co., under New Jersey laws with \$40,000 capital; to deal in patents, etc. Corporators—Theodore S. Moore, John W. Smith, Asa B. Hockenbury.

Jacksonville, Fla.—Florida Motor Co., under Florida laws with \$20,000 capital; general automobile business. Corporators—H. B. Clark, Breward, N. C.; J. A. Forsythe, Jr., Jacksonville.

New York, N. Y.—N. H. Badgley, Inc., under New York laws with \$25,000 capital; to manufacture and deal in rubber tires, rubber goods, etc. Corporators—A. Watson, M. Hotchner, M. Held.

Chicago, Ill.—Farrington-White Co., under Illinois laws with \$10,000 capital; to deal in automobiles and supplies. Corporators—William P. Farrington, Frank B. White, William B. White.

Bronx, N. Y.—Tremont Motor Car Co., under New York laws with \$1,000 capital; general automobile repair and supply business. Corporators—Seymour Mork, Harry Block, Emanuel M. Kaiser.

Camden, N. J.—Sweeney Automobile Co., under New Jersey laws with \$10,000 capital; to manufacture automobiles, motorcycles, etc. Corporators—F. R. Hansell, John A. MacPeak, William F. Eidell.

Detroit, Mich.—Peninsular Gear Works, under Michigan laws with \$60,000 capital; to manufacture automobile parts. Corporators—John B. Meyers, Elmer D. Greenmayer, Fritz Offenauer, all of Newcastle, Ind.

Philadelphia, Pa.—Auto Central Co., under Delaware laws with \$25,000 capital; general automobile business. Corporators—J. G. McPherson, A. W. Southworth, Philadelphia; D. P. Moore, Washington, D. C.

New York, N. Y.—Modern Transmission Mechanism Engine Co., under New York

laws with \$25,000 capital; to manufacture and deal in motors, engines, pumps, etc. Corporators—G. R. Jaeger, F. W. Jaeger, F. Eveland.

New York, N. Y.—Malley Motor Co., under New York laws with \$500 capital; to manufacture and repair motor vehicles, etc. Corporators—Thomas Malley, Brooklyn; W. H. Pumphrey, M. G. Crawford, New York City.

New York, N. Y.—Selnik-Klinger Co., under New York laws with \$5,000 capital; to manufacture and deal in automobiles and parts for same. Corporators—Henry Selnik, Brooklyn; Louis Klinger and John Blumenthal, New York City.

Trenton, N. J.—Coryell Automobile Sign Holder Co., under New Jersey laws with \$10,000 capital; to manufacture automobile number plate holders. Corporators—George H. Poulson, Jedediah G. Coleman, Harry S. Provost, Theodore Backes.

New York, N. Y.—Horseshoe Tire Co., under New York laws with \$25,000 capital; to manufacture and deal in automobiles, supplies and tires. Corporators—W. E. Holloway, W. Huber, New York City; H. D. Foster, Tompkinsville, S. I.

Philadelphia, Pa.—Automobile Owners' Association, under Delaware laws, with \$250,000 capital; to manufacture and deal in automobiles. Corporators—J. C. and F. J. Niles, W. Wilson, Alan Carson and H. J. Kunkle, all of Philadelphia.

New York, N. Y.—Auto Owners & Operators' Protective Association, under New York laws with \$25,000 capital; to manufacture and deal in automobiles, sundries, automobile insurance, etc. Corporators—P. J. McGrath, F. J. Hagen, H. Miller.

Cortland, N. Y.—Cortland Motor Wagon Co., under New York laws with \$100,000 capital; to manufacture and deal in automobiles and accessories. Corporators—L. O. Mecham, Hugh M. Duffey, Cortland; R. H. Jadwin, C. H. Pond, Scranton, Pa.

Binghamton, N. Y.—Chenango Motor Car Sales Co., under New York laws with \$15,000 capital; automobile sales business. Corporators—W. Bruce Roff, Alfred E. Landman, Binghamton; Harry K. Crandall, Vine Crandall, Athens, Pa.; Fred D. Corye, Buffalo.

New York, N. Y.—White Spot Safety Signal Co., under New York laws with \$100,000 capital; to manufacture and deal in automatic signals for automobiles and vehicles of all kinds. Corporators—L. O'Brien, E. E. Davis, Montclair, N. J.; J. T. Bunt, New York City.

**Increases in Capitalization.**

Chicago, Ill.—Long Mfg. Co., from \$100,000 to \$300,000.

York, Pa.—Pullman Motor Car Co., from \$100,000 to \$500,000.

Pittsfield, Mass.—Alden Sampton Mfg. Co., from \$300,000 to \$2,000,000.



## IN THE RETAIL TRADE.

Binghamton, N. Y., has a new automobile concern styled the Chenango Motor Car Sales Co. It will market Speedwell and Overland cars locally.

The White Company's Washington (D. C.) branch at 1124 Connecticut avenue has been discontinued; for the present the local headquarters will be at the Belmont garage.

Washington, D. C., has another exclusive electric automobile agency which has been opened by H. B. Leary, Jr., at 1717 Lamont street, N. W. He has the Bailey agency.

John Thomas, Washington, D. C., who has the Maxwell agency, has taken possession of new salesrooms at 1323 Fourteenth street, N. W. The new quarters afford much better facilities.

The Auto Supply Co., Los Angeles, Cal., has located a branch in San Francisco at 444 Golden Gate avenue. W. E. Van Duzen, treasurer of the company, will be the manager of the new store.

Possession shortly will be taken by the Van Da Grift Auto Co., Louisville, Ky., of a new garage at 7th street and Broadway, which is one of the finest in the city. It will have accommodations for 100 cars.

Adding another to their long chain of branches throughout New England, the Post & Lester Co., Hartford, Conn., have opened a store in Worcester, Mass., at 12-14 Mechanic street. O. A. Jones is in charge of it.

Coincident with its recent removal to 1214 V street, N. W., Washington, D. C., the Overland Garage has undergone a change of name and ownership and now is known as the Imperial Motor Co. E. A. Garlock is the new proprietor.

The Corker Motor Car Co., Atlanta, Ga., has taken possession of the new garage at the corner of James and Fairlie streets, a three story and basement brick structure. The company is agent for the Matheson, Haynes and Waverley electric.

Clyde, Curry & Co., Windsor, Ont., have entered the automobile business and secured the E-M-F. agency for Windsor and Essex counties. Work will be commenced shortly on the erection of a sales and garage building at Ouellette avenue and Park street.

Work soon will be started on a new garage for the C. P. Weeden Motor Co., Trenton, N. J., at 155-57 Brunswick avenue. The company at present is quartered temporarily at 178 Bushwick avenue and represents the Studebaker lines and Randolph trucks.

The Inter-State Motor Co., of Philadelphia, Pa., a newcomer in that city, has established itself at 518 North Broad street, where it will exploit Inter-State and Brush cars. M. Wertheimer, formerly a raincoat manufacturer, is the manager of the concern.

The Johnson-Kellam Motor Sales Co.,

Detroit, Mich., at present located in the Tolsma building, shortly will open new salesrooms at Woodward and Warren avenues. The company has arranged to market the entire output of the Detroit-Dearborn Motor Car Co.

With the opening of their new American garage on Clinton street, opposite the Pennsylvania station, Twist & Driscoll, Trenton, N. J., now have one of the finest establishments in the state. They are agents for the Hupmobile, Mitchell, American and Cole "30" cars.

The Harlan (La.) Garage Co., which is of recent birth, is about ready to take possession of its new garage on Seventh street, north. The plant includes a well equipped repair shop, and Rambler and Auburn cars will be handled. W. M. Lana and W. L. Paup are the proprietors.

The Washington Motor Vehicle Co., of Spokane, Wash., is completing a new garage at 508-10 Second avenue, which will be devoted exclusively to the care of electric vehicles. The building, which will be of modern construction, will be 35x75 and will include a complete charging plant.

F. E. Chambers and Julia Miller, Atlanta, Ga., who operated as the Buckeye Auto Co., have dissolved partnership, and Miss Miller has formed a new company under the title of the Holt-Boone Motor Co., to continue the business. The Ohio car agency for Atlanta and northern Georgia accrues to the new company.

The Segerstrom Automobile Co., Minneapolis, Minn., has leased the two story building at 202 Nicollet avenue, the first floor of which will be devoted exclusively to the sale of Rider-Lewis and Moon cars, for which the company has the agency. The Segerstrom Vulcanizing Co., a subsidiary, will occupy the second floor.

Abandoning the manufacturing for the selling field, W. C. McNabb, Atlanta, Ga., has "dipped into" the accessory business and opened offices in the Candler building, where he will conduct a jobbing business. He formerly was president of the McNabb Iron Works, and designed the Billy car, which is made by that company.

In keeping with its announced intention of operating its own branches, the E-M-F. Co., Detroit, Mich., has absorbed its Boston (Mass.) agency on Boylston street, which was formed by B. N. Crockett and C. A. Malley, when the company severed its relations with the Studebakers. Messrs. Crockett and Malley will remain with the local branch under the new regime.

One of the handsomest showrooms in Philadelphia, Pa., just has been occupied by the Taylor Motor Distributing Co., at 210-12 North Thirteenth street. The new quarters embrace the entire ground floor of a large concrete building and are luxuriously appointed. The company, which was formed recently, has the Matheson

agency and also acts as distributor for the Warren-Detroit cars for six adjacent states.

Plans have been drawn for a new sales and service building for the Ellis Motor Car Co., Newark, N. J., Pierce-Arrow representatives, which is expected to surpass anything of its kind in the state. It will add join the present establishment on Washington street, between New and Linden streets, and will be a four story brick and concrete structure, 50x100, and will represent an outlay of \$50,000. The building is expected to be ready September 1.

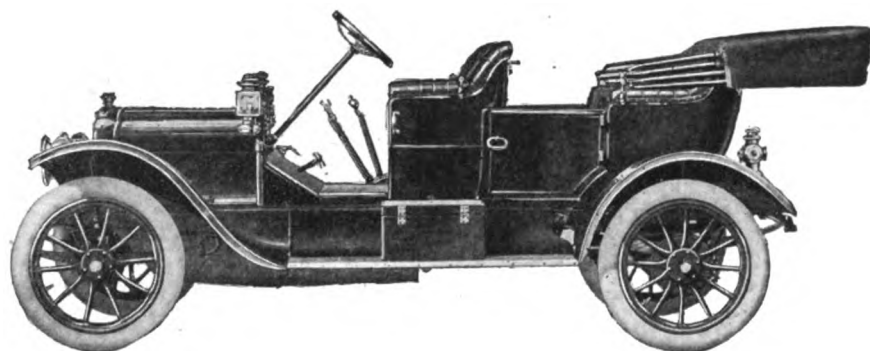
Alleging that the other members of the company, Charles A. Dickson and Benjamin C. Fink, acting as directors, voted to dissolve the Pope Auto Co., Newark, N. J., without an accounting, Alfred P. Heidrich, the other partner, has made application to Vice-Chancellor Garrison of Newark for the appointment of a receiver to take charge of the company's affairs. The company, which has been in existence two years, has the Pope-Hartford agency and Heidrich alleges the last year's profits were \$20,000, which are not accounted for. There are no creditors.

Several new and handsome garages now in process of erection in Minneapolis, Minn., will be completed shortly. The MacArthur-Zollars Motor Car Co. has a two story building, 75x136, at Thirteenth street and Nicollet avenue, which will be ready soon. It is built of brick with stone trimmings and has storage room for sixty cars as well as a complete repair shop. The concern handles the Amplex, Everitt, Anhut, Black Crow and Babcock electric lines. On May 15 the White Garage Co. expects to take possession of its new building on Tenth street, between Sixth and Seventh avenues. It is built of red brick, 50x150, two stories and basement and will cost \$30,000. It will be devoted to the sale of White cars and Waverley electrics.

## Bohemia Offers Opportunities.

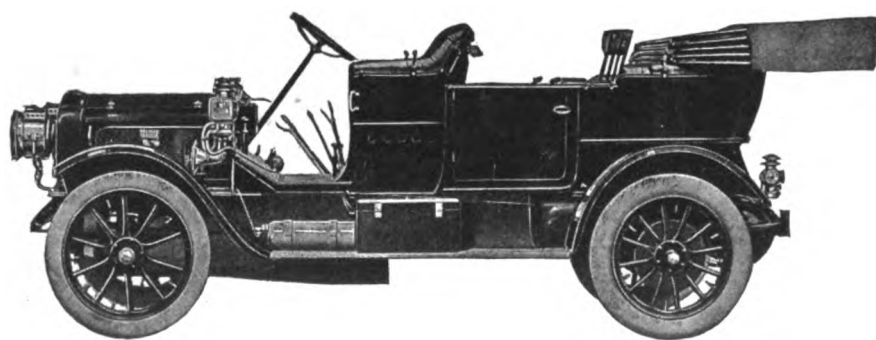
Although the city of Reichenberg, Austria, and the surrounding country possess a great number of automobiles, and the roads are excellent and well adapted to touring, only one American automobile is owned in that district. Consul Charles B. Harris, stationed in this Bohemian town, reports that a good market exists there for high priced as well as medium priced automobiles, and that the well-to-do people of the neighborhood bought fully 800 automobiles during the past year. "The car desired in the immediate neighborhood of Reichenberg," says the consul, "is that constructed particularly strong for a mountainous country. There are many automobiles in this district, but only one American (a White), so far as known. The American cars can be sold here, if adapted to mountain traveling and their good qualities properly brought to the notice of the buyer."

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#### Carry the War to the "Horse Trotters."

The "nerve" of the corporal's guard of Brooklyn horsemen who are seeking to make more secure their pre-emption of a mid-section of the main highway to Coney Island is the most admirable thing about them. After the squelching of the "sneak" bill which would have served the horsemen's purpose, that two members of the legislature should father a measure which openly discloses the interests to be served shows the high order of statesmanship that inspires a portion of the New York legislature.

The day for "horse trots" on the public highways is past. That sort of thing constitutes a relic of provincialism. It has been too long endured in Brooklyn and the present is a good time to put a stop to it. The idea of permanently setting aside a public highway or any portion of it for the use of a particular form of sporting activity, whether with horses or automobiles, is ab-

horrent and contrary to the spirit of law and equal and exact justice.

The Coney Island Boulevard should be free for all manner of travel and the automobile interests should not be content merely to oppose the new and restrictive measure introduced at Albany. They should carry the war to the "horse trotters" by having introduced a bill that will not permit such continuous use of a public thoroughfare. It will throw those men on the defensive and serve to give the popular boulevard, and all of it, to the whole people, to whom it belongs.

As there are three horse tracks in the immediate vicinity of that portion of Coney Island Boulevard which the horsemen are seeking to grab, there is not and never was real excuse for permitting their "horse trots" on the highway; and that thousands of road users should be inconvenienced for the sake of the pleasure of ten or fifteen owners of high stepping nags—rarely is even that number in evidence—ought to be, if it is not, unthinkable.

#### Improving the Garage Service.

Perhaps it is not too much to say that the immense importance of the public garage is yet to be thoroughly appreciated. In a way, that is much the same as saying that people never appreciated the advantage of the village "boarding and sales" stables; but in a way it is much different. In the case of the motor vehicle, certain equipment features are required which the ordinary establishment of limited resources cannot acquire; which are beyond the means of the private owner, and which can be maintained only where a not inconsiderable amount of capital and a fairly good run of business are available. The well-established garage thus assumes an institutional importance which the enlarged stable never could pretend to. The present strength of the manufacturing end of the industry is a just cause for pride. But the garage business, taken as a whole, is an even greater enterprise; it involves the maintenance of all the cars at present in existence, as well as the provision for those which constantly are being thrust upon the market in such bewildering numbers.

A serious reflection in this connection is that the garage business always has been supposed to be a none too profitable undertaking. Save in rare instances, garagemen in town and country always insist that repairs, which constitute an important portion

of the garage's function, are more or less of a burden. There are plenty of reasons why this should be the case, and, possibly, a few why it should not. At all events, the complaint generally excites no comment and little sympathy, if any. But when the case of the isolated garageman who is forced to spread out the income from his garage to cover the repair shop is multiplied to the extent of covering the establishments which must care for the 300,000 cars, which it has been claimed are at present in use in this country, it appears that the garage problem is one of considerable gravity.

Like any other business which is built up by the annexation of small and unallied units, the garage undertaking is not subject to the same co-operative growth which the evolution of a producing industry usually results in. It is more like the evolution of the small store—conditions improve as facilities for conducting it, and fixtures, machinery and supplies multiply and cheapen; and the income of the average establishment of its class is governed in large measure by the general prosperity. All the same, the garage business as a whole is amenable to certain influences which automobile manufacturers and private owners alike can bring to bear. Certain abuses are to be discouraged, certain standards of conduct fostered, certain frictional elements such as overcharges, the tipping evil, substitutions of branded supplies and the like, may be adjusted alike by certain subtle methods known to the trade, and by external pressure brought to bear by the motorist himself. The garage problem is one of manifold application, but requiring individual solution. Nevertheless, it presents interesting possibilities for study and exploitation and is destined to continue to do so clear down to the end of the chapter.

#### About Driving on the High Speed.

Unless motorists are carefully instructed in the proper use of the machine, it is possible that the development of the motor which is characterized by high torque at low speed may become a not unmixed blessing. Just at present, with the long stroke proportions in high favor and slow rates of car speed demanded on high gear, this type of engine is very much to the front; or, rather, designers are striving very hard to develop this particular quality in their products. Nor is there any question as to the real merit of the principle in-

volved. The danger is that as a direct result of the general publicity which it receives and the ambitions of the average owner to put his machine through its best paces upon every possible occasion, the long stroke, slow speed engine may be subjected to undue abuse; and that short life in the bearings and high fuel costs may lead the engine itself into disrepute which is wholly undeserved.

As was pointed out a year or two ago, when continuous running on the high gear first became prevalent, it always is unwise and expensive, from the mechanical point of view, to operate the engine under overload conditions merely for the sake of keeping the speed lever in a certain position which happens, for the moment, to be fashionable. And this is about all that high gear running amounts to in many cases. Abuse of the engine under such circumstances causes the connecting rod brasses to wear excessively, develops looseness in the crank shaft bearings and generally tends to rack the car from end to end. Such abuse develops whenever it is attempted to force the car to climb too steep a grade on high gear, to force its way through deep mud on high gear with the engine partially throttled when the transmission is set for the direct drive, or whenever unduly rapid acceleration is attempted on city streets under similar mechanical conditions.

Another point to be considered in the same connection is that of fuel economy—never one to arouse much interest, but a point which, in the aggregate, is of vital importance to the industry and the trade. As may happen when any single feature is given excessive prominence, there is some chance that its development may lead to the neglect of others. Automobile design involves so much of compromise that to make a decided departure in any direction is pretty apt to lead to equivalent compensation in another. This is not the same as saying that the long stroke motor is not economical; merely that if slow speed and a powerful turning moment are made to appear the only desiderata, there is some chance that, among other things, economy may be sacrificed.

Largely the question is one for the operator to consider. Motorists should learn that the advantages of the high gear are as readily subject to abuse as any other advantages which may be available. Several years ago practically every car produced was supposed to be capable of making sixty

## COMING EVENTS

May 13, Denver, Colo.—Automobile races at Overland Park.

May 13-14, New York City—Motor Racing Association's 24 hours race at Brighton Beach track.

May 14, Kansas City, Mo.—Automobile Club of Kansas City's hill-climb on Dodson hill.

May 14, Vicksburg, Miss.—Vicksburg Automobile Association's hill climb on Mackey's hill.

May 18, Cheyenne, Wyo.—Cheyenne Motor Club's race meet on motordrome.

May 18-19, Norristown, Pa.—Norristown Automobile Club's third annual endurance run to Scranton and return.

May 19, Chicago, Ill.—Chicago Motor Club's second annual demountable rim test.

May 19-21, Hartford, Conn.—Automobile Club of Hartford's All-Connecticut reliability contest; 600 miles.

May 22, Fort Worth, Tex.—Fort Worth "Star-Telegram" endurance run.

May 22, Memphis, Tenn.—Automobile races at Tri-State fair grounds.

May 22-23, Brooklyn, N. Y.—Crescent Athletic Club-Long Island Automobile Club amateur touring contest on Long Island for Pardington trophy.

May 25, Columbus, O.—Columbus Automobile Club's reliability run to Indianapolis, Ind.

May 27, 28 and 30, Indianapolis, Ind.—Grand Circuit meeting and national championship races on Motor Speedway.

May 27-31, Washington, D. C.—Washington "Post" five days endurance run to Richmond, Va., and return.

May 28, White Plains, N. Y.—Amateur Automobile Contest Association's hillclimb.

May 28 and 30, Kansas City, Mo.—Automobile Club of Kansas City's two days' race meet at Elm Ridge track.

May 28-31, Syracuse, N. Y.—Central New York inter-club relay run.

May 29-30, San Francisco, Cal.—San Francisco Motor Club's two days race meet at Tanforan.

May 30, Oklahoma City, Okla.—Oklahoma Automobile Association's reliability contest.

May 30, Bridgeport, Conn.—Bridgeport Automobile Dealers' Association's hill-climb on Snake hill, Fairfield.

May 30, Denver, Colo.—Denver Motor Club's road race.

May 30, Briarcliff Manor, N. Y.—Amateur Automobile Contest Association's hill-climb.

May 30, Denver, Colo.—Denver Motor Club's annual road race.

June 1, Berlin, Germany.—Start of Prince Henry tour, finishing at Homburg on 8th.

June 2, New York City—Annual Orphan's Day outing at Coney Island.

June 3-4, Buffalo, N. Y.—Automobile races at Fort Erie track.

June 4, Worcester, Mass.—Automobile Club of Worcester's annual hillclimb on Dead Horse hill.

June 4, Philadelphia, Pa.—Quaker City Motor Club's race meet at Point Breeze track.

June 6, Atlanta, Ga.—Start of second annual New York-Atlanta Good Roads Tour, ending in New York June 14.

June 7, West Haven, Conn.—Yale Automobile Club's third annual hill-climb on Shingle hill.

June 11, St. Louis, Mo.—Automobile Club of St. Louis reliability contest.

June 11, Newark, N. J.—New Jersey Automobile and Motor Club's 280 miles reliability run.

June 11, Portland, Ore.—Portland Automobile Club's annual road race for Wemme Cup.

June 11, Wilkes-Barre, Pa.—Wilkes-Barre Automobile Club's annual hill climb on Giant's Despair.

June 15-30.—American Automobile Association's seventh annual national touring and reliability contest for the Glidden trophy, starting from Cincinnati and finishing at Chicago.

June 16-22, Albany, N. Y.—Albany Automobile Club's sixth annual tour to Atlantic City, N. J., and return.

June 25, Port Jefferson, N. Y.—Automobile Club of Port Jefferson's hillclimb on East Broadway hill.

July 1, 2 and 4, Indianapolis, Ind.—Grand Circuit meeting on Motor Speedway.

miles an hour on the road. Little is said of the maximum attainable speed at the present time, for the reason that the public has learned that almost any car will go as fast as the inclination of the average driver will require under normal circumstances. The present tendency among manufacturers is to advertise the slowest speed which the car will make on the high gear. But until

the public learns that, like the maximum, the minimum speed is for use only under special and favorable conditions, there is likelihood that abuse of that feature will prevail to some extent, and that high fuel and maintenance costs will result in certain quarters. What is necessary above all else is to teach the operator to favor the engine under all circumstances.

## SPORT ON ATLANTA'S SPEEDWAY

**Southern Course Provides Three Days of Good Racing—Feature Event a Thrilling Contest Run in Rain.**

Although no world's records were broken and few speedway marks were eclipsed, the three days' meeting at the Atlanta (Ga.) Speedway on Thursday, Friday and Saturday last, May 5, 6 and 7, was productive of some good sport. The races were well attended, though the crowds were not as large as the promoters doubtless would have desired. Fair weather greeted the contestants until late Saturday afternoon, when the final race was in progress.

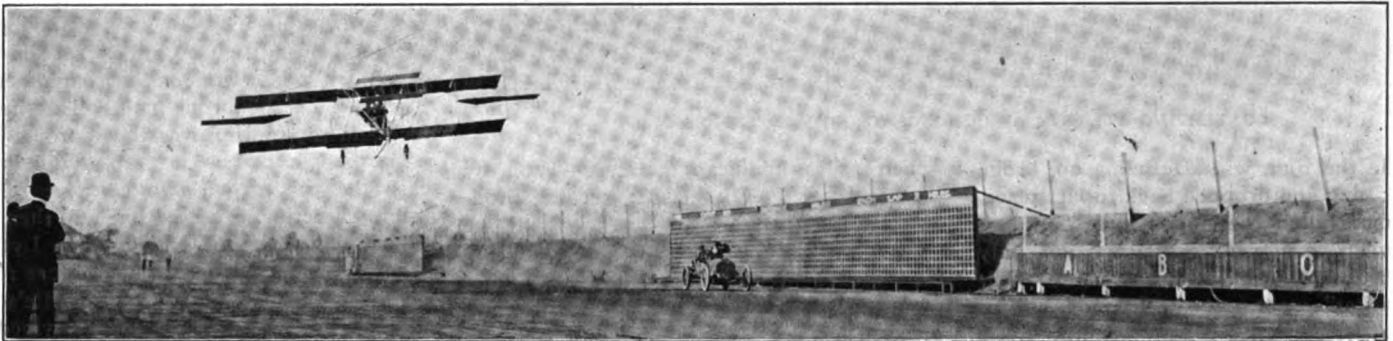
So far as honors are concerned, they were well divided between the most prominent drivers. Ralph DePalma and his Fiat corralled three firsts, one second and two

15:57.41, the former record of 16:27.79 having been made by Robertson at the Atlanta meet last year. As there was no previous record for the distance, Kincaid and Aitken established a 200 miles 451-600 cubic inches category; Endicott established a record for 12 miles—13:21.95. None of these performances is very remarkable, as compared with the times made on the record-breaking board track at Los Angeles.

One of the added features of the meet was an aeroplane exhibition by Charles K. Hamilton, who made noteworthy flights each day, during the progress of the long races. One day Hamilton raced Kjelson, in an S. P. O. car, for four miles, or twice around the track. The man-bird sailed low to the ground and not more than a few feet separated car and airship any part of the distance. The aeroplane won out in the final stretch by a few feet, the time for the four miles being 5 minutes 6 seconds. Previously Hamilton had made one circuit (2 miles) in 2:38 $\frac{1}{4}$ .

breaking. Then the National went through the fence, as previously stated, in the 49th mile, and Clicquot retired at 52 miles, having run most of that distance on three cylinders. Strang got back into the race, but stopped three times before 150 miles, so that he never was a serious contender. By the time he had reached this distance Harroun, in his Marmon, had finished. To hold the interest of the spectators, a special handicap race between Asa C. Candler, Jr., Fiat, and William Stoddard, National, was run while Harroun was grinding off his miles. Candler allowed Stoddard one minute and the latter held the lead for 7 miles, when the Fiat romped past and came home a winner.

The first event of the day—a 20 miles 451-600 cubic inches stock chassis event—resulted in the only record of the afternoon. DePalma won over Aitken in 7:55.41, a record for the class, Endicott, in a Cole, won the 10 miles for cars within the 161-230 cubic inches classification, and Harroun and



THE HAMILTON-DE PALMA FIRST AERO-AUTOMOBILE RACE

thirds, which, upon a basis of 5, 3, 2 and 1 points for first, second, third and fourth, respectively, netted him 22 points. In cash prizes DePalma scooped in \$450. The next highest scorer in points was Ray Harroun, the victorious Marmon pilot, whose three firsts and two seconds netted him 21 points, \$900 in cash and a leg on the Atlanta Speedway \$10,000 trophy. Although he did not win as many races, Herbert Lytle, a familiar figure in all big races, won as much cash as any other individual driver. He scored a first, three seconds and a fourth, but in the race he won the prize was \$500, while a second prize netted him \$300. Altogether his cash prizes amounted to \$900.

The biggest team "killing" was placed to the credit of Robert Kincaid and John Aitken, the National cracks. Together they scored two firsts, two seconds and two thirds, netting them 20 points, \$1,300 in cash, and a grip on the Atlanta Automobile Association trophy, valued at \$10,000. Endicott, in the Cole car, also made an excellent showing, winning every race in his class—three of them; he got two cups and \$300 in cash.

In respect to records, DePalma broke the 20 miles speedway record, 450-600 cubic inches class, by covering the distance in

The only accident of the meet occurred the first day, during the 200 miles race. Aitken, in the National car, had completed 49 miles when the steering gear became deranged. The car went through the inside fence and over a 25-foot embankment. It remained right side up, however, and Aitken and his mechanic were uninjured, while the only damage to the car was two unshipped front wheels and a smashed radiator. But for the fact that Aitken had the presence of mind to shut off the power and apply the brakes when the car started through the fence he damage would have been more serious.

#### Thursday—May 5th.

Seven events comprised the first day's program, but in none of them were the finishes close enough to induce heart failure on the part of the spectators. The 200 miles for stock chassis between 301 and 450 cubic inches, which was to have been the feature event of the day, as the first prize consisted of a log on the Atlanta Speedway \$10,000 trophy and \$600 in gold, was robbed of its interest by mishaps. There were four starters—Aitken, National; Clicquot, Knox; Strang, S. P. O.; and Harroun in a Marmon. Strang was the first to experience difficulty, a steering knuckle

his Marmon car showed a clean pair of heels to DePalma and Aitken in the 10 miles free-for-all. DePalma attempted to break the 2 miles record, but his big car was not running smoothly and the attempt was unsuccessful. The summaries:

Twenty miles for stock chassis, 451-600 cubic inches—Won by Ralph DePalma, Fiat, 15:57.41 (speedway record); second, John Aitken, National, 16:61.08.

Ten miles match, amateur—Won by John Rutherford, Fiat, 8:53.30; second, Stoddard, National, 9:04.45.

Ten miles for stock chassis, 161-230 cubic inches—Won by Endicott, Cole, 10:47.87; second, Fain, Buick, 10:15.15; third, Cohen, E-M-F., 10:31.75.

Ten miles free-for-all—Won by Ray Harroun, Marmon, 7:43.47; second, Ralph DePalma, Fiat, 7:55.71; third, John Aitken, National, 8:06.06.

Two hundred miles for stock chassis, 301-450 cubic inches—Won by Ray Harroun, Marmon. Time, 3:02:31.25. (Only car to finish.)

Ten miles handicap—Won by Candler, Fiat, 7:55.14; second, Stoddard, National, 7:59.00.

Two miles against time—By DePalma, Fiat. Time, 1:32.09.



Friday—May 6th.

The great driving of Herbert Lytle in the 50 miles free-for-all on Friday was the feature of the second day's racing, and but for the fact that he had to stop and change a tire it is almost certain that he would have broken the speedway record for the to finish. At the start DePalma took the distance. The race was exciting from start lead, with Lytle second, the "Yellow Jacket" third, the Marmon fourth and the National fifth. For 6 miles there was no relative change in the teams, but on completing the

Marmon, 0:41.19; third, Walter Christie, Christie, 0:42.79; fourth, Herbert Lytle, American, 0:43.19.

Twelve miles free-for-all—Won by Ray Harroun, Marmon, 8:59.16 (establishing a speedway record); second, Herbert Lytle, American, 9:02.48; third, Ralph DePalma, Fiat, 9:03.58.

Ten miles for stock chassis, 301-450 cubic inches—Won by Herbert Kincaid, National, 8:18.11; second, Ray Harroun, Marmon, 8:43.83; third, Lewis Strang, S. P. O., 9:58.81.



CONTESTING ATLANTA ASSOCIATION TROPHY IN THE RAIN

8th mile the Fiat, with DePalma up, broke a spark plug and dropped back to last place. DePalma trailed the bunch until the 30th mile, when he moved up one position, only to quit altogether at 40 miles. The "Yellow Jacket" went out at 23 miles. Kincaid, in the National, led at 40 miles, Lytle having stopped to change a tire. When Lytle got back into the race the prettiest contest seen on the track developed. Throwing caution to the four winds, Lytle opened wide and started after Kincaid. The crowd was on tiptoe as the cars rounded the last turn, Kincaid slightly in the lead. The finish was superb! Lytle flashed over the line a few feet to the good, with the accompaniment of a volley of cheers.

The 12 miles free-for-all also was a great spectacle. The Fiat got away in the lead, the Marmon second and the American third. At the end of the fourth mile Harroun (Marmon) went to the front and remained there until the 8th mile, when something happened to DePalma and put him out of the running, and Lytle passed Harroun. The last lap practically was a neck and neck duel between this pair, Harroun winning in 8:59.16, and establishing a speedway record for the distance, no previous mark having been recorded. The mile free-for-all went to DePalma, by a margin of a second over Harroun, Walter Christie finishing third. This was the only event of the meet in which the unlucky Christie figured. Endicott also established a class record in the 60 miles event for small cars, which he won. The summaries:

One mile free-for-all—Won by Ralph DePalma, Fiat, 0:40.32; second, Ray Harroun,

Ten miles handicap, amateur—Won by Woodside, S. P. O., 8:26.32; second, Stoddard, National, 10:47.76.

Sixty miles for stock chassis, 161-230 cubic inches—Won by Endicott, Cole, 1:00:28.45; second, Cohen, E-M-F., 1:02:58.90.

Fifty miles free-for-all—Won by Herbert Lytle, American, 40:20.02; second, Herbert Kincaid, National, 40:21.17.

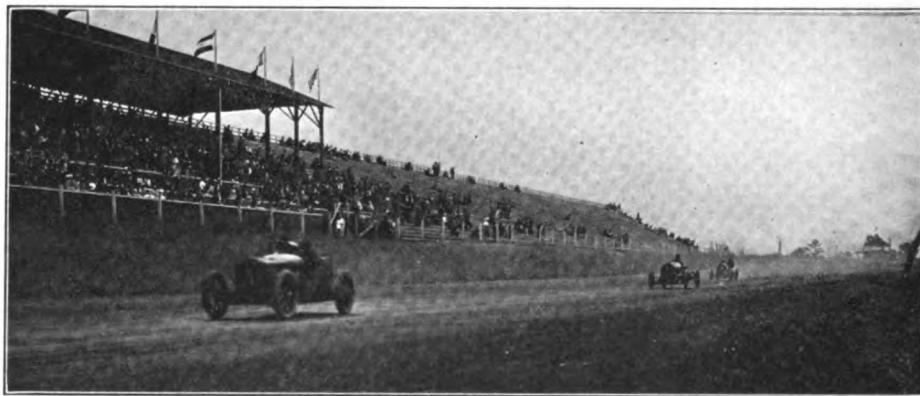
Saturday—May 7th.

Driving through an inch of water, with

Lytle, the latter being 10 miles ahead of Ralph DePalma. The other three cars were hopelessly out of it. It probably was one of the most thrilling events ever witnessed on a track, and the drivers who survived the oil and mud plug richly deserved all they earned. Aitken, however, should not get all the credit of the victory, as Kincaid had the wheel for the first part of the journey.

At the start the American car took the lead, with the National second and the Fiat third. These three cars maintained their relative positions until the 60th mile, when the Fiat, with DePalma up, passed Kincaid, in the National, the latter regaining second place after 20 miles more of fast driving. There was no further change until the 106th mile, when the National car assumed the lead. Aitken then took the wheel at about the same time the rain commenced, and he had the nastiest part of the drive.

When the rain started the real excitement of the event began for the spectators. As each car passed the grandstand it could be seen that the wheels were throwing up sheets of spray that so enveloped the drivers that it was a wonder they could see the track. The water brought the oil to the surface and the footing was treacherous. Tires were thrown in two instances, and in one case the car turned two complete circles in one direction, reversed one and then continued the race. This happened to Lytle at the end of the 120th mile, just before reaching the grandstand. After Lytle's car stopped its gyrations he calmly wiped the oil and dirt from his goggles and proceeded down the stretch. He certainly showed gameness throughout the race, and but for the fact that he had to stop twice to change tires the final sprint between him and Aitken might have made long distance au-



TRIPLE FLIGHT IN FRIDAY'S FREE-FOR-ALL

the wind blowing a gale of 60 miles an hour, the rain pouring in torrents and every revolution of the wheels throwing sheets of spray and oil in his face, John Aitken, piloting a National car, finished first in the 200 miles stock chassis race for the Atlanta Automobile Association \$10,000 trophy, on Saturday afternoon. Aitken finished 5 miles ahead of his nearest competitor, Herbert

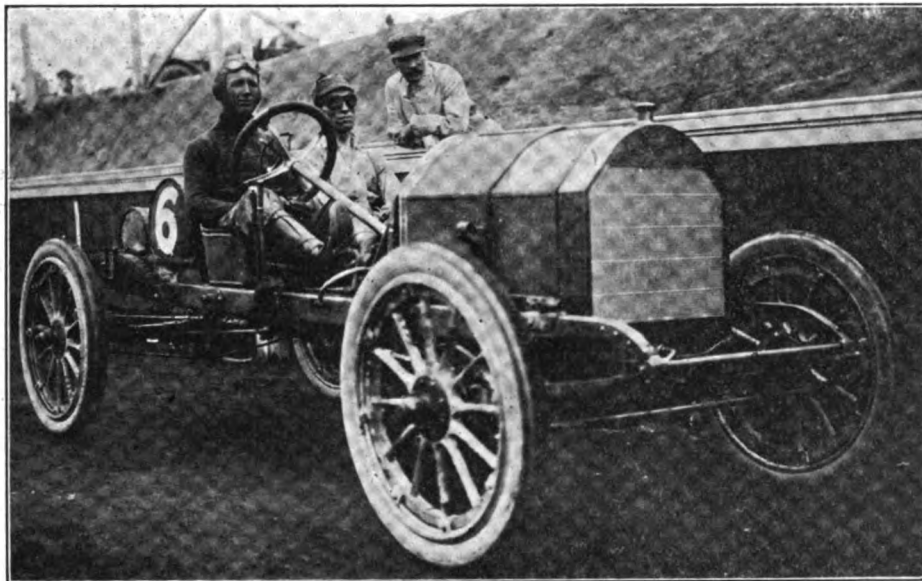
tomobile race history. When DePalma finished, Starter Wagner called the race off. Harroun then was running in fourth place. Stoddard in the National was fifth, and Strang in the Allen-Kingston sixth. The Renault, the seventh car to start, left the track after completing 28 miles.

The rain, of course, broke up the meet after the 200 miles event, but before the

water fell two other good races were witnessed. DePalma won the 10 miles free-for-all in fast time and Endicott, in his little winning Cole, captured a class event and established a speedway class record for 12 miles, covering the distance in 13:22.60. The summaries:

Ten miles free-for-all—Won by Ralph DePalma, Fiat, 7:39.40; second, Herbert Lytle, American, 7:43.46; third, Herbert Kincaid, National, 8:19.05.

Twelve miles for stock chassis, 161-230 cubic inches—Won by Endicott, Cole, 13:21.95 (establishing speedway record); second, Cohen, E-M-F., 13:22.60.



ENDICOTT, COLE "30," UNIVERSAL, WINNER IN HIS CLASS

Two hundred miles for stock chassis, 451-600 cubic inches—Won by Kincaid and Aitken, National, 3:02:24.47 (establishing speedway record); second, Herbert Lytle, American, 3:05:10.25; third, Ralph DePalma, Fiat.

#### Sensational Spill in California Race.

Starting seventh in a field of eight, Frank Free, driving a Winton car, won the Fresno-Coalinga (Cal.) 64 miles road race on the 1st inst. in 1:11.43, and clipped 13 minutes from the former record for the course. Nick Nickrent in a Buick was a close second, in 1:14.52 and Stone in a Great Western third in 1:19.32, all three getting inside the old record. The race was marked by a sensational accident, in which Frank Murray at the wheel of a Buick narrowly escaped being killed. While attempting to pass a non-contesting car on a level stretch Murray was temporarily blinded by a cloud of dust and plunged into the rear of the other car at full speed. After turning three somersaults, the Buick landed in a field 45 feet from the road, a wreck, and Murray was picked up unconscious. Not having sustained serious injuries, he soon was revived, and later competed in the track meet at Coalinga.

## TIGHTENING ANTI-JOY RIDE LAW

**Technical Loophole, Through Which Offenders Escaped, to be Closed—Amendment that Serves the Purpose.**

Following the release by Judge Malone of two men who had "borrowed" an automobile standing in front of the Chalmers garage in New York, because the present law relating to unauthorized use of motor cars did not specifically include the streets of the city, Assemblyman Harold Spielberg

years have held "horse trots" on a portion of the Coney Island Boulevard to the inconvenience of all other traffic, have found two other legislators anxious to do their bidding. Senator Cullen and Assemblyman Goodspeed are the men in question. In their respective branches of the legislature they have introduced measures restricting the use of the boulevard from Twenty-second avenue to King's Highway to light drawn vehicles, thereby barring bicycles and motor cars.

#### Vanderbilt Spectator Gets Big Verdict.

An echo of the 1906 Vanderbilt Cup race was the award this week of a verdict of \$7,000 to Ralph S. Baldwin, the fourteen-year-old boy who was run into and badly injured on the fifth lap of the contest—the same in which Joseph Tracy made the fastest time of the day. Although it was announced at the time that the boy had been injured only slightly, suit was brought against the Locomobile Co. of America for \$25,000 damages. In addition to the \$7,000 which was awarded the boy, his father, Dr. Winfield S. Baldwin, of East Norwich, Conn., was awarded \$1,000 for costs.

#### Another Pathfinder on Its Way.

With auspicious skies overhead and flying pennants advertising the promoting newspapers, the Columbia pathfinding car which will carry the "scouts" who will lay out the route for the second Good Roads tour from New York to Atlanta, Ga., next month, started from Herald Square on Saturday, 7th inst. At the wheel was Henry Rolfe, a factory driver, while the other occupants were L. M. Bradley, advertising director of the United States Motor Co., which tendered the car for the work, Photographer Lazarnik and a representative of the promoters.

#### Carris "Treking" at Cometlike Speed.

C. S. Carris, driving a Franklin touring car, now is engaged in what is styled "the Franklin trek," a 3,500 mile circuit that will take him into 50 of the principal cities east of the Mississippi. That he is not trying to see how slowly he can travel is evidenced by the fact that he drove from Syracuse to Boston, 350 miles, the first day, and from Boston to New York, via a circuitous route, 285 miles, the next day. He still was "hitting it up" when last heard from.

#### "Touring Club" Acquires More Room.

Having outgrown its former home at 239 West Fifty-fourth street; New York City, the Touring Club of America, Inc., which consists largely of A. L. Westgard, has taken more commodious quarters in the Jones Speedometer Building, at Broadway and Seventy-sixth street, occupying the two floors recently vacated by the United Manufacturers. It is said that over 2,000 "subscribers" now do their touring via T. C. A. diagrams.

of the 10th Assembly District, at the request of Carl H. Page, has introduced an amendment to the present anti-joy riding law which is designed to cover the point. The paragraph, amended accordingly, has been referred to the Committee on Rules. It reads:

"1,293a. Unauthorized use of vehicles. Any chauffeur or other person who, without the consent of the owner, shall take, or cause to be taken, from a garage, stable, or other public building or place, [including a public or private lot, yard or driveway, or a public highway, street, alley, park or other public place,] an automobile or other motor vehicle, and operate or drive or cause the same to be operated or driven for his own profit, use, or purpose, steals the same and is guilty of larceny and shall be punished accordingly.

"This act shall take effect September first, 1910."

The words in brackets constitute the amendment that has been offered.

#### Brooklyn "Horse Trotters" Bob up Again.

Although the sponsors of the Lee-Schultz bill in the New York legislature abandoned it to its fate when its real nature was exposed, the Brooklyn horsemen who for

## VIRGINIANS IN ENDURANCE RUN

**En Route They Shake Hands with President Taft and Are Held up by Constable—Four Clean Scores.**

Marked by a most unusual defection in the ranks of the entrants when time was called, the three days "good roads" endurance run promoted by the Richmond (Va.) Times-Dispatch on May 5, 6 and 7, attracted 23 starters, 19 of whom were actual contestants, and 5 of them finished the 468 miles run with perfect scores. When the entry lists closed there were 33 nominations in hand, but for various reasons 14 of the entrants failed to show up at starting time and the other four starters were new contestants. The cars were divided into 7 divisions, according to the price classification of the American Automobile Association, under whose sanction and rules the contest was held.

Those who finished with perfect scores were Evans Maxwell, Hudson; Lee Foelger, Buick; F. E. Nichols, Reo; J. R. Williams, Buick, and E. J. Allen, Rambler. Each of these will receive a cup for their performance and, in addition, they tied for the Sweepstakes Cup, possession of which is to be decided by a drawing to be held by the owners of the winning cars. Another cup winner was John B. Swartwout, Stevens-Duryea, who, although not coming through clean, was the only one in his division to finish.

Accidents commenced early, the first one occurring at Calbert, where, in fording a creek, Dr. R. C. Bryan's Chalmers was run into by L. M. Foster's Buick. The latter car was badly damaged but continued in the run. The first to be eliminated was D. D. Daniels, Hupmobile, who approached a bridge near Orange at high speed and collided with it. Daniels was thrown against a tree and rendered unconscious, and although not seriously injured he retired under orders of his physician.

The first day's run was to Washington, D. C., 178 miles, and the greater part of it was over such good roads that the motorists arrived at the night control several hours ahead of their schedule. The cars were parked for the night in front of the National Museum under police guard, and by midnight 17 had reported.

Before leaving the capital on Friday, 6th, the contestants drove to the White House, where they were greeted by President Taft, who, after shaking hands with each member of the party and being photographed with them, made a short speech congratulating them on the cause which they represented and of which he was heartily in favor and wished them success. The second day's run was to Harrisonburg, W. Va., 139 miles. Rocky roads and hills were frequent on the

run to Winchester and much tire trouble was experienced. Several of the cars were delayed by tire trouble and others lost time with broken springs, which added to their penalizations.

An early start from Harrisonburg was made on Saturday, 7th, the final day for the homeward run to Richmond, and several of the lucky ones who escaped trouble repeated the usual performance of finishing from two to three hours ahead of the schedule. The only untoward incident of the contest occurred near Mount Crawford on the last day, when three of the cars were held up for speeding by a constable on the outskirts of the town, who declared he had been delegated by the Mayor to corral those who exceeded the limit of 12 miles an hour. After fruitless argument the Mayor was summoned and held court on the spot, assessing each of the drivers \$10, which was paid. During the enactment of the little farce some of the tourists who came along later managed to get by successfully without being held up, as the minions of the law were too busy to notice them. Others who discerned from a distance what was occurring turned back and went through the town by another road which was pointed out by some kindly villagers. The action of Mount Crawford's Mayor universally was condemned.

For the first time during the run rain fell—on the last day; but this did not serve to dampen the enthusiasm of the crowds that lined the streets of the towns, and at Fife the most enthusiastic welcome of the trip was accorded, banners being stretched across the road, while little girls tossed roses into the machines as they passed. At Rio Vista a delegation from the Richmond Automobile Club met the returning motorists and escorted them to the final control, where 16 checked in. After a technical examination the scores were announced, as follows:

### Division 2A—Cars listing between \$801 and \$1,200.

Driver and Car.	Penalizations, Points.
Evans Maxwell, Hudson	0
R. T. Taylor, Ford	12
I. J. Tignor, Overland	73
F. Schwartzschild, Buick	185

### Division 3A—Cars listing between \$1,201 and \$1,600.

Lee Foelger, Chalmers	0
F. E. Nichols, Reo	0
Palmatary, Chalmers	290
Dr. S. H. McNally, Maxwell	317

### Division 4A—Cars listing between \$1,601 and \$2,000.

J. R. Williams, Buick	0
B. A. Blenner, White	20
E. J. Allen, Rambler	27
L. M. Foster, Buick	1,206

### Division 5A—Cars listing between \$2,001 and \$3,000.

E. J. Allen, Rambler	0
Dr. R. C. Bryan, Chalmers	7
Dr. B. L. Hillsman, Olds	15

### Division 7A—Cars listing \$4,000 and over.

J. B. Swartwout, Stevens-Duryea	—
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## SALT LAKE CITY SEES FIRST MEET

**And the Sport Was Exciting Enough to Please All—B. Oldfield & Co. Make Several Showings.**

Salt Lake City, which, needless to say, is in Utah, experienced its first taste of automobile racing on Saturday and Sunday last, May 7th and 8th, and, like the little child who had eaten all his candy, "cried for more." Despite the fact that Colonel Bill A. Pickens's genial personality and bar checks secured much advance publicity for Ben Kercher and Barney Oldfield, they were not the only thrill-makers.

There were a number of features at the first day's meeting, three of the events furnishing eyelash finishes, and they were so exciting that even Jack Prince, who built the Los Angeles mile track, and who is in Salt Lake City for a similar purpose, was moved to applaud. Another exciting incident was when Bert Smalley threw a tire and plunged through the fence, with no worse results than two broken fingers. The exhibitions of Oldfield and Kerscher were tame affairs, the former doing 55 seconds and the latter 58 seconds for the mile.

There were several stirring finishes and exciting incidents during the first day's racing—events so exciting that the crowd of 3,000 persons were in an uproar from start to finish. One of the closest events was the 5 miles scratch for stock chassis, which Bert Smalley won by a length in 5:55½. Frank Irving in a Thomas Flyer was the runner-up, and Bert Angell and Carl Winters were only a few yards behind at the tape. Another nerve-tingling race was the 5 miles handicap for stock chassis, which Bert Angell won by a yard from Frank Irving, the latter driving his Thomas Flyer. Oldfield won a 3 miles special handicap handily with his Knox, but was beaten by Carl Winters in the 5 miles free-for-all handicap by the narrow margin of a wheel's diameter. The summaries:

One mile against time—By Barney Oldfield, Benz. Time, 0:55. By Ben Kerscher, Darracq. Time, 0:58.

Five miles scratch, for stock chassis—Won by Bert Smalley, American; second, Frank Irving, Thomas; third, Bert Angell, Buick. Time, 5:55½.

Three miles handicap match—Won by Barney Oldfield, Knox (0:10); second, Ben Kerscher, Darracq (scratch). Time, 3:20¾.

Five miles handicap, for stock chassis—Won by Bert Angell, Buick (0:35); second, Frank Irving, Thomas (scratch); third, A. F. Savage, Hupmobile (1:30); fourth, Carl Winters, Buick (0:45). Time, 6:23¼.

Five miles handicap, free-for-all—Won by Carl Winters, Buick (1:30); second, Barney Oldfield, Knox (0:20); third, Ben Kerscher, Darracq (scratch). Time, 6:41.

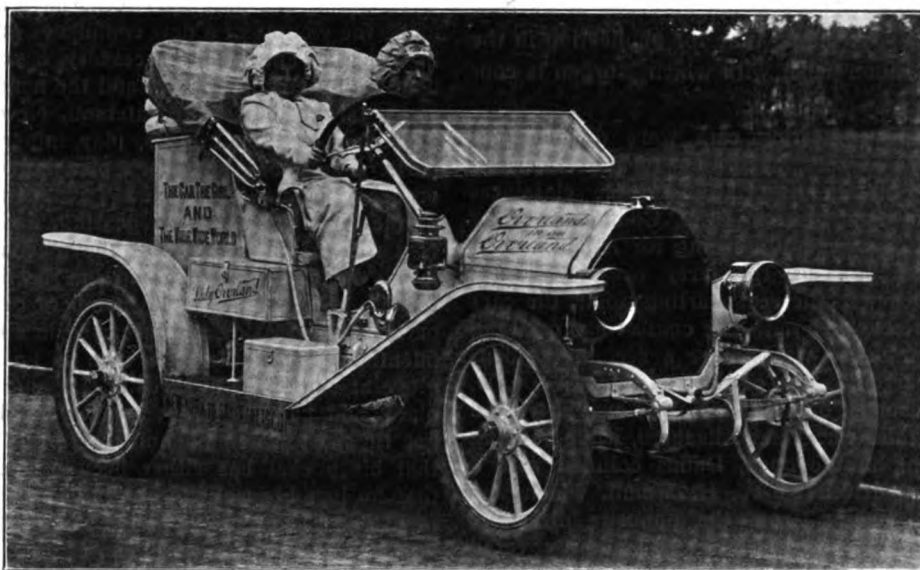
## MISS SCOTT TO CROSS CONTINENT

Woman Driver and Companion to Essay the Feat—Not a Fireworks Affair, but a Touring Demonstration.

Miss Scott—Miss Blanche Scott—is going to cross the continent, and in an Overland car. She will start from New York City on Monday next, 16th inst., and if she does not reach San Francisco it will surprise not a few of those who have met her. She is a bright, ambitious, bustling little woman who came to New York from Chicago a year or so ago, and here, as there, she has been acting as an automobile

of committees of welcome or by other of the means ordinarily adopted to mark the progress of a political organization committee or a circus. Instead the procession of one car will pass through hamlet and village unheralded save in sections where the coming of any car would be an unusual event, and indistinguishable from other cars save by the lettering on the side of the luggage compartment, which bears this modest device: "The Car, the Girl and the Wide, Wide World."

The car itself is a regular stock Overland runabout of 25 horsepower, which lists at \$1,000 and carries Goodyear "Q. D." tires, and standard equipment in every respect. Its only unusual feature is the luggage locker on the rear deck, which is especially



MISS SCOTT READY TO START HER OVERLAND TRIP OVERLAND

saleswoman and demonstrator for women purchasers—not overlooking the man buyer—and generally seeking to prove that womankind is as competent to handle steering wheel and levers as to hold a pair of reins.

She has been anxious to demonstrate the fact, and the Overland people have afforded her the opportunity. She is to set forth accompanied only by Miss Amy Lyman Philip, a lady of ripe experience as a foreign traveler and motorist, who, like Miss Scott, not only knows how to drive a car but is thoroughly familiar with its mechanism as well. No mere man mechanic will be included in the impedimenta of the trip, the ladies being absolutely convinced of their joint ability to cope with any emergency which may arise in the course of the journey. Such extra supplies and heavy repair-work as may be required will be secured at points along the way, one of the objects of the demonstration being to show that two energetic women cannot be stranded anywhere in this broad land.

It is explained in advance that the arrivals and departures from the various points of call on the journey will not be signalized by the firing of rockets, organization

constructed to hold four dress suit cases and a liberal repair outfit. This will suffice for the earlier stages of the journey; but at Granger, Wyo., a "Western outfit," including a tent and other camping utensils and baggage will be added.

The itinerary out of New York will be the well-traveled one as far as Chicago. From the Windy City, the route is mapped to touch at Milwaukee, Dubuque, Omaha, Hastings, Denver, Cheyenne, Laramie and Granger. The more serious part of the undertaking will be encountered after the departure from the latter point, whence the expedition will call at Ogden, making a side trip to Salt Lake City, Tacoma, Ely and Goldfield—this region of frontier romance not being included in the usual transcontinental program. From Tonopah the course will lie across the desert to San Francisco by way of Los Angeles. No attempt will be made to follow a fixed schedule, nor effort made to break records, and in every respect the trip will partake of the nature of a leisurely sight-seeing trip such as any two women might take without the idea of demonstrating anything except their own ability to look out for themselves.

## STRIKING FLORAL DECORATIONS

Chicago's Parade Brings Out Some Beautiful and Unique Designs—The Ones that Secured the Awards.

To select a coterie of 11 "best decorated" cars from a field of over 150, most of which represented an individuality and artistic effort worthy of reward, and at the same time retain the good will of the non-winners, was the well-nigh impossible task assigned to the judges of the Chicago Automobile Trade Association's floral parade on Monday last, 9th inst. It was the first annual affair of the sort under local trade auspices, and although somewhat marred by the postponement from the previous Saturday, on account of rain, which considerably cut down the number of participants, it nevertheless was the largest ever held in Chicago.

Comparatively few of the cars were embellished with natural flowers, but those which were made a handsome appearance. The first prize in this division was easily won by D. J. Joyce, in an Alco, which was a veritable bower of American Beauty roses. Joyce's win was an expensive one, for the postponement of the parade necessitated a duplicate order of flowers to replace those originally intended for Saturday. Thomas Murray, with a special limousine bedecked with roses, carried off second prize, and F. J. Paterson's Stearns similarly dressed, received honorable mention.

For cars using artificial flowers, an Oldsmobile entered by the local agency was conceded to "outblossom" its rivals, the color scheme being purple and white, clematis blossoms being used to further the effect. The occupants were young ladies dressed in white duck with purple and white hats. The impending visit of Halley's comet was anticipated by a White, which was rigged up with white and yellow chrysanthemums, and a huge yellow ball and streamer carried aloft to represent the celestial visitor. This effort was rewarded with second prize. A Royal Tourist, in keeping with its name, carried as passengers several European "royalties" and received honorable mention.

The judges had a hard time selecting the winner in the electric division, but finally settled on a Detroit, its embellishment suggestive of flight aiding in the selection. The car itself was covered with white chrysanthemums, while before it "flew" a bevy of huge butterflies, lending the impression that the winged insects were drawing the vehicle. Deprived of first place, the Baker, rigged up as an immense swan and appearing very realistic, took second award without serious opposition.

In the private owners' class a Winton

showered with red poinsettias carried off first award and the consolation went to a McFarlan, driven by Mrs. C. A. Coey. There was much rivalry among the entrants in the float division, and the surprise sprung by Manager McNab of the Maxwell branch easily surpassed the other arrangements. McNab, who is a canny Scot, had rigged up a Maxwell to represent Scotia, and was very strong on details, having heather and thistle from his native land and a quartet of Scotch pipers to extract Highland airs from the bagpipes. This float was one of the hits of the parade. Appealing strongly to the great army of baseball "fans," the Overland display was very striking and took second honors in the float class. Faithfully duplicated to the smallest external detail was a huge baseball built of white flowers, with a violet hued bat of proportional size, which pierced the immense sphere. Surmounting the ball were figures representative of both the big league ball teams in the Windy City.

Other strikingly decorated cars were a Locomobile covered with yellow and white chrysanthemums and Mercury wings on the wheels, a Brush with a golden crown covered with flowers, a Selden torpedo suggesting a flower-laden yacht with the sails, manned by girls, and a Hupmobile rigged up as a locomotive, the only things necessary to complete the realism being steel rails and the hiss of steam.

#### The Car that Accompanied Weston.

Ordinarily an automobile when crossing the American continent tries to make some sort of speed record, but the 12 horsepower Maxwell runabout which accompanied the veteran walker, Edward Payson Weston, on his jaunt of 3,500 miles, performed a lot of even more trying work—slow-speed travel and often with unusually heavy loads on "fierce" roads. Despite the fact that the car was not washed or polished during the long trip, according to the statement of the driver, Dundas Kinnaird, no adjustments or repairs were made on it, with the exception of a feed pipe running to the carburetter which was worn by vibration. The car was employed for carrying Mr. Weston's baggage and cooking utensils, and conveyed hundreds of newspaper men; at one time twelve men were on the car at once.

#### Simple Means of Plotting a Route.

For laying out a proposed route on a road map, a very good tip is that suggested by an old-time tourist who follows the plan of using a number of short lengths of very fine chain, such as is used for eyeglasses, for example. When laid down on the map the chain readily lies over any road which it may be desired to follow, taking its curves easily and affording an easy method of tracing the route without straining the eyes or defacing the map. By using several short lengths of chain, branched routes may be picked out.

## COLLISION MARS MORGAN'S RUN

**But His Old Friends, the Hotel Keepers, Obtain Their Bits—31 Starters; Survivors Being Counted.**

The two days' reliability run from New York City to Atlantic City, N. J., and return, which W. J. Morgan conducted on the 10th and 11th under the title of the Motor Contest association, which is one of his several aliases, finished so late last evening (Wednesday) that the official report was not ready at this writing, although it was said that 27 out of 31 starters had finished. Inquiry at Morgan's office revealed the fact that the report would be ready some time to-day, in ample time for publication in the afternoon paper with which Morgan is connected.

The contesting cars were divided into seven classes, according to the American Automobile Association's price classification, and started from Columbus Circle at 8.30 Tuesday morning for Atlantic City. After crossing the ferry to Jersey City, which was the real starting point, the cars were checked out. The contest had not long been under way before a serious accident occurred to one of the contestants—Dr. D. A. Dallas, of Montclair, who was driving a Koehler car. Near Elizabeth, while bowling along in the open, Dallas collided with a Ford driven by W. H. Mount, which was approaching from the opposite direction. Both drivers turned out to avoid a covered wagon, the hood of which temporarily obscured their view and prevented them learning of each other's intentions. Five persons were injured in the crash, Dallas sustaining a scalp wound and bruises, while Mount had four ribs broken. Two lady passengers in the Koehler car were seriously injured, while the chauffeur, J. L. Breyer, sustained a dislocated knee and bruises. The cars were badly damaged.

Lakewood, the noon control, was 90 miles out, where an enforced stop of one hour was made for lunch. The afternoon run to Atlantic City was 66 miles, making the total for the day 156. The seaside resort was the rendezvous of two reliability contests on Tuesday night, the contestants in the Motor Club of Harrisburg's run also checking in there, so that both parties fraternized with each other. More than two-thirds of the New Yorkers completed the first day's run with scores intact. Rain on the second day made the going harder and brought penalizations to some who hitherto had escaped.

The starters and the cars they drove were as follows: Lewis Strang, Pierce-Racine; R. Newton, Stoddard-Dayton; F. Warming-ton, Cole; H. F. Earl, Auburn; W. C. Poretner, National; Paul Harvey, Franklin; Joseph Kingsland, Zust; Joseph Bell, Chalm-

ers; H. S. Clark, Mercer; Leo Anderson, Midland; Charles Hinman, Mora; W. H. Bowers, Regal; Charles F. Fox, Franklin; W. C. Davenport, Buick; Philip Hines, Buick; O. K. DeLamater, Mitchell; Robert W. Flagg, Welch-Detroit; L. M. Bradley, Maxwell; W. E. Shuttleworth, Haynes; George L. Reiss, Overland; J. L. Breyer, Koehler; Neil Whalen, Matheson; V. P. Pisani, Zust; R. G. Gillan, Hupmobile; E. D. Cutting, Hupmobile; Charles Schaefer, Maxwell; O. P. Bernhart, Croxton-Keeton; W. F. Bradley, Maxwell; L. P. Burne, Cadillac; N. L. Lichtenberg, Cadillac; Joseph Trehou, Mercer.

#### Tells Motorists a "Touching" Tale.

New Jersey automobilists visiting New York during the past few weeks have been made the victims of a new confidence game, in which an automobile accessory, a young man with a chauffeur's cap and the name of some garage located in Paterson, Newark, Montclair or the Oranges, play important parts. The young swindler's plan is to approach a machine at the New York entrance of the ferry house with a gearing, connecting rod or similar part of the machinery in his hand, to which a tag has been attached. One of the male members of the party is called aside and informed in a confidential manner that the man is an employe at one of the garages in this and that place, and had been sent to New York to get the part which he holds. He declares that his pocket has either been picked or that he lost his wallet, containing his railroad ticket. He completes his story with a modest request for the loan of \$1. The loan will be returned if the automobile owner will stop at the garage where he is employed. In nearly every case the motorist is caught by the plausible tale and the modest behavior of the swindler, and helps the fellow by handing out the amount requested. Inquiries at the various garages have been made, but without success. The swindler usually gave the name of Charles Fairchild.

#### Doctor's Car with an Unusual Record.

To use a car for two years to the extent of 29,463 miles, and to wash it but three times during that period, certainly is "going some." Louis Engel, the Cartercar agent at Buffalo, who just has become possessed of such a car, believes that it thus holds the "non-wash endurance record." The machine was turned in for a new Cartercar by Dr. Carr of Buffalo, who avers that but fourteen hours were spent during the two years in repairing, while the original spark plugs were still in the engine and, according to the doctor's statement, had never been removed nor cleaned. The car is still in good running condition, and Mr. Engel is questioning seriously the advisability of giving it a bath at this late date. In fact, he believes it holds a record of which few "hobos" can boast.



## HARRISBURG'S HARD CONTEST

**Rain During Two Days Makes the Going Sloppy—Technical Examination Necessary to Decide the Winners.**

Because of the hard racking they received it is thought unlikely that any of the cars in the three days' endurance contest promoted by the Motor Club of Harrisburg, Pa. which finished in that city last night, will receive perfect scores. Apparently seven

Harrisburg, Pa., at 7 a. m., under auspices that were not encouraging. Fifty cars got away without unusual incident, there being 21 cars in the manufacturers' class, 17 in the club members' division, and 12 official cars. The latter were alive with flags and there was no mistaking them.

The first stage of the journey led the drivers to Lebanon, and this really was the hardest part of the run, as it rained from the time the first cars set out from Harrisburg until the last cars checked in at Lebanon. Considering the fact that many

appreciated. Between Norristown and Jeffersonville there were several dangerous depressions in the road and railroad crossings that might have brought grief to the cars but for the thoughtfulness of the club in stationing couriers at these points. In fact, considerable interest was shown in all the towns passed.

After leaving Philadelphia the enduranciers encountered another rainstorm, but the excellent roads between Philadelphia and the sea are so constructed that they absorb the water almost as soon as it has fallen. As a result, no cars lost points between the Quaker City and Atlantic City.

The day's run of 168 miles brought disappointment to only four drivers in the manufacturers' class, a penalty of 15 points being assessed against G. F. Snyder, Mitchell; 4 points against H. P. Hardesty, Pullman; 19 points against E. Yeager, Columbia, and 27 points against W. P. Sieg, Kline-Kar. No reports were made for the members' division. The following manufacturers' cars had perfect scores:

J. A. Kline, Kline Kar; R. L. Morton, Kline Kar; C. C. Fairman, Kline Kar; Samuel Cole, Kline Kar; Frank Hosmer, Regal; John Burns, Franklin; Herbert Welker, Pullman; Norman Gallatin, Pullman; Herbert Bitner, Pullman; George Ickes, Pullman; W. W. Vandergrift, Inter-State; Thomas Berger, Warren-Detroit; H. L. Brownback, Enger; E. Greenwood, Marion; C. Greenwood, Overland; William McCalla,



HARRISBURGERS ARRIVING AT PHILADELPHIA

cars had no road penalties against them but it was given out that all the cars were more or less loose in parts or adjustments and that no scores would be announced until the technical committee has made an exhaustive examination of those that finished. No results will be announced until late tonight or Friday morning.

The contest began on Monday morning, 9th inst., the first day's journey taking the contestants from Harrisburg to Atlantic City, through a rain storm that damaged several scores. The second day's ride on Tuesday was from Atlantic City to Wildwood over a circuitous route through southern New Jersey, and the last leg of the journey was from Wildwood back to Harrisburg.

There are two classes competing for the numerous trophies offered by Harrisburg interests—a manufacturers' class and a class restricted to members of the Motor Club of Harrisburg, with the owners driving. In each class there are four subdivisions, as follows: Class A, touring cars listing at \$2,001 and over; Class B, touring cars listing at \$2,000 and under; Class C, roadsters listing at \$1,601 and over, and Class D, runabouts listing at \$1,600 and under.

**First Day—Monday, May 10.**

With a drizzling rain dampening the ardor of the contestants, the first day's run to Atlantic city started from Market Square,



CHECKING IN HARRISBURG CONTESTANTS IN THE RAIN

of the roads were rough and hilly, it is remarkable that so many got through without marks against them.

From Lebanon the contestants had fairly plain sailing into Reading, and from that city to Pottstown, Norristown and into Philadelphia, which was designated the noon control. The pilot car was the first to arrive in Reading, at 7.30 a. m., the remaining cars arriving within half an hour.

The Norristown Automobile Club showed its interest in the run in a way that was

Kline Kar, and A. D. Rea, Maxwell.

**Second Day—Tuesday, May 10.**

If the first day's going bordered a bit on the strenuous it was parlor car riding on Tuesday, and the dominant feature was the hospitality extended the visiting motorists in all the towns through which they passed. The route was from Atlantic City to May's Landing, Vineland, Alloway, Salem, Bridgeton, Millville and Cape May Courthouse to Wildwood, a distance of 137.6 miles.

The only withdrawal during the day was by G. F. Snyder, who had suffered a penalization of 15 points on the trip from Harrisburg to Atlantic City. Snyder experienced further trouble, which practically put him out of the running insofar as a perfect score was concerned, although he continued in the run as a non-contestant.

The reception at Vineland was out of the ordinary. That city is off the route of most endurance runs, and consequently the advent of half a hundred automobiles at one time was an event unprecedented in its annals. The town therefore was decorated in honor of the endurance hosts, the public schools declared a holiday and the municipal brass band met the tourists at the entrance to the city. One of Vineland's principal products is unfarmed grape juice, and to impress this upon the tourists each pas-

the Harrisburg Motor Club came to an end. The run of 196 miles from Wildwood, N. J., to Harrisburg, Pa., was undoubtedly the severest part of the journey. The run from Wildwood to Philadelphia was through a terrific rainstorm, which made the roads a sea of mud and delayed the drivers considerably. The delay caused the contestants to lose little time in Philadelphia, and a cup of coffee and a sandwich was all the dinner most of them allowed themselves. Despite the fact that in the larger cities passed through there was the usual quota of curiosity seekers, the reception accorded the contestants was cold and distant compared to the first two days.

The cars began arriving in Harrisburg a few minutes before 5 o'clock, and all of them were checked in before 5.30 p. m. Four Kline Kars and two Pullmans, with

worse than by allowing it to race at high speed without load.

Don't advance the spark lever when cranking.

Don't shift the gears without first releasing the clutch.

Don't apply the brakes hard except in an emergency.

Don't start before seeing to the gasoline, oil and water.

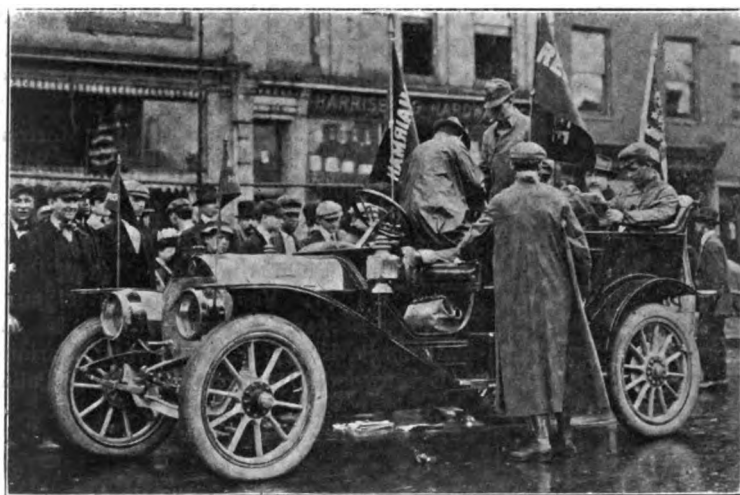
Don't tear the motor to pieces. Locate the trouble first.

Don't allow the machinery to be covered with dirt. Wipe it often.

Don't let in the clutch suddenly.

Don't hurry when operating the car and gear shifting lever.

Don't allow the motor to knock by reason of having the spark lever advanced too far ahead on heavy grades or when pulling



OFFICIAL CAR IN HARRISBURG ENDURANCE RUN



SHOWING ITS NUMEROUS BANNERS AND SIGNS

senger was presented with a large bottle of the delicious fluid. Every car also was decorated with "Vineland" pennants.

The reception at Wildwood also was enthusiastic. The automobile club had prepared an elaborate luncheon and reception, while a splendid orchestra discoursed music. Varied entertainment was provided in the evening, when the North Wildwood Automobile Club presented the Harrisburg organization with a sterling silver cup 24 inches in height.

Despite the easy going, there were a number of additional penalizations during the day. Frank Hosmer, Regal, was taxed 6 points; Herbert Bitner, Pullman, lost 1 point, and George Ickes, who piloted a car of the same make, had 15 points marked against his perfect tally. The others who fell from the clean sheet category were H. L. Brownback, Enger, with 9 points; C. Greenwood, Overland, with 12 points, and William McCalla, Kline Kar, who was penalized 3 points.

Third Day—Wednesday, May 11.

With 9 of the 21 cars that started in the manufacturers' class finishing with perfect road scores, the fourth annual contest of

a Franklin, Marion and Maxwell, were the machines to finish the 500 miles run with perfect road scores, but it was announced that no definite figures would be given out until to-day (Thursday). After finishing, all the machines were locked up and will be given a thorough test by the technical committee, and from Harrisburg reports it is thought that no cars will escape this final examination.

#### Decalog of Valuable "Don'ts."

"Advice is cheap" may be a trite saying, but nevertheless it often is very valuable to the recipient. The average novice in automobile driving is apt to get advice of the good, bad and indifferent sort from all kinds of well-intentioned people in staggering quantities, and it is "up to him" to pick out the good from the bad, the chaff from the wheat. The sort of advice given by the Hudson Motor Car Co. to the users of its cars may be accepted and utilized advantageously by the owners of other cars. It is condensed in a decalog of "Don'ts":

Don't race the engine. If you release the clutch the engine will run away. Close the throttle. You cannot abuse the motor

a heavy load. The driver will, however, find it best to keep his spark advanced where the pull is slight as the motor works cooler and uses less gasoline.

#### Suggestions for Prolonging Tires.

With the intent of relieving the owner of a motor car as much as possible of the troubles incident to the use of pneumatics, one of the prominent automobile concerns gives its customers the following good advice: Remove the tires from your car every 1,000 to 1,500 miles, separating the tubes from the shoes, cleaning each carefully and rubbing each with soapstone, scrape the rim and put on some graphite. Vulcanize all cuts and punctures so as to keep dirt and dampness from the fabric. It is advisable every once in a while to change the left hand tire to the right hand wheel. The valve stem of the inner tubes should be occasionally tested, so that the tire may not run partially flat, thereby injuring the fabric. Inner tubes should be carried in a dry place and away from oil and grease. Tires should be pumped up hard. Carefully following these suggestions will result in considerably increasing the average life of a tire.

**MOTOR CARS FOR EMERGENCY USE**

**How They Are Thus Employed by a New York Gas Company—Comparison with Cost of Horse Service.**

Despite the fact that hospital ambulances, police patrols, fire engines and similar "trouble wagons" occupy such an important part in the safeguarding of life and property in the large cities of the civilized world, it is not always easy to get reliable and unbiased reports comparing the old-style horse drawn vehicles of this class with the more modern motor propelled wagons. A notable exception to this general statement

has rear entrance, and two side lockers extending the entire length of the same and containing the repair tools, searchlights, safety helmet, first aid to the injured kit, etc. The lockers also provide seats for six men. The crew numbers five men at night and four men during daylight hours; the driver in each case being exempted from repair work.

As it is, of course, of the utmost importance that a complaint of leaking gas be responded to with the greatest possible speed, the practical efficiency of the department is dependent upon the promptness with which it responds to a call. When a representative of the Motor World called at the emergency station at 80 Elizabeth street, the crew just had returned from a

ceeds at once to the address given, the alarm gong usually insuring a clear passage. Immediately on arrival, the source of the trouble is determined. If it proves an inside leak, caused by broken house pipes, fixtures or meters, it is speedily repaired and the crew returns to the automobile. The foreman then telephones to the station to find out if any other call has come in the meantime, in order that it might be attended to direct, instead of returning to the station. If the accident is a more serious one, involving the rupture of a big main in the street, the men at once set up their searchlight, and proceed to open up the street. While engaged in this work the driver of the car, who possesses a list of all the company's workmen living in that district, collects a force of these and rushes them to the scene. They then take up the work of locating and repairing the leak, while the emergency wagon with its crew returns to the station to be ready for other calls.

Frequently the emergency crews are called in to assist the firemen at a blaze, their duty in such cases being the shutting off of the gas supply of the buildings. In order that the firemen and policemen readily may call out the emergency crews, small gummed labels are supplied them to be pasted in the helmet or cap, which give the several emergency districts with the telephone numbers of the stations.

The members of the emergency crews have nothing but praise for the good performance of the cars, and express themselves very emphatically about the advantages of the automobile over the horse-drawn trouble wagons formerly used. As one of the men put it: "Them horses in slushy weather was making more trouble for the men in the wagon than the trouble wagon could handle."

A careful record of the cost of maintaining automobiles in the emergency service proves that there is little to choose between the motor car and the horse-drawn wagon, the cost of operation and maintenance being practically the same in both instances, when single horse shifts are employed. In winter, and when traffic is hindered by slush and snow, two horses have to be used on each wagon, making the cost of the latter higher than that of the motor car.

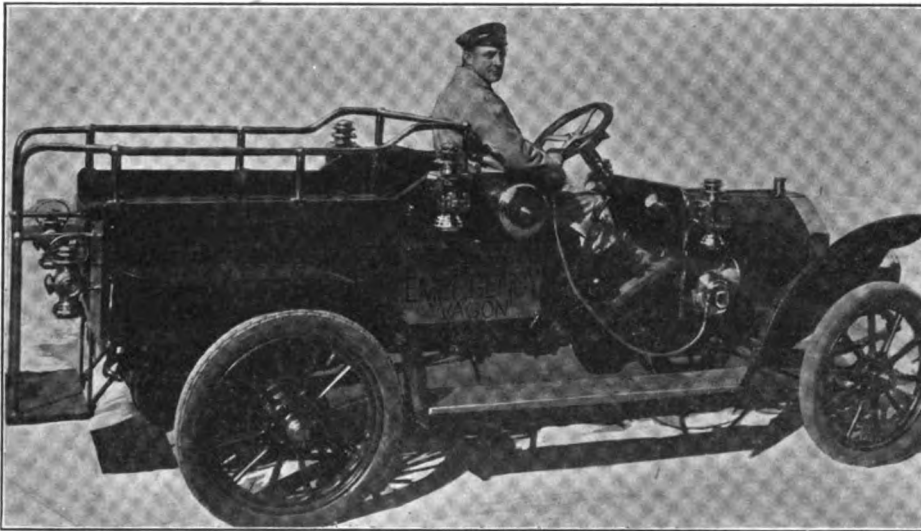
**Comparison of Operating Cost per Month.  
Automobile.**

Chauffeurs .....	\$165.30
Gasoline and Oil .....	8.45
Fire expense .....	12.82
<b>Total .....</b>	<b>\$186.57</b>

**Horse-Drawn Vehicle.**

Drivers .....	\$131.75
Horses (including all stable charges) .....	53.66
<b>Total .....</b>	<b>\$185.41</b>

The cost of repairs and depreciation have not been included in the above comparison, but the company's experience to date shows that the repairs and depreciation on the au-



EMERGENCY TROUBLE WAGON OF NEW YORK GAS CO.

are the emergency wagons of the Consolidated Gas Co. of New York City, three of which have been in service for several months.

Although firemen, belonging to the regular fire department of the city, are supposed to fight any blaze occurring within the limits of the city, often it is found impossible to attack the fire with any degree of efficiency, unless the gas supply to the house is shut off. In these cases help from the gas company had to be obtained, and this usually was sent by a slow moving horse and wagon. Finding that much time and money was lost in this manner, the Consolidated Gas Co. installed an automobile emergency service, which is doing excellent work.

For the purpose of quick service Manhattan Island is divided into three sections, in the center of each of which is located one of the "trouble stations." The equipment of each station consists of an automobile, carrying a complete emergency repair outfit, and a crew of several men. The machines are 35 horsepower models, with special bodies placed on the stock chassis, 36x4-inch Diamond smooth tread tires, and provided with one spare wheel each. The body

call to Leonard street, where a fallen chandelier had snapped the gas pipe and the gas was rushing into the house at a great rate, threatening a disastrous explosion. The man in whose flat the accident happened rushed across the street to a telephone pay station and called up the trouble department. He had barely reached his own door when the automobile dashed up to the curb and the crew started to stop the leak. The total time elapsed between the calling up and the arrival of the car was two minutes. The majority of complaints of leaking gas or accidents are reported to the company's emergency stations per telephone by policemen, firemen, janitors and tenants. The man on duty at the telephone, immediately on receipt of a call and before waiting to take the details of the complaint, sounds an electric alarm which summons the crew, who at once start for their quarters. In the meantime the telephone man has secured the address, written it on a ticket, and a messenger hands it to the foreman as the machine passes out of the yard. The record time for the whole proceeding is eight seconds, and at no station does it exceed fifteen seconds.

The automobile, leaving the yard, pro-

tomobiles will be approximately the same as those needed on the ordinary "trouble wagon." Adding to this the depreciation on livestock, the comparison becomes much more favorable to the automobile, as horses depreciate rapidly in the service demanded of them.

The rate of speed in responding to calls is now limited by city ordinance to fifteen miles an hour, and this rate is constantly maintained. Compared with the speed of the horse vehicles, and even with the speed limit strictly observed, the automobile shows a great advantage. Twelve calls taken at random from the records, when the

tant the call may be. On very short calls the two kinds of wagons would be equally efficient, but if a number of short calls follow each other in rapid succession the horse soon becomes exhausted and merely ambles along.

If the motor cars were not limited by ordinance to a speed of fifteen miles per hour, a much better showing could be made, as the cars easily are capable of going thirty miles an hour, with full crew and equipment. The much greater radius of activity of the motor car also adds to its advantages. It sometimes happens that two urgent calls from widely separated sections

showed that during three days in May, 1909, by actual count 5,003 automobiles and 4,988 horse-drawn vehicles passed the observer. Similar tests during February this year showed the following proportions: Motor vehicles, 5,956; horse-drawn vehicles, 2,778—giving the power vehicles a majority of 400 more than two to one. In the cab service particularly the motor taxicab is making short work of the old-fashioned hansoms, as the figures for several tests made in 1908, 1909 and 1910 prove. On April 9th, 1908, the observer counted 160 taxicabs and 80 hansoms; on April 19th, 1909, the proportion was 179 to 57, and on February 21st, 1910, the hansoms were outnumbered by 298 to 29, or more than ten to one.

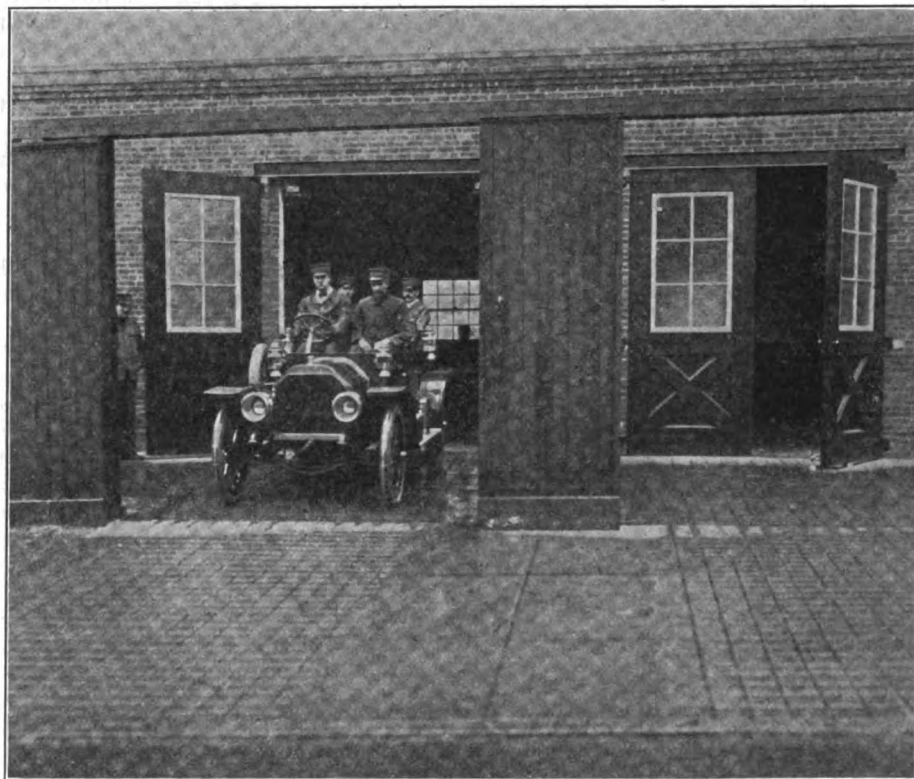
#### Taxicab Owners Sue Striking Drivers.

As a sequel to labor troubles which Chicago taximeter cab operators have been having with their chauffeurs during the last five or six weeks, three suits aggregating \$60,000 have been filed against the officers and members of the union. Action was brought in the Superior Court on Friday of last week, 6th inst., by the Walden W. Shaw Auto Livery Co., the Auto Taxicab Co., and the W. M. Trout Auto Livery Co., each asking damages to the extent of \$20,000 for alleged breach of contract. The defendants are the officers and members of the Auto Livery Chauffeurs' Union, No. 727, International Brotherhood of Teamsters.

It is charged that the members of the union violated their agreement with the employers when they declared a strike; their contracts being in effect until May 1 in two instances and until April 15 in the third. The case is being watched with interest, as it is the first to come up in the Cook county courts in which an attempt has been made to collect damages for violation of contract between employers and organized labor.

#### Total Wreck of a Fire Engine.

An automobile accident, in which a big brand new motor fire engine was completely demolished and three men were killed, occurred last Friday in Macon, Ga. The new automobile engine had been bought only the week before, and for the first time was driven by a member of the local fire department. The representative of the Webb Motor Fire Engine Co., who had delivered the machine and instructed the driver, was still in town when the accident happened. Going at high speed through a narrow street, the car grazed the curbstone, "sideswiped" one of the men against a telegraph pole, crushed his companion against a second pole, blew up both tires on the right hand side, skidded, and finally turned a somersault and fell on top of the remaining five men in the car, one of whom was killed outright. The driver was badly hurt and may die, while all the rest were painfully injured. The engine is a total loss.



EMERGENCY WAGON LEAVING STATION ON HURRY CALL

horse-drawn vehicles were in use, gave a total distance of 14.555 miles, which were covered in 103 minutes, making the average speed of the horse-drawn wagon 8.478 miles per hour. Taking twelve calls from the same district, where automobiles now are in use, and selecting, as far as possible, runs of the same nature as those chosen in the case of the horse-drawn vehicle, a total distance of 17.957 miles was covered in 72 minutes, or at an average speed of 14,064 miles per hour.

The best illustrations of the increased efficiency of the motor car over the horse-drawn vehicle, however, are supplied by the long distance calls. Before the installation of the automobiles, horse-drawn wagons would proceed for part of the distance at a high speed, but soon, owing to the horse becoming exhausted, the rate of travel would decrease and fall far below the average set up by the motor car, which travels at the same speed, no matter how far dis-

of Manhattan, but still included in the same "trouble" district, come simultaneously; in this case one of the automobiles of the other two districts must go beyond its own territory, sometimes as far as three and four miles. With the old horse-drawn wagons it was almost impossible to attend to such cases, and several costly conflagrations can be traced to the inability of workmen from the gas company to reach the scene of trouble promptly.

#### How the Horse is Being Retired.

The extraordinary advance of the automobile made especially in the large cities during the past two years is most clearly shown by a comparison of statistics giving the number of horses and horse-drawn vehicles in London, England. While there were 450,000 horses in London in 1900, there are now but 110,000. Special tests made at selected points within city limits, in no way preferred by touring automobiles,



## GLIDDEN SCOUTS NEARING CHICAGO

**Easy Sailing Follows Strenuous Mudplugging—Entry List is Extended—Seventeen Entries Already in Hand.**

After being delayed by heavy rains which rendered progress temporarily impossible, and was followed by a return to the old familiar occupations of mud bucking and bridge building in the early part of the week, the Glidden pathfinders now are again in the good roads belt and are making rapid progress towards their goal, Chicago. The daily runs practically are without incident, although longer, owing to the good

however, the pulling being done by a couple of electric cars. Although rendered well-nigh impassable after a heavy rain, the roads in the vicinity are said to be in fine shape in ordinary weather. After being in the clutches of a mudhole between Leavenworth and Atchison for four hours, the pathfinders finally reached the latter city at midnight, well soaked and very tired after their highly strenuous day.

Leaving Atchison late the following morning, the scouts continued their battle with the submerged roads, over which traffic had been suspended for three days, and pulled into St. Joseph that afternoon, after declaring that the stretch between Kansas City and St. Joseph was the worst that they had encountered so far on the entire trip.

good style and registered at Omaha that night, where they received a great welcome. The first accident of the trip occurred that day on entering Shenandoah, Ia., when Photographer Krohn was tossed out while the car was rounding a sharp turn. It was at first thought that his skull was fractured, but examination fortunately disproved this theory and he continued with the car. The 159 miles from Omaha to Des Moines, Ia., was traversed on Tuesday, 10th, in the official running time of ten hours. The car is expected to arrive in Chicago, the end of the tour, the latter part of this week.

Because of the unexpected length of time which has been required to map the route, the time for entering at the regular fee has been advanced from May 1 to 15. After



"SPYING OUT THE LAND" FROM ROADSIDE "WATCHTOWER"



TYPICAL APPROACH TO OKLAHOMA PRAIRIE TOWN

roads, and the escorts are virtually continuous.

Leaving Wichita, Kan., on the 4th, the pathfinders found excellent roads and made the longest day's run since the start—170 miles—stopping for the night at Ottawa, Kans. An escort of Wichita motorists accompanied the scouts as far as Emporia, where they were met by Kansas City brethren. Traversing the historic Santa Fe trail, the explorers on the 5th entered Missouri, the 10th state on the route, and completed the 64 miles between Ottawa and Kansas City.

With the rain falling in torrents, the pathfinders rolled out of Kansas City on the 6th, headed for St. Joseph, and, as might be expected, soon ran into difficulties. While plowing through mud and water up to the hubs, the Chalmers party came upon a bridge washout fifteen miles out, and a halt was made to consider ways and means of circumventing the elements. It was decided to recruit the farmers in the vicinity into a construction gang and, after a couple of hours' hard work, they constructed a bridge of railroad ties and stones over which the car was able to pass.

It was not long, however, before another difficulty presented itself near Leavenworth, where the flooded roads forced the scouts to take to the interurban tracks, and here they became stalled in the mire. Animal power was not called on for aid this time,

At St. Joseph the nose of the Chalmers was turned westward towards Omaha, and the logging of the newly added section of the



CROSSING AN OKLAHOMA FORD

tour commenced. The trail blazers enjoyed the hospitality of Marysville, Mo., on Sunday night, 8th, having had to stop and dig the sticky clay off the wheels several times.

With much improved roads on Monday the pathfinders boosted the odometer in

that date the additional fee of \$100 per entry, or \$300 in all will prevail.

It at first was thought the tourists could run from Dallas, Texas, direct to Oklahoma City, Okla., in one day, but the pathfinder reports that two days will be required for this distance, and another day must be added, making it impossible to reach Kansas City as at first planned for the second Sunday stop. From Dallas the run will be to Lawton, Okla., via Decatur, instead of Gainesville, Texas. Lawton will be the ninth night's stop, and the tenth day's run will be to Oklahoma City. This will bring the tourists to Wichita, Kans., for a day's rest on Sunday, June 26; and they will finish in Chicago Friday, July 1.

The official distance for the first half of the tour from Cincinnati, O., to Dallas, Tex., as recorded by the pathfinder's odometer is 1,253 miles, while the second half will be much longer on account of the addition of the Omaha section. Seventeen entries already have been made for the contest, of which 9 will compete for the Glidden trophy, 6 for the Chicago prize, and 2 non-contestants. The nominations are as follows: Glidden trophy—Premier Motor Mfg. Co., 2; Chalmers Motor Co., 3; Cole Motor Car Co., 1; Maxwell-Briscoe Motor Co., 2; Parry Auto Co., 1. Chicago trophy—Moline A. to Co., 3; Lexington Motor Car Co., 1; Cole Motor Car Co., 1; Parry Auto Co., 1.



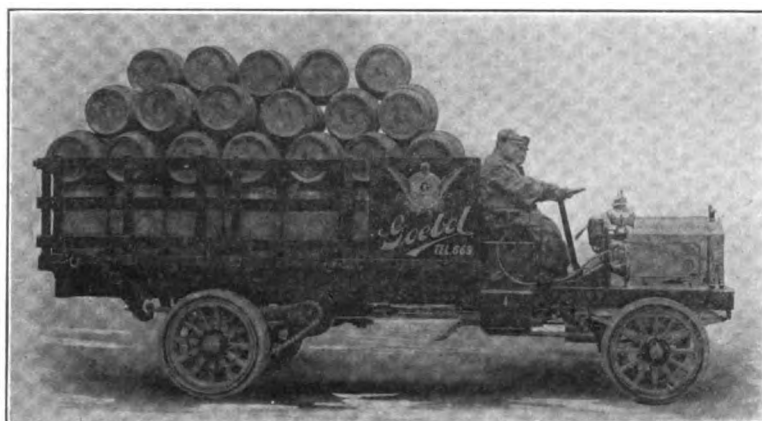
## MOTOR TRUCKS FOR THE BUSINESS OF THE BREWER AND THE BUTCHER



HEAVY GASOLINE TRUCK DESIGNED FOR CASE GOODS



GENERAL ELECTRIC TRUCK USED SINCE 1903



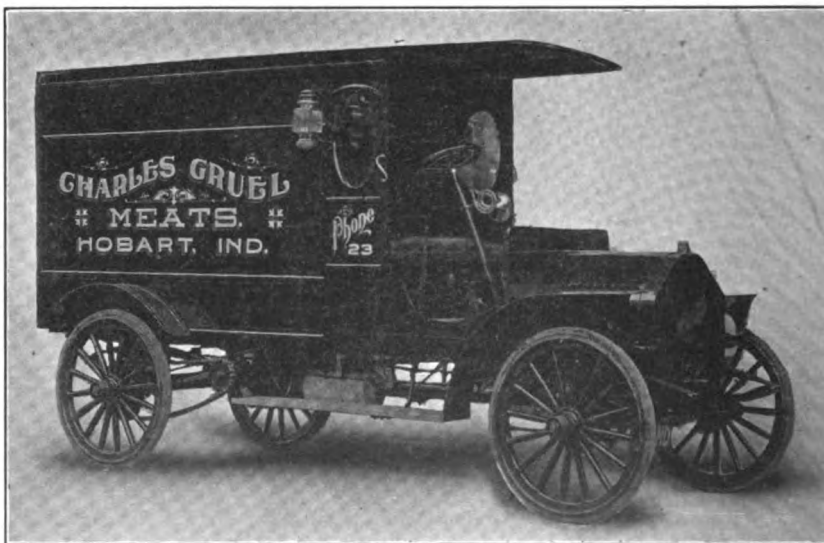
GASOLINE STAKE TRUCK FOR HAULING CASKS



HEAVY CAR FOR BOTTLED DELIVERY



TRUCK USED IN WHOLESALE GROCERY TRADE



SOLID TIRES ON MEAT DELIVERY WAGON

**MOTOR TRUCK FOR TIRE HAULAGE**

**Ponderous Vehicle Employed by Hartford Company—The Use and Heavy Loads to which it is Subjected.**

Perhaps no sort of industrial enterprise is more strikingly in need of rapid and economical methods of primary transportation than is the automobile industry and its various tributary undertakings. This is so because of the extreme haste with which production operations are carried on, necessitating urgency in hurrying materials into the works as well as in expediting the removal of the finished product. Thus it fol-

The car is a 60 horsepower Mack gasoline truck, which is of special construction and weighs 9,800 pounds, or nearly five tons. It measures 21 feet over all, has a 14 foot wheel base and is 80 inches wide. Incidentally, the large panels on either side of the driver's seat offered ample space for advertising purposes—a consideration which is not without its advantages. The tire equipment, as a matter of course, is of the Hartford Solid Motor type, 36 by 6 inch single tires being used on the front wheels, 36 by 5 inch twins on the rear wheels.

Since being put into service, the truck has averaged no less than 112 miles per week, carrying approximately 247,880 pounds of merchandise, including materials and supplies ingoing and completed tires



MASSIVE TRUCK IN HARTFORD TIRE SERVICE

lows that automobile makers, parts makers and manufacturers of supplies and accessories rapidly are coming to use the commercial motor vehicle, not with the faithful object of "practicing what they preach," but out of thoroughly mercenary and appreciative motives.

A good instance in point is the huge motor truck which recently has been installed in the service of the Hartford Rubber Works Co., Hartford, Conn., and which is here depicted. Owing to its location, the freight stations and docks are a full three miles from the shipping and receiving platforms of the factory; which is to say that, other things being equal, the rate of production is directly measured by the promptness and reliability of the transportation system employed in feeding the works. Also it follows that an important item of waste or economy may be included in the production figures, according to the way in which this branch of the business is handled. Although motor vehicles have been employed before, it was deemed expedient to introduce new equipment, and for this purpose the vehicle shown in the picture was chosen.

outgoing. The usual day's work includes the transportation of some 30,000 pounds of outgoing freight alone, the machine easily making five round trips a day. When fully loaded it will hold 28 large wooden cases, each of which contains 15 automobile tires or 50 bicycle tires. The average useful load thus amounts to about three tons.

**Weak Mixture Due to Low Pressure.**

When the car habitually is run at moderate or high rates of speed, no ill effects are apt to manifest themselves as a result of leakage in the pressure line leading from the check valve to the fuel tank. If such leaks exist, however, they are apt to induce trouble when it is attempted to run the car for any length of time at slow speed. In such cases, the influx of gas into the tank will not be sufficiently rapid to correspond with the outflow of gasoline and the result will be that the engine suddenly will commence to draw a weak mixture in consequence of the deprivation of its fuel supply. On this account it is wise to cultivate the habit of watching the pressure gauge in order to make sure that the fuel supply is being maintained at its required rate.

**TEST OF PUSH-PEDAL STARTING**

**Royal Automobile Tries Out a System and Proves it Practicable—The Tests Applied and the Results.**

Although motor starting devices of the pedal actuated variety are by no means unknown, being used, indeed, on several makes of car on both sides of the water at the present time, the fact remains that not a few motorists are somewhat skeptical as to the real practicability of the system. In other words, although it is considered mechanically feasible, the foot-board substitute for the conventional starting crank commonly is regarded with a certain measure of distrust. Interest therefore attaches to a recent trial of a device of the sort which was carried out by the Royal Automobile Club of Great Britain, in which the system was completely vindicated, the starting of a medium sized motor equipment with magneto ignition alone being successfully accomplished under all the conditions prescribed by the test committee.

The starting system in use was of the push-pedal variety and so contrived that when not in use the pedal could be held flush with the foot board and therefore entirely out of the way. When released and brought into engagement, a single downward thrust of the pedal served to rotate the crank shaft through a sufficient angle to throw it over the usual compression interval and, under normal conditions, to secure the start. The car upon which the apparatus was installed was of 38 horsepower, furnished with Eisemann magneto ignition equipment but without batteries.

The first test was made to determine what degree of cylinder compression could be obtained merely by depressing the starting pedal through the length of its regular travel. Results noted by means of a pressure gauge showed, respectively, 39, 37, 30 and 32 pounds per square inch for the four cylinders. In each case, the figure given represents the maximum reading on the gauge inserted in the spark plug hole, and obtained while the pedal was being pushed down slowly to the limit of its travel. The remainder of the test was made under normal running conditions.

Within five seconds from the initial attempt, the engine started "cold," two strokes of the pedal being necessary to get it going. At the instant of starting, the temperature of the water in the radiator was noted as being 48 degrees Fahr. The machine was then operated in London traffic for 2 hours and 47 minutes, during which time nine stops were made; the restarting of the motor in each case being accomplished by means of the pedal. The greatest delay was one of nearly half an hour, after which the motor was started with two strokes of the

pedal. The greatest number of strokes required at any time was four, which followed an inadvertent stop when the motor had been throttled down too closely while running through congested traffic.

The complete record of the trip, showing the duration of the delays and the number of pedal impulses required to start the motor in each case follows:

Stop.	Duration required minutes to start.	Impulses
1 .....	25	3
2 .....	1	1
3 .....	1	1
4 .....	19	1
5 .....	1	1
6 .....	1	4
7 .....	2	1
8 .....	28½	2
9 .....	10	1

#### Unsuspected Causes of Back-Firing.

A relatively small particle of mud or even a small stone may be sufficient to cause the engine to back-fire when throttled down, if it happens to lodge between the auxiliary air valve of the carburetter and its seat when the car is running at high speed. Similarly, an accumulation of dust on the valve stem, if the latter is unduly lubricated, may have a similar effect, after the car has been run "wide open" for some distance. In either case, the difficulty is due to the weak mixture which results from the admission of an excess of air to the mixing chamber.

#### Usefulness of the Socket Wrench.

Socket wrenches of the sort which are provided with universally jointed shanks, are particularly useful in getting at the studs which hold the engine cylinders down upon the crank case. Without such a tool it frequently is well-nigh impossible to draw these members perfectly tight. Yet it goes without saying that it is very important that they shall be of uniform tension with the corresponding members on the same cylinder and that means be kept at hand to tighten them at any time when they may be found slack.

#### Mysterious Knocking of Loose Cylinder.

A loose cylinder may become the cause of a peculiar and rather mysterious knocking sound owing to the fact that it will tend to follow the motion of the piston and to slam down its bed every time the piston commences its downward stroke. Furthermore, such looseness, which may originate where the nuts which hold the cylinder in place are slightly loose, has a strong tendency to result in snapping off one of the studs sooner or later, which, in turn, may cause a pretty general smashup of the entire machine.

#### Tire Patch for Rim Cuts and Blowouts.

In providing accessories which will assist tire service and prevent many of the unnecessary cases of tire damage which can

be avoided by precaution, the tire companies themselves are even more active than outsiders, another instance of enterprise in this direction being afforded in the Goodyear rim cut patch, which the Goodyear Tire & Rubber Co., of Akron, O., has been offering. The patch, as indicated by the illustration, is fitted with a fabric flap which goes around the bead of the tire, repairing a rim cut both on the inside and the outside of the casing. Two plies of heavy



frictioned fabric form the body of the patch, with three-ply reinforcement between the two outer plies. The heavy reinforcement extends over almost the entire surface of the patch, and takes care of almost any blowouts from which the tire may be suffering. Three sizes are given, so that the device may be used on tires ranging from 2½ to 5 inches in diameter.

#### Lock that Controls Ignition System.

As a means for locking a car so that its engine can not be operated during the ab-



sence of the owner or authorized driver, a new Connecticut magneto switch fitted with a Yale lock has been brought out by the Connecticut Telephone & Electric Co., of Meriden, Conn. As indicated by the accompanying illustration, the lock is placed in such a position on the switch that it does not in any way disfigure the appearance of the latter. In addition to controlling the double ignition system so that when the lock is on neither the battery nor the magneto current can be employed for running the engine, the switch also has the usual removable or pull-out plug, which, when taken out, will stop the flow of ignition current

in the ordinary way. The pull-out plug is used for short stops, while the lock may be put into effect for such periods as when the car is in a garage over night or is left alone long enough to invite outsiders to tamper with it or to attempt to use it without permission. The locking of the ignition system, as provided for in the new Connecticut switch, does not prevent the car being moved about the garage floor, but renders it inoperative for road use.

#### Jericho Exhaust Horn for Small Cars.

For small cars another model has been added to the Jericho exhaust gas horns made by the Randall-Faichney Co., of Boston, Mass. The new model is known as No. 0, and sells at \$7, including brass pedal, attaching coupling, cable, cable clamps, pulley and fittings. To operate on a minimum exhaust from small engines, the length of the sound chamber opening has been shortened to some extent and the horn has been made a trifle narrower than the smallest of the other models, but the principle of operation, as previously developed, is exactly the same. To assist dealers and owners in attaching the Jericho horn to different cars, the company has issued a catalog or booklet, giving a complete list of American cars and some foreign machines, with information as to the size horn and the fittings required for each make and model. All the details are given for considerably over a hundred standard models.

#### Requirements for Brake Lining.

Lining materials for brakes present one serious requirement; in addition to furnishing the required frictional resistance and being able to withstand the pressure necessarily involved, they must be of such a nature as not to be affected by heat. With a wide range of materials to choose from, experience has proved the success of the woven asbestos fabric in many instances. Much depends upon the care, adjustment and use of the brakes, it is true, but even more upon the lining material which is used for them. These obvious truths and a number of useful suggestions in regard to the care and repair of brakes in general are set forth in a little pamphlet just issued by the H. W. Jones-Melville Co., New York City, which directs especial attention to the J-M No-Burn brake band lining, a product developed for this particular purpose.

#### "Latest Agony" in Automobile Finishes.

What is described as the "latest agony" in motor car finish has been developed at the factory of the Locomobile Company of America, Bridgeport, Conn., and apparently has found such favor as to warrant its being adopted for a large number of cars. The finish consists of a black body with white or very light striping and wheels finished in "natural wood," without paint or gloss varnish.

**WHAT TO DO IN CASE OF ACCIDENT****Further Exposition of Available First Aid Treatment—Dislocations, Sprains, Hemorrhages, Burns and Concussion.**

Although shock, contusions and wounds are frequently experienced in automobile accidents and a knowledge of the treatment of such cases greatly is to be desired, as detailed in last week's Motor World, they are not the only injuries within the ken of the motorist. Equally is it well to know the proper procedure in cases of concussion, hemorrhage and burns, despite the fact that these are of less common occurrence than sprains, dislocations and fractures.

A sprain is a common ailment and is generally apt to prove troublesome if not attended to immediately. Automobilists have been known to sprain a wrist or dislocate a shoulder while cranking an obstinate engine, and a case is known of one man who sprained an ankle because of too great eagerness and carelessness in mounting the driver's seat. Because he did not know how to reduce the swelling, and medical attendance was not at hand, a simple sprain developed complications and compelled him to use a crutch for the major part of a month. The old adage, "a stitch in time saves nine," is applicable.

**Dislocations.**

A dislocation or luxation is a forcible displacement of one articular (joint) surface of a bone from another, and may be the result of direct or indirect violence, or of muscular contraction. More or less rupture of the ligaments always takes place. The chief signs of dislocation are deformity and loss of function of the joint. The mobility of the part is greatly decreased, while in fractures there is increased mobility. In dislocation the deformity is at the joint, while in fractures it is usually about the shaft. The reduction of a dislocation requires considerable skill, and should be performed by the surgeon. Exceptions to this rule may be made in dislocation of the shoulder, lower jaw and fingers.

Dislocation of the humerus usually takes place downward. The reduction of this dislocation may be accomplished in the following way: A firmly compressed ball of cotton or similar material should be placed in the armpit; the attendant should then remove the shoe from his foot nearest the affected side of the patient (facing the latter) and press the heel upward against the ball which was placed in the armpit; he also should grasp the patient's hand and arm and pull downward, thus making extension and counter-extension. In this manner the head of the humerus is disengaged, and, if the foot of the attendant can be turned

outward and the arm of the patient brought toward the chest during the extension and counter-extension, the bone will generally slip back into its proper position. After the reduction the arm should be bandaged to the chest to prevent a redislocation. It should not be forgotten that the axillary space contains many nerves and blood-vessels, and too rough a manipulation may be followed by very serious consequences.

Dislocation of the inferior maxillar (lower jaw) may be the result of a blow, but usually follows the act of yawning, laughing or vomiting. The deformity is striking; the jaw is protruded and remains open, the patient being unable to bring the teeth together. The articular surfaces of the bone in this injury being carried forward, and somewhat upward, the reduction should be accomplished by depressing the articular portions of the lower jaw and forcing them backward. This may be accomplished in the following manner: The patient should be placed in a chair, with the operator standing before him, having his thumbs well padded to guard against the possibility of being bitten by the patient when the jaw snaps back to its proper position. The attendant then places a thumb upon each posterior molar tooth of the inferior maxillar, and presses downward and, with his fingers, tilts the chin upward. While the bone is being carried downward in this manner, a backward pressure with the thumbs should then be added to help carry the articular surfaces to their proper position. The jaw should then be held in place by a four-tailed bandage, which will be described later.

Dislocation of the phalanges may be reduced by bending the dislocated bone further back, at the same time making extension and counter-extension, then suddenly flexing the joint. The subsequent adjustment of a dorsal and plantar splint is necessary.

**Sprains.**

A sprain is a twisting or wrenching of a joint, associated with considerable stretching, and even tearing, of the tendons and ligaments of the affected part. Sprains usually occur at the ankle or wrist. Pronounced swelling and pain rapidly ensue, and are characteristic of the injury; though it is often difficult to decide between a sprain, a dislocation and a fracture. The proper relation of the ends of the bone composing the joint and the absence of the principal signs of dislocation and fracture indicate that a sprain exists. A sprain is always troublesome, and may be followed by serious results, a common sequel being ankylosis, or stiffness of the joint.

**Treatment of Sprains.**

The part should be elevated and a cold application made, preferably the rubber bag or a pig's bladder filled with ice. Should neither of these be obtainable, the cracked ice may be placed in a handkerchief or

towel, and, if possible, the dressing enveloped with oiled silk or rubber cloth. If the ice cannot be procured, cloths wrung out in cold water should be substituted. A roller-bandage, carefully applied from the extremity upward, is also valuable in preventing the continuation of the swelling. The ice or cold-water applications can be applied over the bandage; it must be borne in mind, however, that a bandage that has been wet will shrink, and may make too much pressure, or even cause strangulation of the part. After the acute symptoms have subsided, and the heat and swelling have diminished, the cold applications should be discontinued and gentle friction substituted. Or the joint may be rubbed with a stimulating lotion, as soap-liniment, alcohol, or salt water. Massage is also a valuable remedy. In severe sprains affecting the larger joints, these parts should be kept quiet for two or three weeks, and motion then be gradually performed.

**Hemorrhage.**

Hemorrhage is the escape of blood as the result of an injury to a blood vessel, and is classified as arterial, venous and capillary. In arterial hemorrhage the blood is thrown from the injured vessel in jets or spurts, and has a bright red or scarlet color. In venous hemorrhage the blood flows from the wound in a slow, steady stream, the color being dark red or purple. In capillary hemorrhage the blood oozes from the general surface of the wound and not from one point, as in either of the other two cases.

Hemorrhage is arrested in two ways—natural and artificial. The natural means of arresting an arterial hemorrhage is as follows: After an artery has been entirely divided the muscular coat produces a contraction and retraction of the vessel at the seat of the injury. The contraction diminishes the diameter of the artery, while the retraction draws the ends of the vessel backward into its sheath. The blood at the mouth of the injury forms a coagulum or clot, which aids in the prevention of a further escape of blood. The clot at the mouth of the injured vessel in time becomes organized and firmly attached, and permanently stops the bleeding. When an artery is only partly divided the contraction and retraction cannot properly take place and the hemorrhage is very persistent. The manner in which nature arrests venous hemorrhage is the same as in arterial, as above detailed, and also the collapse of the vessel at the point of injury. The pressure in veins being much less than in arteries, the hemorrhage is less vigorous and much more easily controlled. In capillary hemorrhage the small size of the vessels and the contraction which follows their division, together with rapid formation of a clot, especially when the bleeding surface is exposed to the air, usually check the bleeding in a very short time.

The artificial means of arresting hemorrhage are as follows: Position, pressure, cold and heat, torsion, rest, styptics, and ligation. Elevation of the injured part aids in controlling the bleeding only where a small artery has been severed, but is of little value when larger ones are implicated, owing to the strong pressure of blood in arteries.

The pressure method of arresting hemorrhage is, next to ligation, the most important means that can be employed for this purpose. It may be applied directly to the bleeding surface, or it may be made along the course of the artery. In the latter case the pressure should always be made between the heart and the wound. Pressure with the finger can only be of avail for a short time, unless the one making the pressure can be relieved at short intervals. For this reason a tampon—if properly applied—is more effective than digital pressure, provided the surgeon is not expected for some time, or in case it is necessary to move the patient.

In tamponing, the wound should be thoroughly filled from the bottom. A tampon improperly applied is worse than useless. The material used for this purpose must be absolutely clean, and, if possible, made antiseptic. Should the surroundings permit, choice should be made from the following: Small strips of antiseptic gauze, linen, muslin, or absorbent cotton. After the above has been complied with, the tampon should be held firmly in place by a bandage, but should not be allowed to remain longer than twelve or fifteen hours, without the advice of the surgeon. If, at the end of this time, no hemorrhage recurs, the wound should be treated as an ordinary wound.

If the surgeon is not expected for some time an improvised tourniquet may be used in the stopping of a severe hemorrhage. An excellent tourniquet can be extemporized by folding a large handkerchief in the form of a cravat, placing between the folds a smooth stone, piece of wood, cork, potato, etc., or a good sized knot may be tied in the handkerchief. The latter is not as good as the stone, etc., however. The handkerchief is then bound loosely around the limb and tied, the portion acting as a pad being placed over the artery, between the wound and the heart, and held securely in this position while a cane or stick of some sort is passed between the handkerchief and the skin, at the side of the limb opposite the pad. The cane or stick is then twisted until the bleeding is brought under control. As the constriction of this form of pressure interferes with the return of venous circulation, the handkerchief should occasionally be loosened, if there is any sign of serious obstruction, as swelling and discoloration of the part below the constriction. Digital pressure should be applied while the tourniquet is loose. A handkerchief is given as an example of what may at once be secured, but parts of clothing, neckties, suspenders

or rubber tubing, rope, inner tubes, etc., may be used.

Vehous hemorrhage is easily controlled if the following rules are observed: (1) Remove everything between the injury and the heart that retards the flow of blood, as garters, tight clothing, etc.; (2) elevate the part injured; (3) apply a good firm compress directly to the wound. Of course, it must be understood that elevation of the part and the use of the tourniquet can only be resorted to when the bleeding is from an extremity—the arms or legs—and would be of no use if the bleeding was from the body or head. In the latter case, a compress bandaged tightly over the wound would be the only and most effective method that could be employed.

In capillary hemorrhage there is little to be done. Exposing the part to the air, applying cold or heat in the form of ice or wet cloths is all that is necessary. It might be stated that hot applications (about 120 to 125 degrees Fahr.) are far more effective than the cold applications.

#### Burns.

Burns are divided into three classes—first, second and third degree. It will not be necessary to deal with third degree burns, however, as the only one which the automobilist may have to treat is that of the first degree. Burns of the first degree are those where there is nothing more than a little redness of the skin and a slight annoying pain. The second degree burn is where there is a blister caused by the heat. Among the soothing remedies which generally can be procured by the motorist at once are bicarbonate of soda, common baking—not washing—soda, starch, flour, chalk, magnesia or charcoal. One of these may be thickly dusted over the burned surface. Vaseline, cosmopine, lanoline, olive, linseed, or castor oil; also lard and butter, provided that they are not rancid; white lead paint, or limewater, whitewash, or even ink, mucilage, or molasses may be employed, although inferior to some of the others.

In burns of the second degree, if there is any dirt or clothing attached to the blisters it should be carefully washed away with warm water, or softened with oil, and detached later. If the blisters are large they should be pricked at their lowest point and the contents allowed to escape, or should be absorbed with a piece of clean blotting paper, etc. The oily substances recommended for first degree burns may then be applied. One of the best applications, and one which is most often prescribed by the surgeon, is equal parts of linseed oil and limewater.

#### Concussion of the Brain.

Concussion of the brain is a term applied to a shaking up or jarring of this organ. More or less contusion of the cerebral tissue probably occurs in severe cases. It is

caused by a blow upon the head, or a shock transmitted upward through the spinal column. The injured person may only be stunned or dizzy for a moment, with no loss of consciousness; the face is usually pale, and more or less weakness and trembling of the limbs are present. These symptoms are usually followed by a rapid restoration to the normal condition. Sometimes in apparently mild cases, however, serious cerebral disturbances may occur (usually within a week). In severe cases there is a partial stupor, and a feeble pulse; the pupils may be contracted or dilated, and generally react to light; the surface of the body is cold, and restlessness and vomiting are usually present. As a rule, the breathing is natural. In very severe cases the patient is in the condition of shock, which has already been described in a preceding chapter. There is one point connected with the shock following concussion of the brain which must be emphasized—namely, that the reaction is usually excessive, being more pronounced than in shock accompanying injuries to the body, and often results in inflammation of the brain.

#### Treatment of Concussion.

In mild cases the treatment consists in keeping the patient quiet, with cooling application to the head. The more serious cases, which assume the form of shock, should receive the treatment appropriate to the latter condition, particular attention being paid to the extreme reaction that may occur. For this reason internal stimulants should not be given. Warmth to the extremities, and cold applied to the head, are also indicated. Rest and quietude must be insisted upon in all cases of concussion of the brain.

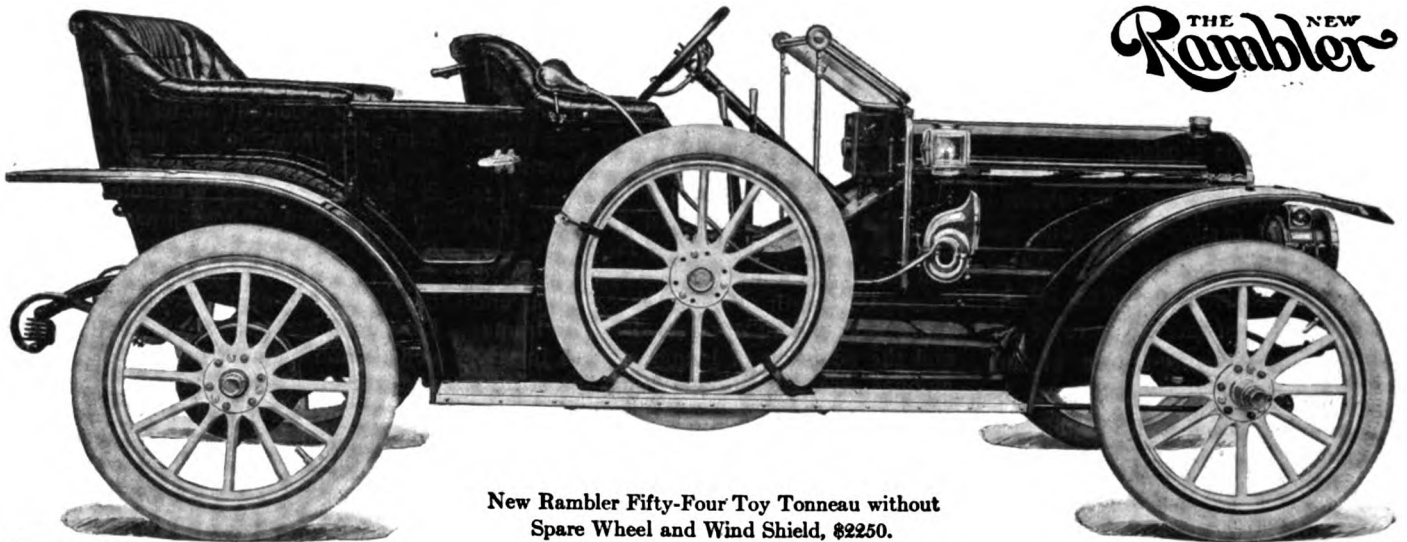
#### Compression of the Brain.

Compression of the brain commonly follows fracture of the skull, a portion of the broken bone being driven into the cerebral tissue and causing pressure. A cerebral hemorrhage may also cause this condition. It often is difficult to decide between concussion and compression of the brain. However, in compression the stupor is more profound, the pulse is slow, the pupils are dilated and do not respond to the action of light; the breathing is stertorous, similar to that in apoplexy. There is more or less paralysis present, and convulsions may occur.

#### Treatment of Compression.

Besides keeping the patient quiet and applying cold to the head, and preventing the administration of stimulants, very little can be accomplished by the unprofessional person, and the case should be placed in the hands of a surgeon as quickly as possible. If a wound is present it should be protected by an antiseptic compress, which can be held in place very effectively by a four-tailed bandage.



THE NEW  
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New Rambler Fifty-Four Toy Tonneau without  
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*Expert workmen  
gauging Rambler  
parts for accuracy.*

Quality in an automobile, and the final satisfaction obtained from its use, depends not only upon the quality of the materials and design, but more than anything else upon the accuracy with which the parts are made and fitted. The first workman is examining a transmission gear, gauging it for accuracy. The second is making sure that the position of the propeller shaft, squared for the sliding gears, is exactly centered to the main shaft.

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Main Office and Factory: Kenosha, Wisconsin

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## VARIATION OF THE BLOCK MOTOR

How it is Effected in Pullman Car and the Benefits Obtained—Three Chassis Afford Ten Models.

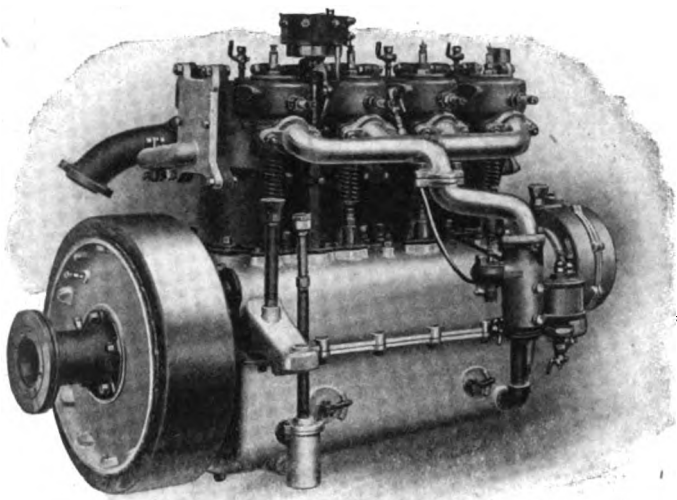
Whatever advantages may be claimed for the method of casting automobile engines in block form, there is this much to be said to its disadvantage, that in the event of the failure of one or more of the cylinders, or, indeed, the failure of any portion of the entire casting, it must be discarded or repaired at considerable expense. A decidedly ingenious method of securing many of the advantages which

for the difference in the method of assembling the cylinders, they are very much alike. Taking the three chassis as a basis, however, a full line of no less than ten distinct models is produced merely by the introduction of variations in body construction.

In respect to differences between these and the preceding models, relatively few changes have been made as far as mechanical methods of construction are concerned. Increased length of wheel base, longer and more easy riding springs, dropped frames and the adoption of longer strokes for the engines are alterations which practically summarize the differences involved.

To be more specific, the 35 horsepower motor now has a bore of  $4\frac{1}{2}$  and stroke of  $4\frac{3}{4}$  inches, the 50 horsepower a bore and

Control of the gears is obtained on the right side in each case. But on the smallest chassis the actuation is secured by means of a straight quadrant, instead of by the grid-iron segment which is used on the other two models. Final drive, which is by shaft, is obtained through a double jointed shaft on the 35 and 50 horsepower sizes, tubular torsion rods attached by means of ball and socket joints to a spring housing which is hinged to the center cross frame member. On the 30 horsepower car the tubular shaft and torsion member combined is employed, and therefore the shaft is provided with but a single cardan joint. The tubular housing member is hinged at its forward end to the cross frame center member, thus affording the necessary flexibility.



RIGHT SIDE SHOWING PECULIAR CYLINDER FORMATION

obtain in the case of the block motor is that of flanging the faces of neighboring cylinders, coring out large open ports at the sides, and then bolting them together in the form of a single unit.

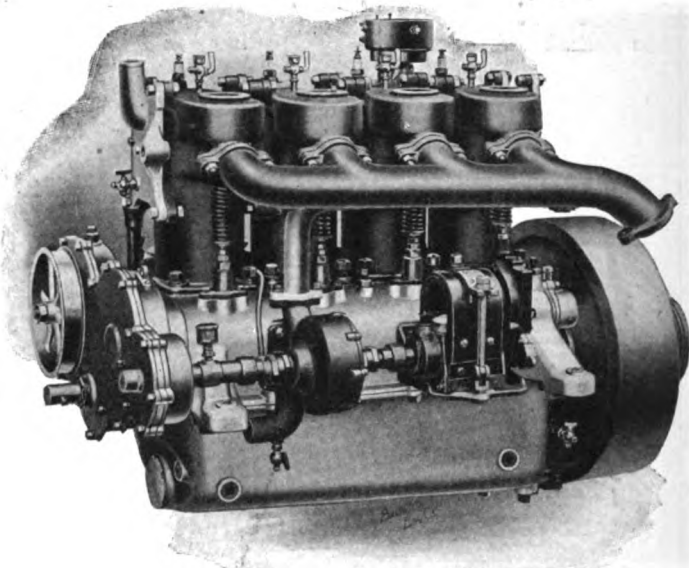
This is a characteristic method with the Pullman Motor Car Co., of York, Pa., which has made it a permanent feature of the cars which bear the same name. In former years the cylinders have been cast individually and made up in the way indicated into the quadruple units which form the standard power plant. In one of the three models now current, however, a slightly different plan has been adopted. The cylinders are cast in pairs; but each of the two two-cylinder groups is cast with one end open, flanged and faced, and the two groups are bolted together as in the case of the four single cylinders.

The model upon which this change has been brought about is known as "O-10." The other two models which complete the line of chassis at present being produced are designated as "K-10" and "M-10." The horsepower ratings of the three models taken in this order are 30, 35 and 50. Save

stroke of  $5\frac{1}{4}$  by 6 inches, while the 30 horsepower engine, which is in reality a newcomer insofar as size is concerned, has cylinder dimensions of 4-1-32 by 5 inches.

Water circulation is maintained by means of gear driven centrifugal pumps on each of the models, the capacity being uniformly such that eight gallons of water will be delivered per minute with the engine turning at the rate of 900 revolutions per minute. On the 35 and 50 horsepower models, the radiators used are of the cellular type. On the 30 horsepower car the tubular type is employed. Double ignition is used on the 35 and 50 horsepower chassis, with Bosch high tension magneto and distributor and coil. The distributor is located between and above the rear cylinders and is driven from the cam shaft by means of helical gears.

Transmissions are of the sliding gear type on all models; on the 30 and 35 horsepower models they are of the three-speed pattern, while the largest chassis of the three is fitted with a "geared-up" fourth speed, which is to say that the direct driving arrangement is obtained on third speed.



MAGNETO AND PUMP MOUNTING ON PULLMAN ENGINE

All three models are mounted on Timken axles, the rear equipment in each case being of the full floating type. The "M-10" and "K-10" models carry the adjustable roller bearing type of mounting, while the "O-10" car is equipped with annular ball bearings. The combined area of effective braking surface on each of the models is over 500 square inches. The standard equipment is of the double pattern with newly developed equalizing bars. The spring mounting is of the semi-elliptical pattern insofar as the front suspensions of all three models is concerned; on the "K-10" model the same system is used in the rear, but on the other two three-quarter elliptic rear springs are employed.

Body equipment in the case of the 35 horsepower model is made optional between touring, small tonneau and roadster forms. In the case of the 50 horsepower chassis, the equipment may be either touring or small tonneau. The 30 horsepower size may be obtained with small tonneau or roadster mounting, according to the desire of the purchaser. Enclosed bodies are made to fit either the 35 or 50 horsepower chassis.

# MICHELIN



**TIRES WIN**

**"AS USUAL"**

**AT**



## Atlanta Motordrome

**May 5-6-7, 1910**

**Atlanta Trophy and \$1,000 in Gold**

**Distance 200 Miles**

- |                |           |                           |
|----------------|-----------|---------------------------|
| 1st. National, | Aitken,   | Michelin Tires "As Usual" |
| 2d. American,  | Lytle,    | Michelin Tires "As Usual" |
| 3rd. Fiat,     | De Palma, | Michelin Tires "As Usual" |

(This Trophy was won on Michelins last year also.)

**200 Mile Stock Chassis**

- |               |          |                           |
|---------------|----------|---------------------------|
| 1st. Marmon,  | Harroun, | Michelin Tires "As Usual" |
| 2d. S. P. O., | Strang,  | Michelin Tires "As Usual" |

ALL contests at Atlanta, excepting three light car events, on all three days, ranging in distance from one to two hundred miles, were won on Michelins "As Usual"

# MICHELIN

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 Chicago.....1449 Michigan Ave.  
 Philadelphia.....320 N. Broad Street  
 Buffalo.....779 Washington Street  
 Cleveland.....2001 Euclid Ave.

Detroit.....247 Jefferson Ave.  
 Kansas City.....1926 Grand Ave.  
 Denver.....15 East Colfax Ave.  
 Seattle.....701 East Pike Street  
 San Francisco.....308 Van Ness Ave.

## RECENT PATENTS.

953,429. Drive Chain. Frank L. Morse, Ithaca, N. Y., assignor to Morse Chain Co., Ithaca, N. Y., a corporation of New York. Filed June 27, 1908. Serial No. 440,734.

1. A drive chain having links composed of a plurality of plates provided with apertures at their ends, three part pintles extending through said apertures and comprising two side parts or bushings and a central cylindrical pin normally free to turn upon one of the bushings, and means for restraining said central pin from making a free and complete rotary movement.

953,512. Tire Grip. Eugene E. Burns, Hartley, Iowa. Filed Dec. 4, 1909. Serial No. 531,474.

A tire grip comprising side chains, and cross chain members therebetween, each of said members comprising one piece of chain connected at its opposite ends to the side chains, and another piece connected at one end to one side chain and at the other end to said piece between its ends, and beyond the middle point thereof, whereby both pieces will contact with the ground at the middle line of the tire tread.

953,658. Adjustable Anti-Skid Device. Don E. J. Brackett, Cleveland, Ohio. Filed June 28, 1909. Serial No. 504,732.

1. An anti-skid device consisting of a retaining member and a flexible gripping member, the latter adapted to extend across the tread of a tire and with its ends removably attached to the retaining member, said retaining member consisting of a pair of clamp members each bearing a loop and arranged on opposite sides of a wheel-spoke, a clamping bolt and a locking bolt pivoted to one of said members and extending through the other of said members, and means co-operating with said bolts for locking said members to a vehicle-spoke.

953,673. Grip Tread for Tires. Harry D. Weed, Syracuse, N. Y. Filed Sept. 3, 1907. Serial No. 391,178.

1. In combination with a chain tire grip embodying cross chains, and side members to which the ends of the cross chains are connected, a take-up attachment surrounding the hug and embodying both flexible-yielding parts and flexible-unyielding parts connected together, and some of said parts being connected with one of the side members of the chain grip.

953,704. Reversing Gearing. Frank E. Paine, Jr., Detroit, Mich., assignor by mesne assignments, to Packard Motor Car Co., Detroit, Mich., a corporation of Michigan. Filed Oct. 1, 1907. Serial No. 395,386.

1. In a reversing driving mechanism, the combination with a dish-shaped bed or frame having a transverse partition therein and having bearings at its ends on opposite sides of said partition, of driving and driven shafts respectively supported in said bearings, reversing coupling mechanism mounted on said shafts between the partition and one end of said frame, and a rock shaft arranged to operate said coupling mechanism, said rock shaft being mounted in the lower part of the frame on the opposite side of the partition from said coupling mechanism.

953,750. Vehicle Spring. Ralph W. Morse, Lansing, Mich. Filed Jan. 27, 1908. Serial No. 412,924.

The combination with the frame of a vehicle, of a bracket depending from the

frame, a compound flat spring, a block inserted between the members of the spring and secured to the latter, a pivotal connection between the block and bracket, means for connecting one end of both members of the spring to an axle of the vehicle, a link pivotally connected to the vehicle frame, an auxiliary link pivoted to the lower member of the spring, and a pivotal connection between the respective links, the upper spring being connected to said links at the point of connection therebetween.

953,762. Indicator. Henry A. Raedeker, Melrose Park, Ill. Filed Sept. 2, 1909. Serial No. 515,873.

An indicator comprising a metallic body portion provided with a hinged lid having outer and inner flanges at the front edge thereof; similar outer and inner flanges on the front edges of the ends and bottom of said body portion; colored glass secured between said flanges; an opaque plate also secured between said flanges; vertical brackets secured to the sides of said body portion; and a reflector adapted to be secured in said brackets, the relations being such that said reflector must be flexed to enter said brackets, substantially as described.

953,804. Adjustable Wind Screen for Use on Vehicles. Charles Steane, Coventry, England. Filed Dec. 22, 1908. Serial No. 468,823.

1. In a wind screen the combination of a stationary member, an adjustable screen member hinged to the stationary member, a quadrant having openings therein carried by the hinged screen member at one side thereof, and adapted to turn therewith, a spring-pressed detent slidably arranged on the stationary member and adapted to engage within the openings in the quadrant, an operating wire for the detent secured thereto, and a pedal to which the wire is connected.

953,831. Safety Device for Cranking Explosive Engines. Charles W. Hillenbrand, Kansas City, Kans., assignor to Nathaniel C. Barnes, Kansas City, Mo. Filed Aug. 12, 1909. Serial No. 512,582.

1. In a device of the character described, the combination with an engine shaft having an extension adapted to be uncoupled therefrom, a bearing in which said extension is journaled, resilient means interposed between said bearing and the extension whereby it may be coupled to the shaft, a sleeve through which said extension may slide but is caused to turn therewith, a crank loosely mounted upon said sleeve, yielding means for locking the shaft and said crank together so that the latter may turn the former forward, a stationary ratchet-wheel loosely mounted upon the sleeve, and a pawl carried by the crank and engaging the ratchet-wheel to prevent the crank from turning backward.

953,873. Metal Tire Shield. Arthur J. Walker, Hooker, Okla. Filed July 28, 1909. Serial No. 510,040.

A tire shield composed of sections, each section consisting of spaced metallic plates, a cushioning strip interposed therebetween, and plates and strip having registering slots, a link arranged within each set of registering slots, said link consisting of a flat metal strip having lapping ends, and means for securing the ends together, a chain extending from each of said links, alternate links of the chain being made up of flat strips of metal having lapping ends secured together, and a hooked rim engaging member formed of a flat metal strip having a looped end engaging one of the links of each chain and

said looped portion being secured against opening.

953,916. Vehicle Wheel. Edward F. Maybaum, New York, N. Y. Filed Sept. 4, 1908. Serial No. 451,741.

1. In a vehicle wheel, the combination of a rim, a hub, hollow spoke bodies rigid thereon, spring controlled spokes radially movable in said spoke bodies and connected at their outer ends to said rim, and rollers on said spokes adapted to bear against the walls of said spoke bodies to limit the deflection of said spokes, substantially as described.

953,990. Ignition Apparatus. Ernest Eise-mann, Stuttgart, Germany. Filed Dec. 17, 1907. Serial No. 406,873.

In an ignition apparatus, the combination of a distributing disk, a part forming a support for said disk, a toothed member meshing with said ring, another part forming a support for said member, and high-tension and low-tension contacts arranged on the opposite faces of said disk, substantially as described.

953,992. Transmission Gearing. William Folberth, Cleveland, Ohio. Filed July 12, 1906. Serial No. 325,882.

1. The combination of a driving shaft, a driven shaft, a shaft intermediate said driving and driven shafts, a clutch for connecting the intermediate shaft with the driving shaft, a gear casing mounted to rotate about the axis of the intermediate shaft and provided with an internal gear and with a clutch member, a pinion mounted on the intermediate shaft within said casing, a twin gear supported to rotate about the axis of the intermediate shaft and having one member meshing with said pinion on the intermediate shaft and with the aforesaid internal gear, a gear mounted on the driven shaft and adapted to engage alternately either the other member of said twin gear or the aforesaid clutch member of the gear casing, means for holding said gear casing stationary, and independent means for preventing rotation of the twin gear relative to the intermediate shaft.

954,095. Engine. Fred L. Gregory, Chicago, Ill., assignor to Foley-Gregory Engine Co., Chicago, Ill., a corporation of Illinois. Filed Sept. 25, 1908. Serial No. 454,675.

1. In an engine, the combination of four cylinders arranged to form a rectangle, said cylinders being in pairs with the members of each pair having opposed open ends, pistons in said cylinders, a rock-shaft actuated by said pistons, valve-chambers located on the same side of the plane of said cylinders, admission and exhaust valves connected therewith, and a cam-shaft located between said valve-chambers and serving to actuate said valves.

954,130. Automobile Sled. William C. Niemann, Waltz, Mich. Filed June 11, 1909. Serial No. 501,582.

1. In a sleigh, a body, a rear bob fixedly secured thereto, a front bob pivotally mounted on the body, a yoke pivoted to each of said bobs to swing in a vertical plane, an arm projecting from one of said yokes provided with an apertured end, a second arm extending from the other yoke provided with an end having a horizontally arcuate slot, and a pin passing through said apertured end and arcuate slot.

954,144. Automobile Wheel. Thomas J. Sparks, San Francisco, Cal., assignor, by di-



rest and mesne assignments, of one-half to Uncle Sam Automobile Co., Phoenix, Ariz., a corporation of Arizona, and one-half to Edward C. Ray, San Francisco, Cal. Filed May 13, 1907, Serial No. 373,246. Renewed April 12, 1909. Serial No. 489,524.

In a wheel, the combination of a tire, a felly, spokes, a hub consisting of a flanged tubular member having threads on one end and being pyramidal from the threaded portion to the flange, said flange having its surface toward the threaded end conical, a flat ring having a series of depressions on each side of the same set at a phase difference of one half, and a flange having a part of its interior threaded and adapted to screw on the end of the tubular member and the remainder of its interior polygonal.

954,224. Vehicle Tire. Benjamin C. Swinehart, Akron, O. Filed Dec. 7, 1908. Serial No. 466,341.

A vehicle tire comprising the combination with a rim having the sides thereof intumed to provide clenchers, and a body of elastic material mounted in the rim and formed with a tread and a base having a circumferentially extending groove in its inner face to separate the base into two sections, a series of combined spreading and holding wires embedded in and extending transversely of each of the sections of the base, said wires of such a length as to extend from the wall of the groove to beyond the lateral face of the base at the opposite side when the body is detached from the rim, the wires of one series oppositely disposed with respect to the wires of the other series whereby when said body is mounted in the rim, the wires will laterally spread the sections

to wedge within and frictionally engage the clenchers of the rim, and the wires permanently bear against the inner faces of the clenchers to prevent creeping of said body.

954,228. Universal Joint. Theodore F. Timby, Alma, Mich. Filed Jan. 17, 1910. Serial No. 538,397.

1. The combination, in a universal joint, of a ball member constructed with a circumferential groove in one plane coincident with its axis of rotation, a fork member having a concave grooved face, and an interposed concavo-convex member constructed with an internal rib fitted to the groove of the ball member and an external rib arranged at right angles to said internal rib and fitted to the groove of said fork member.

954,286. Transmission Gearing. William W. Henderson, Washington, D. C. Filed Jan. 26, 1909. Serial No. 474,260.

1. The combination of a clutch member, a shaft, shiftable change speed gearing operatively connecting the clutch member and the shaft, additional means to connect the clutch member and the gearing, said means being connected or disconnected by shifting the gearing, and means to shift the gearing to connect or disconnect said additional means.

954,333. Tire Tread. Denis T. O'Sullivan, West Orange, N. J. Filed Sept. 12, 1908. Serial No. 452,694.

A tire having a sheath encircling the tire and substantially covering the outer portions thereof, said sheath having oppositely placed eyes before the spokes of the wheels and oppositely placed eyes behind the

spokes of the wheels, and a flexible band forming loops connecting said pairs of eyes and forming a loop around the spokes.

954,362. Tire Armor. Wallace W. Tompkins, Newburgh, N. Y. Filed March 27, 1909. Serial No. 486,200.

A pneumatic tire comprising an inner tube and an outer tube adapted to surround the same, a strip of canvas overlying and co-extensive with the tread of such outer tube, and a series of overlapping, resilient armor plates superposed upon said canvas strip and permanently secured by means of rivets passing through the plates, strip, and outer tube, the rivets through each plate being arranged along one edge in a row transverse to the length of the tire, the other edge being free and arranged to overlap the riveted edge of the next plate, the free edge of each plate being bent or flared upwardly out of its own plane at its middle portion, to provide transverse ridges adapted to bite into the surface of the roadway.

954,375. Demountable Rim. Eli J. Bushey, New York, N. Y. Filed April 19, 1909. Serial No. 490,659.

1. A wheel having a felly, a band surrounding the felly, a rim for carrying the tire, a split clamping ring interposed between the said band and the said rim, means for fastening the said clamping ring to the said felly at points approximately opposite the free ends of the ring, a lug carried by the rim and extending through the ring and band into engagement with the felly, and manually controlled means for spreading the said clamping ring.

954,400. Gear Casing. Randall A. Palmer, Detroit, Mich. Assignor to Cartercar Co.,

# =Pierce-Racine=

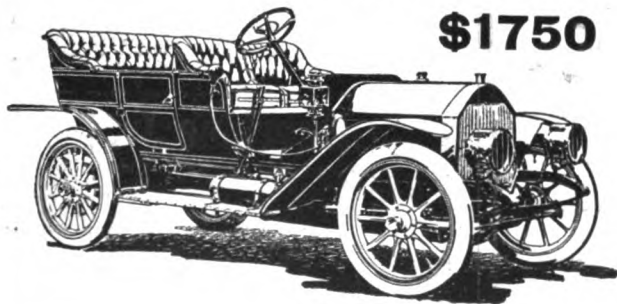
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St. Joseph Automobile & Supply Co., 1533-37 Frederick Ave., St. Joseph, Mo.  
Hull Bros., 1110-12 E. 15th St., Kansas City, Mo.  
Geo. W. Root, San Francisco.



Pontiac, Mich., a corporation of Michigan. Filed Nov. 14, 1908. Serial No. 462,610.

In a gear casing, the combination of an upper concaved member provided with a flanged edge and having inspection and lubricating apertures through its top portion, a complementary casing member similarly flanged for registry with said upper member, whereby holding bolts may be passed through them, and there being transverse apertures in the walls of the shell thus constituted for the passage of rotatable shafts therethrough and for permitting their rotation and possible wavering from their initial axial positions without engaging against the adjacent edges of the shell members, a supplemental casing section lying parallel with and spaced from the portions of the shells immediately surrounding one of said apertured portions, dust excluding washers adapted to engage closely about and to be supported by such shafts and to extend between the main casing walls and the adjacent supplemental casing to prevent the undesired entry of foreign matter, and a bottom closure member for said last mentioned casing, adapted to be removably secured thereto, whereby its concaved portion and the adjacent portions of its supporting casing are formed as a liquid containing basin at the bottom of the entire casing, substantially as described.

954,416. Demountable Rim for Automobile Tires. William N. Booth, Cleveland, O. Filed April 12, 1909. Serial No. 489,482.

1. In combination, a fixed rim, a demountable rim adapted to fit closely thereon, said parts having inclined engaging sur-

faces, a pair of lugs on said demountable rim, a worm and wheel locking device intermediate between said pair of lugs and mounted in said fixed rim, and adapted and arranged to engage said pair of lugs to force said demountable rim on and off from said fixed rim.

954,424. Attachment for Repair Tools. Winfield L. Dinsmore, Longbeach, Cal., assignor to Economy Tool Co., Los Angeles, Cal. Filed Oct. 24, 1908. Serial No. 459,335.

1. A portable vulcanizing tool comprising a plate having a vulcanizing face at one side and a face at the opposite side accessible for clamping the plate to the part to be vulcanized, said plate provided with a gas or vapor burner arranged to heat the vulcanizing face, and a handle extending outwardly from the edge of the plate between the two faces, having a gas supply passage leading to the burner.

954,387. Support for Automobile Lamps and Number Plates. Harry J. Gernet, Philadelphia, Pa., assignor of one-half to Edward F. Gorman, Philadelphia, Pa. Filed Oct. 16, 1909. Serial No. 522,958.

In a support for automobile lamps and number plates, the combination of a base piece having a plurality of uprights and a lamp rod arranged in parallel relation to one another; a plate carrier secured to said uprights, said plate, carrier, comprising grooves and flanges at its edges adapted to receive and retain a number plate; means for clamping a number plate against said carrier; and a rearwardly projecting sup-

port adapted to be mounted upon the cross bar of an automobile chassis, substantially as set forth.

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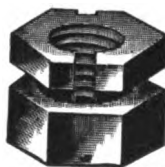


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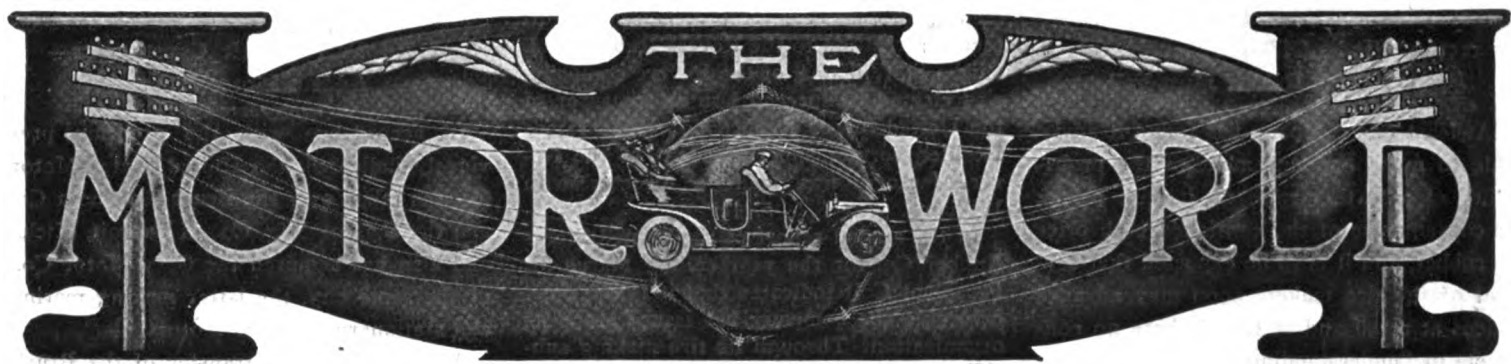
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## VEILS THE MEETING IN MYSTERY

Promoter of "Independent" Association  
Holds a Session in His Office—De-  
clines to Talk of Proceedings.

If the Association of Motor Car Manufacturers elected officers or otherwise perfected organization at its meeting in Detroit on Monday last, Henry C. Walters, the lawyer who appears to be engineering its affairs, is not anxious that the names of the officers or members or any information be made public.

The meeting was held in his office in the Ford Building, but Mr. Walters threw a veil of mystery around it and declined to say anything whatsoever regarding its proceedings. A Motor World man who kept his eyes open was unable to discover that any of the manufacturers known to be or likely to be interested in the organization went into or out of Mr. Walters's office, which made it appear that if they were represented at all it was by counsel and not in person.

The association, as exclusively stated in the Motor World of May 5, is the result of an invitation to other independent manufacturers extended by eight of the nine Michigan makers against whom suits for infringement of the Selden patent recently were instituted. At a meeting held in Detroit on the 2d inst., which Mr. Walters stated was attended by 40 manufacturers, the title Association of Motor Car Manufacturers was adopted, and May 16th was set as the date for the election of officers. Mr. Walters's efforts to enshroud the movement in mystery are therefore not easy to comprehend and can only serve to set afloat rumors that may not be readily overtaken or counteracted.

### Hayes and Willys in a Body Company.

With H. J. Hayes, of Detroit, Mich., as its president, and John N. Willys, of the Willys-Overland Co., Toledo, O., on the directorate, the Hayes-Ionia Auto Body Co.,

of Ionia, Mich., has completed its organization, following the incorporation of the company with \$150,000 capital stock, of which \$80,000 is preferred and \$70,000 common. The company has bought the plant and property of the Ionia Wagon Works from the receiver for \$70,000 and is remodeling the plant, with a view to delivering 1,000 bodies per month after the first of July, working in harmony with the Hayes Mfg. Co. in Detroit. In addition to Hayes as president, the officers chosen are T. B. Preston, vice-president; W. Q. Loomis, secretary; W. B. Heath, treasurer. The directors are F. W. Green, W. B. Heath, T. B. Preston and W. J. Loomis, of Ionia; H. J. Hayes and H. H. Smith, Detroit, and J. N. Willys, Toledo.

### Ewing Organizes a New Company.

L. E. Ewing, of Cleveland, O., who has been identified with motor cab design, is one of the moving spirits in a new automobile manufacturing company in Findlay, O. Having obtained a factory building from the Findlay Axe & Tool Co., the concern has incorporated with \$300,000 capital and will be known as the Findlay Motor Car Co. The incorporators include A. L. Welch, M. C. Mulball, Roy H. Hunter, J. C. Brooks and S. Gilfether.

### Storms in a Sandusky Parts Project.

The Sandusky Auto Parts & Truck Co., of Sandusky, O., has organized with \$150,000 capital stock and is preparing to commence operations in that city. Daniel E. Storms, former secretary of state of Indiana, is one of the moving spirits.

### Henry Out of the Henry Company.

Dave W. Henry has retired as general manager of the Henry Motor Car Co., of Muskegon, Mich., of which he was the organizer. His future plans have not yet been disclosed.

### Goodyear Opens a Baltimore Branch.

The Goodyear Tire & Rubber Co. has opened a branch in Baltimore, Md., at 533 North Howard street. George T. Howard is the manager.

## LICENSED FORCES NOW SUE VELIE

Bring Infringement Proceedings in Latter's  
Own Circuit—Motions Filed for Dis-  
missal of Milwaukee Suit.

In addition to being the aggressor in its \$500,000 suit in Milwaukee against the members of the Association of Licensed Automobile Manufacturers, the Velie Motor Vehicle Co., of Moline, Ill., now is made a defendant in litigation with the Licensed forces, as suit has been brought against it in the United States Court at Peoria, Ill., by the Columbia Motor Car Co. and George B. Selden for infringement of the Selden patent. The suit is of the same nature as those recently brought against a group of unlicensed Michigan manufacturers, and was filed by Rector, Hibb & Davis, attorneys, of Chicago.

Motions to dismiss the suit which the Velie company brought in Milwaukee some weeks ago have been filed by 26 of the defendant companies in the Licensed Association. These defendants maintain that their principal places of business are outside the judicial district in which the suit was brought. It is claimed that the service of summons and complaint in the suit, which was made on their Milwaukee agents, was improper, and that service of this kind should be made on the defendants themselves in order to be valid. The motions, which are bunched as one group, will be argued before Judge Turner on the 21st inst.

The point raised in this connection is one which has been before the courts many times before for adjudication as to whether the "agent" in the ordinary commercial sense can accept service for the manufacturer whose goods he handles. It generally has been shown that serving an "agent" is not the same as serving the manufacturer, because the former's agency relation with the manufacturer is very limited and does not empower him to act for the manufacturer as a principal in litigation.

## RUMPUS OVER REVERE PURCHASE

Minority Disapproves of U. S. Rubber Directors' "Rake-Off"—Tires May Advance—Why Rubber Must Fall.

At least one company has found it advisable to make announcement of the probability of a further raise on its tire prices, in consequence of the continued high price of rubber, and it is to be expected that several of the tire makers soon may advance prices at retail and in cases where no contracts or "understandings" are in effect. In fact, the tire companies are extremely vigilant in seeing that the increased cost of crude rubber does not adversely affect their net earnings, and conclusive evidence is provided in the annual report of the United States Rubber Co., just issued, that high prices for rubber need not decrease the profits of those for whom it is the raw material of their products.

Informing and enlightening as is the report itself, the annual meeting for which it was prepared and which took place on Tuesday, 17th inst., was considerably more lively, as it was the occasion for quite a rumpus among the stockholders over the purchase of the Revere Rubber Co., of Revere, Mass., a few months ago. The money for the purchase of the Revere Rubber Co. stock was advanced by a syndicate in which several of the directors of the United States Rubber Co. were prominent. The deal was ratified by the directors of the United States company, but at the meeting, which was attended by about 50 stockholders, including two women, the minority interests questioned the transaction.

As compensation for advancing the money for the purchase, the syndicate, which included President Colt, is to receive the profits for two years from operations of the purchased company, up to \$700,000. This item, together with the accretion in market value of the securities underwritten, brings a total profit of 14¼ per cent. to the syndicate, according to the minority's figuring. President Colt said that the money had to be raised quickly for the purchase of the Revere company, and that there was no excessive profit for the syndicate, the profits of the Revere company for the last two years having been only about \$580,000. The majority steam roller came through the meeting in good order, with the adoption of resolutions approving the acts of the officers and directors for the past year.

John J. Watson, Jr., president of the Rubber Goods Mfg. Co. and treasurer of the United States Rubber Co., resigned these offices and severed all connections with the United States company and its subsidiary concerns, in practically all of which he was an officer and director. He would give no explanation of his resignation, nor would his associates comment on

it, but it was generally assumed in Wall street that the direct cause was disagreement with President Colt, although not directly in relation to the Revere Rubber deal. Elisha S. Williams, of the Revere company, was elected to succeed him as treasurer of the United States Rubber Co., while James Deshler, former superintendent of the Revere factory, was made a director with Williams.

In the annual report of the United States Rubber Co. for the year ending March 31, President Colt indicates that it is the most favorable the company has issued since its organization. Through its tire making subsidiary concerns, the Rubber Goods Mfg. and the Revere companies, the parent company expects a great growth in its automobile tire business, and preparations and equipment have been provided with this end in view. Rubber prices are certain to return to normal figures, he indicates, as production overtakes consumption, it being pointed out in the report that this process now is taking place.

"With almost unlimited forests of native rubber trees in Brazil and other countries," says President Colt, "and an almost unlimited area in the Far East upon which rubber trees can be successfully cultivated, it would seem that rubber cannot be maintained indefinitely at a price from three to ten times the cost of production."

### Will Make Motor Parts in Hastings.

The Hastings Motor Shaft Co., of Hastings, Mich., which has been incorporated with \$50,000 to manufacture automobile parts and specialties, has elected its officers and started work on a factory. The officers are Arthur E. Mulholland, president; John F. Goodyear, secretary; William W. Potter, R. B. Somers, D. S. Goodyear and George Wright, directors.

### Pope Buys Auburn Auto Pump.

Arthur W. Pope, of Boston, Mass., together with some Hub associates, has acquired the Auburn Auto Pump Co., of Auburn, N. Y., the transfer including property, patents, good will and stock. The Auburn plant was started two years ago by F. E. Ten Eyck, and has been making a power pump for tires, which attaches to the engine of the car.

### Dowagiac's Equipment Goes to Oklahoma.

The Tulsa Automobile & Manufacturing Co., which recently was organized in Tulsa, Okla., has acquired the property and equipment of the Dowagiac Motor Co., of Dowagiac, Mich. The manufacturing equipment and stock will be moved to the factory at Tulsa.

### Superior Files Plans for Big Plant.

The Superior Motor Vehicle Co., of Buffalo, N. Y., has filed plans with the building bureau for a one and two story brick factory at 1686 Elmwood avenue. The plans call for an expenditure of \$81,000.

## TAKES BRUSH, BRISCOE AND GRAY

United States Motor Completes the Transfer of Its Two Detroit Constituents—Adds a Motor Plant.

In accordance with the program previously indicated, the United States Motor Co. has taken over the Brush Runabout Co. and the Briscoe Mfg. Co., of Detroit, Mich., and also has acquired the Gray Motor Co., of the same city, the latter making marine and stationary gasoline motors.

As a result of the transfer of the Brush company to the merger corporation, the holders of Brush preferred stock get an even exchange for preferred stock in the United States Motor Co., but the interest is increased from 6 per cent. to 7 per cent. Holders of the common stock get 2½ for 1 in the exchange. Frank Briscoe, a brother of Benjamin Briscoe and president of both the Brush Runabout Co. and the Briscoe Mfg. Co., has been made a director in the United States Motor Co.

The enlargements planned for the Brush factory provide for a capacity of 20,000 runabouts for 1911, while the capacity of the Briscoe company is to be increased to a point where it can take care of the requirements of all the constituent companies in the merger, in regard to radiators, fenders, hoods and similar fittings. The Gray Motor Co., which has a capacity of 15,000 motors per year, is to have a new factory for the manufacture of marine motors, and when this is completed the present factory will be used for automobile motors. O. J. Mulford will continue as president and general manager, but the other members of the company will retire.

### Los Angeles Licensed Dealers Elect.

The annual election of the Licensed Automobile Dealers' Association, of Los Angeles, Cal., has resulted in the choosing of Earle C. Anthony, manager of the Western Motor Car Co., as president, succeeding Ralph Hamlin, who has been made a director. The other officers and directors elected include Don Lee, of the Lee Motor Car Co., vice-president; P. H. Greer, of the Greer Robbins Co., treasurer, and A. M. Young, of Birely & Young, secretary, together with William Bush, of the Pierce-Arrow agency, and P. A. Lord, of the Lord Motor Car Co.

### Gloomy Outlook for Watt Creditors.

Creditors of the bankrupt Watt Motor Co., of Detroit, Mich., are not elated by the outlook which is presented as a result of the investigation by the Detroit Trust Co., the receiver. The liabilities have been found to be about \$20,000, while the assets are represented as "problematical," consisting largely of machinery bought on contract and not yet fully paid for.

## THREATS TO CANCEL CONTRACT

**They Meet with an Unexpectedly Cordial Welcome—Amusing Incident that Throws Light on Tire Situation.**

In the serious affairs of the automobile industry there are many humors, which are developed spontaneously from the conditions surrounding the conduct of more heavy matters. An instance of the kind is afforded in a momentary clash between an assistant purchasing agent of one of the big automobile factories and an officer of the tire company supplying it with tires, incidentally revealing the frame of mind with which the tire companies regard the contracts which they made before the present difficult rubber situation arose, but which are still in effect and compel them to supply tires at the old price.

Upon discovering that the tire company no longer supplied some non-essential lugs with the tires, the vigilant assistant purchasing agent, with more enterprise than discretion, took the matter up with the tire company and claimed an allowance for his concern. He was told that no such allowance would be made. Pressing the demand still further, he threatened that if the allowance were not made his company would cancel the tire contract and would buy its tires elsewhere.

"If you will send that cancellation at once I'll consider it a favor," said the officer of the tire company, "and will present you with a box of the finest cigars money can buy."

This jolt gave its recipient a quick thought on the big difference between the contract price and the present price of tires. No steps have been taken toward the cancellation of the contract, at last reports.

### Light Wagons Coming from Owosso.

The Owosso Motor Co., of Owosso, Mich., with \$200,000 capital, has been organized to make light delivery wagons, the manufacturing operations for the present to be conducted in a wing of the plant of the Owosso Carriage & Sleigh Co. The car, which was evolved by C. V. Richardson, until recently with Reliance Motor Truck Co., is to sell for \$1,750 and is to be of about 1,500 pounds capacity. The officers are: W. E. Hall, president; Dr. J. O. Parker, vice-president; Dr. P. S. Willson, secretary; F. W. Pearce, treasurer; C. V. Richardson, general superintendent. These, with E. N. Thomas, compose the board of directors.

### New Directors for General Motors.

At a meeting of the board of directors of the General Motors Co., held in New York on the 12th inst., five new members of the board were elected, as follows: W.

C. Leland, Detroit; A. M. Bently, Owosso, Mich.; R. S. McLaughlin, Oshawa, Ont.; Edwin R. Campbell, Flint, Mich., and Schuyler B. Knox, New York City. Leland is general manager of the Cadillac Motor Car Co.; Bently is general manager of the Rapid Motor Vehicle Co., and McLaughlin is general manager of the McLaughlin Motor Car Co., Ltd., the General Motors enterprise in Canada. The other members of the board include William M. Eaton, New York; W. C. Durant, Flint, Mich.; William J. Mead, Lansing, Mich.; Curtis R. Hatheway, New York; John T. Smith, New York, and Henry Henderson, Scotch Plains, N. J.

### Spacke Will Stick to Parts Production.

The F. W. Spacke Machine Co., of Indianapolis, Ind., has let it be known that it is not going into the manufacture of complete cars. Reports that it was about to do so appear to have originated in the fact that the company, in addition to producing its regular line of parts, has been doing some special work for a concern that is intending to manufacture automobiles, when the latter company is under way; however, the Spacke company will do no more than supply the motor, steering gear and transmission requirements. "The parts business is good enough for us," the company avers significantly.

### Schrader Treasurer Dies Suddenly.

Albert G. Starke, secretary and treasurer of A. Schrader's Son, Inc., New York City, died at his residence, on Thursday, 12th inst., after a short illness. He was thirty-three years old and was born in Germany, having come to this country as a boy. By reason of the fact that the Schrader company manufactures tire valves, he was quite widely known to the cycle and automobile trade, being highly regarded by all with whom he came in contact.

### Havers Gets a Port Huron Plant.

The Havers Motor Car Co. is the most recent automobile manufacturing project for Port Huron, Mich. The company has taken possession of plant No. 3 of the Port Huron Engine & Thresher Co., and is to build a six cylinder roadster, designed by Ernest Havers, of Detroit, Mich., and which is to sell for \$1,200.

### McCullough to Handle Accessories.

The McCullough Motor Supply Co. has been formed in Indianapolis, Ind., to handle automobile parts and accessories. Its president and treasurer is L. McCullough, formerly sales manager for the Cole Motor Car Co., of Indianapolis.

### Tragic Death of a Chicago Manufacturer.

John A. Ryerson, president of the Ideal Electric Co., of Chicago, Ill., was killed on Monday night, 16th inst., by jumping or falling from the thirteenth floor of the Chamber of Commerce building. The Ideal company makes electric vehicles.

## INSTALMENT MAN DISAPPEARS

**Following the Motor World's Exposure he Decamps—"Forgets" to Pay His Rent and to Return Deposits.**

In indicating that its "main offices and show rooms are located in the great Hudson Terminal Buildings, the gateway between New Jersey and New York City," the Terminal Auto Co. concludes its printed matter with the statement: "You can't miss us!" Nevertheless, there are those who do—because "the company" has flown.

Only a grease spot remains where for a few brief weeks the company had his plush roped stand, his exhibition car, his desk and his nerve. What has become of the car, the desk and the plush ropes is not known, but it is probable that the company, who is known in private life as Guernsey Stevenson, still has his nerve with him, wherever he may be. In fact, it appears to have been one of his most valuable assets, and it would be a blow indeed if he should lose it, although the publicity he already has received in the Motor World is said to have impaired it to some extent.

Meanwhile various confiding souls who gave him \$100 or more as deposits on cars bought on the instalment plan have the privilege of coming around and looking at the grease spot, which is composed of drippings from the second-hand car which adorned his space. In this doubtful recompense they are joined by various creditors for advertising and the like, while the Hudson Terminal Building management holds the grease spot as its security for his unpaid back rent, although it would like to have something more tangible.

Things began to become very warm for Stevenson last week, after the Motor World's second probing into his methods, and they soon reached such a stage that he found it convenient in person to disappear, leaving his belongings in the stand. A day or two later he sent an expressman for them, and was sufficiently lucky to have his written request honored for their delivery to the expressman before the fiscal agent of the building knew what was being done or could attach either the furniture or the car as security for the unpaid rent. The expressman left no message as to the Terminal Auto Co.'s new address.

Stevenson has been stopping at the Hotel Churchill, at Broadway and Fourteenth street, but that hostelry knows him no more, and he left no forwarding address. In fact, the hotel has a bunch of mail matter for him, and does not know where to send it.

A committee of creditors and victims of the instalment plan lure is being formed. Its objects, lacking the hope of actual financial recovery, are more or less vengeful in their nature.

## THE WEEK'S INCORPORATIONS.

Lancaster, Pa.—Lancaster Auto Co., under Pennsylvania laws, with \$50,000 capital.

Detroit, Mich.—Swift Automobile Co., an Arizona corporation, admitted to do business in Michigan.

Milwaukee, Wis.—Studebaker Automobile Co., an Indiana corporation, admitted to do business in Wisconsin. Wisconsin interest, \$3,500.

Cleveland, O.—Cleveland Automobile Spring Co., under Ohio laws, with \$20,000 capital. Corporators—C. G. Hull, E. W. Farr and others.

Meriden, Conn.—Blue Ribbon Garage, under Connecticut laws, with \$50,000 capital. Corporators—Hubert J. Ashley, W. H. Samuel, Nelson B. Marr.

Whitewater, Wis.—Weyher Mfg. Co., changes name to Whitewater Mfg. Co., increases capital from \$35,000 to \$50,000 and takes up manufacture of motor cars.

Indianapolis, Ind.—Regal Auto Sales Co., under Indiana laws, with \$10,000 capital; to deal in automobiles. Corporators—C. R. Lambert, C. C. Rundell, Mae Rundell.

Buffalo, N. Y.—Clark Motor Co., under New York laws, with \$50,000 capital; to deal in automobiles. Corporators—Stanley B. De Long, J. W. Van Allen, H. J. Rente.

Ionia, Mich.—Hayes-Ionia Co., under Michigan laws, with \$150,000 capital; to make automobile bodies. Corporators—H. J. Hayes, T. B. Preston, W. J. Loomis.

Martinsville, Ind.—Martinsville Auto Co., under Indiana laws, with \$10,000 capital; to deal in automobiles. Corporators—K. J. Nutter, W. E. Clark, Blanche M. Nutter.

Cleveland, O.—Acetylene Accessories Co., under Ohio laws, with \$10,000 capital. Corporators—T. L. Hopkins, A. C. Streich, E. L. Davis, B. W. Brockett, W. C. Griffiths.

Chicago, Ill.—Lloyd Auto Garage Co., under Illinois laws, with \$5,000 capital; to do general garage business. Corporators—W. L. Rudd, Guy H. Lloyd, George W. Ford.

Maury, Tenn.—Fry Bros. Motor Co., under Tennessee laws, with \$5,000 capital; to do general automobile business. Corporators—W. H. Dale, H. Rainey and others.

Abbeville, La.—Ritter Co., under Louisiana laws, with \$10,000 capital; to deal in automobiles and operate a garage. Corporators—F. A. Godchaux, J. McWhann, J. F. Ritter.

Louisville, Ky.—Cold Air Regenerative Motor Car Co., under Kentucky laws, with \$20,000 capital; to manufacture automobiles. Corporators—J. F. French, W. F. Dawson and others.

Nazareth, Pa.—Neverslip Puncture-Proof Tire Co., under Delaware laws, with \$20,000; to manufacture automobile tires under letters patent. Corporators—H. S. Shafer,

H. S. Shafer, Jr., Fred Wonderly, all of Nazareth, Pa.

Wissahickon, N. Y.—Wissahickon Automobile Co., under New York laws, with \$25,000 capital; to deal in automobiles. Corporators—A. K. Taylor, W. H. Taylor, H. G. Eastburn.

Milwaukee, Wis.—Wisconsin Automobile Radiator Co., under Wisconsin laws, with \$50,000 capital; to manufacture radiators. Corporators—G. Aussem, S. S. Landt, Arthur Zancig.

Chicago, Ill.—Benz Motor Co., under Illinois laws, with \$2,500 capital; to deal in automobiles and accessories. Corporators—Emil C. Wetten, Charles H. Pegler and Charles V. Clark.

Chicago, Ill.—Wilcox Motor Car Co., under Illinois laws, with \$12,000 capital; to manufacture motors and motor vehicles. Corporators—A. L. Ballas, F. J. Wegg, George J. Meier.

Chicago, Ill.—Mack Motor Truck Co., under Illinois laws, with \$10,000 capital; to do automobile delivery and taxicab business. Corporators—M. B. Pittman, Gilbert Noxon, R. W. Cavanaugh.

Newark, N. J.—United Auto Co., under New Jersey laws, with \$100,000 capital; to manufacture and deal in automobiles. Corporators—Samuel H. Levy, Joseph Sonnabend, Ph. J. Schotland.

Findlay, Ohio.—Findlay Motor Car Co., under Ohio laws, with \$300,000 capital; to manufacture automobiles. Corporators—A. L. Welch, M. C. Mulhall, R. H. Hunter, J. C. Brooks, S. Giffether.

New Brunswick, N. J.—Williamson Garage Co., under New Jersey laws, with \$50,000 capital; to do general garage business. Corporators—W. M. Williamson, N. H. Smith, P. K. Buckalow.

Toledo, Ohio.—Dusseau Motor Car Co., under Ohio laws, with \$30,000 capital; to manufacture automobiles. Corporators—S. V. Dusseau, W. G. Dusseau, A. J. Marleau, F. X. Dusseau, R. Dusseau.

Buffalo, N. Y.—Regal Auto Co., under New York laws, with \$10,000 capital; to deal in automobiles. Corporators—W. W. Porter, Jr., C. E. Hancock, M. S. Melvin, R. G. Boyd, H. D. Van Brunt.

Chicago, Ill.—Auto-Renewal Co., under Illinois laws, with \$2,500 capital; to do general automobile, garage and repair shop business. Corporators—James S. McClellan, Leo Klein, Jerome J. Cermak.

Chicago, Ill.—Graham Differential Gear Co., under Illinois laws, with \$50,000 capital; to manufacture automobiles, accessories and machinery. Corporators—Percival Steele, J. T. Tyrell, G. J. Jeffries.

Detroit, Mich.—Robinson Motor Car Construction Co., under Michigan laws, with \$20,000 capital; to manufacture automobiles, parts and accessories. Corporators—M. M. Robinson, C. C. Currie, Wm. Elsey.

Chicago, Ill.—Chicago Auto Clock Co., under Illinois laws, with \$50,000 capital; to manufacture automobile clocks and accessories. Corporators—Adolph L. Benner, William M. Lawton, Otto G. Knecht.

St. Louis, Mo.—St. Louis-Overland Co., under Missouri laws, with \$20,000 capital; to deal in gasoline and electric automobiles. Corporators—E. W. Lee, W. R. Gentry, T. M. Dines, Jerome Harrington and others.

Philadelphia, Pa.—Philadelphia Observation Automobile Co., under New Jersey laws, with \$15,000 capital; to deal in, operate and let on hire sight-seeing automobiles. Corporators—F. R. Hansell, J. A. McPeak, W. T. Eidell.

Glens Falls, N. Y.—Glens Falls-Bolton Auto Stage Line, under New York laws, with \$5,000 capital; to operate automobiles in and about Glens Falls. Corporators—F. D. Miller, J. E. Miller and A. M. Miller, all of Glens Falls.

Jersey City, N. J.—Scherl Monorail Co., under New Jersey laws, with \$125,000 capital; to manufacture automobiles, monorail cars, etc. Corporators—W. O'Shea and J. W. Hertzler, New York City, and Thomas A. Renwick, Jersey City.

Far Rockaway, N. Y.—Pearsall-Traver Mfg. Co., under New York laws, with \$50,000 capital; to manufacture and sell non-skid device for automobiles and deal in accessories. Corporators—L. Pearsall, P. C. Traver, T. S. Remsen, J. C. Titell.

## Changes Among Prominent Tradesmen.

John Ryan, formerly with the Factory Sales Corporation, has joined the forces of A. R. Mosler & Co., New York City. He will push the sales end for Mosler carburetors, his previous experience having been particularly in the carburetor selling field.

John F. Bible, ex-Mayor of Ionia, Mich., and formerly manager of the Ionia Wagon Works has taken the sales management of the Ideal Auto Lighter Co., of Jackson, Mich. For this purpose he has organized the Bible-LaSalle Co., which is to market the output.

D. D. Rowlands has resigned as an assistant chief engineer of the Chalmers Motor Co., of Detroit, Mich., to become chief mechanical engineer of the Rider-Lewis Motor Car Co., of Anderson, Ind. He formerly was connected with the engineering departments of T. B. Jeffery & Co. and the Pierce Motor Co., respectively.

W. T. Helfer, formerly the Boston manager for the Diamond Rubber Co., but who has been with the Springfield Metal Body Co., of Springfield, Mass., for the last three years, has resigned from the latter concern to accept a position and interest with the Racine Mfg. Co., of Racine, Wis. The Racine company is rebuilding its plant, recently destroyed by fire, and is preparing to manufacture bodies on a big production basis.



## IN THE RETAIL WORLD.

The Columbus Auto & Electric Co., Columbus, Miss., has suffered a fire loss of \$3,000. Several complete cars were damaged beyond repair.

The Appleton Garage & Automobile Co. has been organized in Appleton, Wis. A brick garage, 50x150 feet, is to be built on Washington street.

The Van Da Grief Co. has opened a brick garage at Broadway and Seventh street, Louisville, Ky. It will be devoted chiefly to motor trucks.

John H. Bledsoe and L. J. Ritchey have opened a garage and salesroom at Garrison avenue and Olive street. Henry cars will form the "stock in trade."

The Riverdale Motor Car Co. is the style of a new concern which has opened up in Dayton, Ohio. Its garage is located at 719-721 North Main street.

H. T. D. Wilson and Thos. E. O'Neil have opened a garage and salesroom in Houston, Tex., under the style The Auto Co. The firm will specialize the Stearns cars.

Frank L. Hardsty is erecting a new garage, factory and warehouse for automobiles on Loockerman street, Dover, Del. The building will be of brick, 40x50 feet.

The Borgeding Motor Car Co. is the style of a new concern which has opened up a garage and salesroom on Main street, New Albany, Ind. Regal cars will be featured.

Thomas B. Jeffery & Co., makers of the Rambler automobiles, have established a branch in Rochester, N. Y., at 745-749 Park avenue. Fred R. Luescher is its manager.

The Monroe Bridge Garage Co. is building a new garage at Monroe avenue and Pacific street, Rochester, N. Y. It will be three stories high and cost about \$40,000.

Ground has been broken for the new garage of the Leland Hardware Co., at Leland, Miss. The building is to be one story, 80x140 feet, and will be ready by July 15th.

The Williams Automobile Co., of Los Angeles, has been established in its headquarters at the corner of Twelfth and Main streets. Moon, Petrel and Schacht cars are shown.

The "Crack-A-Jack" Automobile Tire Repair Shop just has been opened at 702 First avenue, Minneapolis, Minn. The two "crack-a-jacks" in charge are E. J. Walsh and C. K. Tousley.

A. Meister & Sons have been appointed agents for the Standard Motor Co., in San Francisco, Cal. The full line of Kelly delivery wagons and trucks made by the Standard Co. is to be shown.

A. D. Harmon, manager of the Nebraska Motor Car Co., has opened an agency and display room on Denver avenue, Hastings, Neb. He is handling the Parry and Warren-Detroit automobiles.

Collister & Sayle, who have been hand-

ling automobiles and supplies for the past ten years in Cleveland, Ohio, have opened a branch in that city at 1920 Euclid avenue. H. S. Dewitt is in charge.

Wilmington, Del., is to be the home of the recently organized Delaware Automobile Co., with salesrooms and garage on Washington street, near Fourth. Apperson automobiles will be the chief stock in trade.

H. G. Hanks, a hotel owner of Carson, Ia., has leased an entire block on Perry street, on which he will build an up-to-date garage and repair shop. Automobile livery will be run in connection with the garage.

The Taylor-Prior Co., Eau Clair, Wis., has commenced the erection of a garage on South Barstow street, the building to be constructed of cement blocks. Stevens-Duryea cars will be exhibited by the company.

Robert B. Currie, dealer in automobile supplies under the trade style of the Currie Supply Co., at No. 912 Sixth avenue, New York City, has made an assignment to Alex. H. Hamilton. He began business in October last.

The Gate City Auto Co., of Fargo, N. D., has bought the establishment formerly occupied by the Feckler Bros. automobile house and opened a garage therein. The company handles the Buick, Oakland and Oldsmobile.

Kankakee, Ill., is to have still another garage on Dearborn avenue, the Kankakee Motor Car Co. having contracted for a building, 55x100 feet, of pressed brick with glass front. Howard Mann is the manager of the concern.

Homer Livingston, a merchant of Danville, Ill., has branched out into the automobile business. He has converted part of his big store at 16 North Hazel street into a salesroom and garage, where he will show the Henry "35."

The Metropolitan Motor Car Co., of Spokane, Wash., has taken possession of its new garage and salesrooms at 1318 Second avenue. Harry Bell is the manager of the concern, which handles the Pullman, Premier and Lozier cars.

J. C. Leavitt, formerly of Kansas City, has purchased William Johnston's half-interest in the Johnston Motor Sales Co., Denver, Colo., and will handle the business affairs of the company. Tobin continues in charge of the sales end of the business.

North Adams, Mass., is to have another large garage "in its midst." Fernando L. Rand is building it on Ashland street, and it will cover 5,000 square feet and house thirty cars with ease. He expects to have the work finished by the end of this week.

The Vernon Motor Car Co., Fort Worth, Tex., and E. F. Simmons, state agent for the Stevens-Duryea, have consolidated under the style the Vernon-Simmons Motor Car Co. Their line of cars includes the Oakland, Oldsmobile, Hupmobile, Everett "30" and the Stevens-Duryea.

The Haynes Auto Sales Co., of San Francisco, has established branch houses in Sacramento, Cal., and Stockton, Cal. Robert Rathborn will manage the Sacramento house, and George Hammond, who has been with the Pierce-Arrow Co. for six years, will take charge in Stockton.

The Palace Automobile Station, Hartford, Conn., is enlarging its present garage to more than double its size; the 40x125 feet of seven years ago have grown to 25,034 square feet on one floor without a post. The building will be fireproof throughout. A complete repair shop will occupy the rear of the building. The improvements will cost \$80,000.

Baltimore, Md., is to have another high-class modern garage covering three city lots, at 408, 410 and 412 North Calvert street. Each of the lots has a frontage of 45 feet and a depth of 110 feet. Richard M. Shaffer, the purchaser of the property, who at present is in the automobile business at 408 North Calvert street, has already commenced the remodeling of the adjoining buildings.

## Philadelphia Dealers Organize.

The Philadelphia Licensed Automobile Dealers' Association has completed its permanent organization and has arranged for incorporation. The officers elected are J. A. Wister, of the Elmore Co., president; E. B. Jackson, of the Packard company, vice-president; W. J. Foss, Pierce-Arrow, secretary-treasurer. The officers, acting as ex-officio with A. E. Maltby, Winton, and W. C. Longstreth, Pullman, constitute the board of governors.

## New Factory for Hudson Cars.

The Hudson Motor Car Co., of Detroit, Mich., has started work on its new \$500,000 factory on Jefferson avenue. The main building is to be 580 feet long and will have two wings, each 300 feet long, in addition to which there will be a testing building, shipping sheds, power house, dining hall and office building. The plant is to be ready by fall.

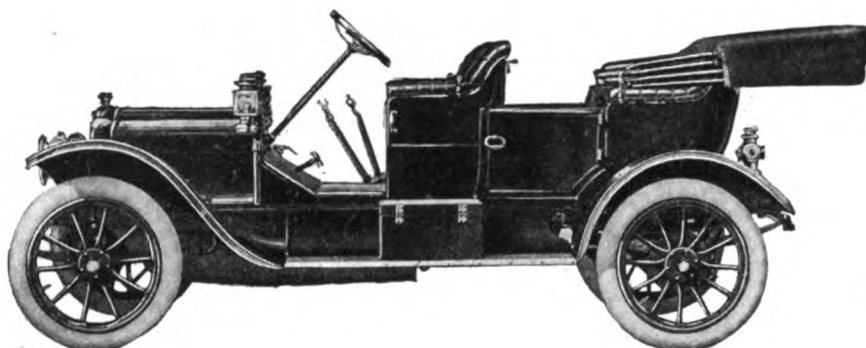
## Ross Buys Badger Rubber Works.

The Badger Rubber Works plant, at Mineral Point, Wis., has been acquired by L. A. Ross, R. C. White and G. A. Graham, who will operate it as the Ross Rubber Mfg. Co. The company is to make automobile tires as soon as the necessary equipment can be installed, and also will manufacture a general line of rubber goods.

## Vickers Completes His First Car.

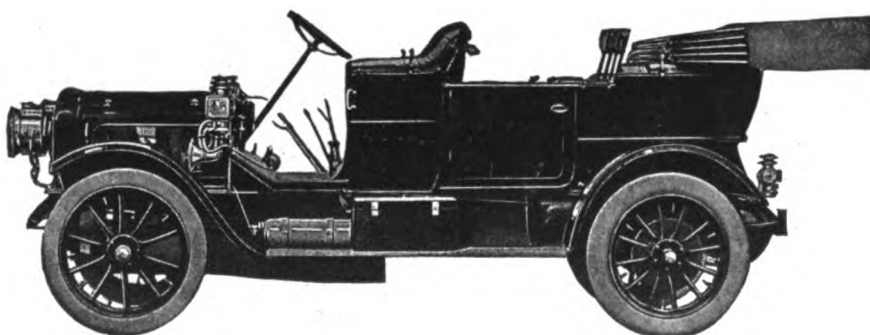
The Vickers Auto Car Co., of Coshoc-ton, O., has completed its first car, which will be called the Vickers. The machine is a runabout with a four cylinder, two-cycle, air cooled engine. Carl Vickers, proprietor of Vickers Repair Shop, backed by E. H. McMasters, of Bellaire, O., is at the head of the enterprise.

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Full details regarding the new models, dates of delivery, etc., may be obtained on application to any of the offices or agencies of the company.



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#### Perplexities of the Garageman.

No one can begin to appreciate the number of minor and troublesome perplexities which confront the garageman who is in the position of catering to a growing business with only limited facilities at hand—that is, no one can except the garageman who is in the position of catering to a growing business with only limited facilities at hand. And it may be said that that is just the position in which a large proportion of the garage proprietors to-day find themselves. No matter from what angle the problem is viewed, certain elements of uncertainty and confusion are bound to appear; whether in the guise of the finicky and dissatisfied customer or in the form of purely mechanical difficulties which baffle adjustment because of the peculiar existing conditions.

As an example, the problem of car storage may be instanced. As long as there is ample floor space and not too many cus-

tomers to look after there may not be much difficulty about it. But just as soon as the cars begin to be crowded will arise some owner of a small car who objects because some other man, who owns a larger car, is permitted to have a position a little nearer the door and to retain it at all times; or someone whose car has come in late over night will raise a rumpus because his machine has been moved in order to let out another which was behind it. Then there are the man who always wants to supervise the moving of his own machine on and off the wash rack; the fellow who always wants to run his machine into the middle of the floor and start fixing it, and the boor who by reason of a real or fancied "pull" continually is endeavoring to "work" the establishment for unusual privileges of one sort or another.

One of the simplest problems of all, yet one which is pretty apt to give trouble sooner or later in the new garage, is that of storage space. Relatively speaking, only a few establishments are arranged in a suitable way when it comes to taking care of the cars, and invariably after all the choice spaces have been spoken for there must be a few dissatisfied latecomers. But it is noteworthy that a good deal of trouble may be avoided if, in the very beginning, the entire storage space is laid off by means of division lines painted on the floor and designated by number either painted on the floor or on the wall behind each space. In some localities, where there is plenty of room, a few individual storage spaces may be walled off, with shelving or locker space in each compartment, and a little higher rental obtained for the exclusive and theft-proof advantages of the arrangement. In most cases, however, it is sufficient to indicate exactly how many cars may be placed on a floor and to keep definite record of the proper location of each and every machine. It is a simple protection for the interests of both proprietor and customer, and besides saving misunderstandings, affords an absolute measure of the capacity of the establishment and tends to prevent overcrowding.

#### The Equipment of Commercials.

In the development of the commercial vehicle a perfectly legitimate tendency is that of eliminating all unnecessary accessories. But it is a not unreasonable conclusion that in not a few instances this principle has been carried further than condi-

tions warrant. Certainly this would seem to be true with regard to the installation of certain indicating and regulating devices such as in pleasure car practice have come to be considered almost indispensable.

For example, certain makers of electric delivery wagons are in the habit of sending them out shorn of the volt and ammeters which alone furnish an indication of the amount of energy which the battery contains and also of the rate of consumption under any given condition of load or highway. Speed indicators may be supposed to be unnecessary in most instances, but there are cases, like that of the light delivery wagon, when to carry a device of this sort might enable the operator to follow a better time schedule on his route or even to avoid breaking the speed ordinances when otherwise he might offend through sheer ignorance.

An even more important class of instrument, however, is the speed and distance register of the recording pattern, such as the market affords in several thoroughly practical types, and which is really necessary where close figuring of schedules, loads and costs is to be maintained. It is of the greatest importance to the commercial vehicle operator to know exactly what movements his rolling stock makes in the course of a day, and to be able to check up his expenses in connection with an accurate and automatic record of this phase of its work.

At present, the adoption and installation of equipment of the sort in question is left almost entirely to the option of the purchaser. At the same time, it should be borne in mind that in very many cases the purchaser is largely ignorant of the requirements, and that he may not appreciate their importance sufficiently to be eager to go to the extra expense of installing them, even supposing that they happen to be called to his attention. Such being the case, it would seem a not unwise proceeding for the commercial vehicle manufacturer to take it upon himself to catalog such devices and to press every opportunity of mounting them on his product.

It is not unlikely that within a few years market rivalry will force the movement exactly as it has forced the adoption of liberal equipments in the case of so many pleasure vehicles. Therefore it would be of considerable advantage to take the lead in calling the attention of the buyer directly to such extra facilities as will enable

him to check up the performance of his vehicles and in urging him to adopt every sort of economic and labor-saving device which is suitable to the purpose.

#### **Rush Work and its Consequences.**

Rush work evils are well known and equally to be deplored by the manufacturer who is forced to resort to overtime. Only from the lips of the press agent are the words "night work" spoken with unfeigned complacency. Hurry-up jobs invariably smack of quantitative, rather than qualitative, results, no matter what means are taken to safeguard the work and supervise the workman. Owing to its peculiar nature, the automobile industry is particularly subject to this sort of industrial handicap, nor does it appear that many of the makers who are fairly launched in business are likely to be able for some time to come entirely to eliminate it. Even where production facilities are adequate for all ordinary undertakings, delayed deliveries of materials, belated orders, labor troubles and like exigencies are bound occasionally to cause the works to remain open after dark, and the payroll to mount up in geometrical progression.

One particularly trying element of the rush work problem is that introduced by the special order. A buyer takes a fancy to a certain style of body and fain would have it on his new car. Rather than have the work go to a local carriage maker and make sale of the chassis alone, the manufacturer undertakes the order. Unfortunately, however, like most buyers, this particular customer must have his car by a certain date, probably only a little later than the specified time of stock deliveries. Unless the manufacturer happens to be well equipped to handle non-routine work, such an order is apt to prove more or less embarrassing. It involves the unspoken requirements of execution which the custom order invariably presupposes; it breaks into factory system to some extent, and, in the pressure of short time allowance, it not infrequently is apt to turn out unsatisfactorily.

Once a fine limousine belonging to a New York politician was burned to the ground suddenly and mysteriously. Subsequent investigation placed the blame where it usually rests in the case of fires in office buildings. "Crossed wires" actually were responsible in this case, however, for it was said that the body was a special job,

## **COMING EVENTS**

May 19-21, Hartford, Conn.—Automobile Club of Hartford's All-Connecticut reliability contest; 600 miles.

May 22, Fort Worth, Tex.—Fort Worth "Star-Telegram" endurance run.

May 22, Memphis, Tenn.—Automobile races at Tri-State fair grounds.

May 22-23, Brooklyn, N. Y.—Crescent Athletic Club-Long Island Automobile Club amateur touring contest on Long Island for Pardington trophy.

May 25, Columbus, O.—Columbus Automobile Club's reliability run to Indianapolis, Ind.

May 27, 28 and 30, Indianapolis, Ind.—Grand Circuit meeting and national championship races on Motor Speedway.

May 27-31, Washington, D. C.—Washington "Post" five days endurance run to Richmond, Va., and return.

May 28, White Plains, N. Y.—Amateur Automobile Contest Association's hillclimb.

May 28 and 30, Kansas City, Mo.—Automobile Club of Kansas City's two days' race meet at Elm Ridge track.

May 28-31, Syracuse, N. Y.—Central New York inter-club relay run.

May 29-30, San Francisco, Cal.—San Francisco Motor Club's two days race meet at Tanforan.

May 30, Oklahoma City, Okla.—Oklahoma Automobile Association's reliability contest.

May 30, Bridgeport, Conn.—Bridgeport Automobile Dealers' Association's hillclimb on Snake hill, Fairfield.

May 30, Denver, Colo.—Denver Motor Club's road race.

May 30, Briarcliff Manor, N. Y.—Amateur Automobile Contest Association's hillclimb.

May 30, Denver, Colo.—Denver Motor Club's annual road race.

June 1, Berlin, Germany.—Start of Prince Henry tour, finishing at Homburg on 8th.

June 2, New York City.—Annual Orphan's Day outing at Coney Island.

June 3-4, Buffalo, N. Y.—Automobile races at Fort Erie track.

June 4, Worcester, Mass.—Automobile Club of Worcester's annual hillclimb on Dead Horse hill.

June 4, Philadelphia, Pa.—Quaker City Motor Club's race meet at Point Breeze track.

June 6, Atlanta, Ga.—Start of second annual New York-Atlanta Good Roads Tour, ending in New York June 14.

June 7, West Haven, Conn.—Yale Automobile Club's third annual hill-climb on Shingle hill.

June 11, St. Louis, Mo.—Automobile Club of St. Louis reliability contest.

June 11, Newark, N. J.—New Jersey Automobile and Motor Club's 280 miles reliability run.

June 11, Portland, Ore.—Portland Automobile Club's annual road race for Wemme Cup.

June 11, Wilkes-Barre, Pa.—Wilkes-Barre Automobile Club's annual hill climb on Giant's Despair.

June 15-30.—American Automobile Association's seventh annual national touring and reliability contest for the Glidden trophy, starting from Cincinnati and finishing at Chicago.

June 16-22, Albany, N. Y.—Albany Automobile Club's sixth annual tour to Atlantic City, N. J., and return.

June 25, Port Jefferson, N. Y.—Automobile Club of Port Jefferson's hillclimb on East Broadway hill.

July 2, Wildwood, N. J.—North Wildwood Automobile Club's roadability run from Philadelphia to Wildwood.

July 4, Wildwood, N. J.—North Wildwood Automobile Club's annual beach race meet on Ocean Drive.

July 4, Indianapolis, Ind.—Chicago Automobile Club's second annual race for the Cobe trophy on Motor Speedway.

which had been put together on short notice. In wiring the interior for electric lights defective insulation had resulted, probably from hasty work, and the first indication of trouble came when the top actually began to blaze.

Less serious consequences usually result where special rush work is carried out hastily, but the moral is not always so obvious. Such manufacturers as are able to count on a considerable amount of business of this class, as a rule, are able to provide for it and are wise if invariably they stipulate sufficient time to make sure that the work will be well done. Others thought-

fully seek to avoid all difficulty on this score by listing a wide range of body designs, finishes, trimmings and fittings and thus limiting their agents to certain more or less restricted lines of extra and special equipment. Perhaps this is the best plan to pursue, except where custom work is sought definitely and ample time allowed for filling orders properly. In general, special work has no place in a plant that is already crowded to keep up with its standard product. Exceptional orders, such as sometimes must be taken, while they may bring credit to the maker, are not to be encouraged.

## GREAT CROWD AT 24 HOURS RACE

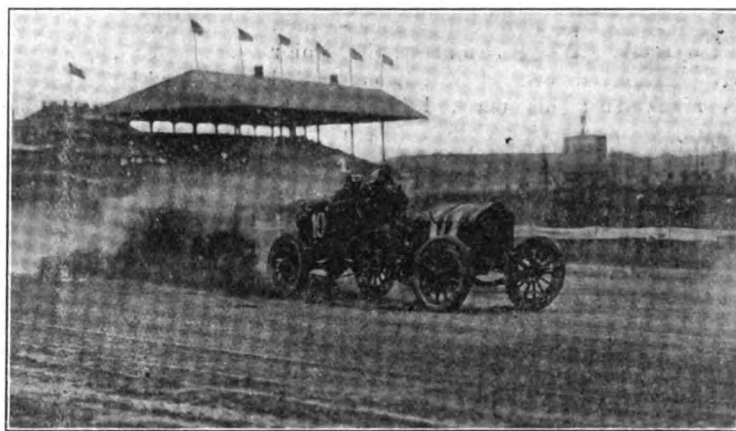
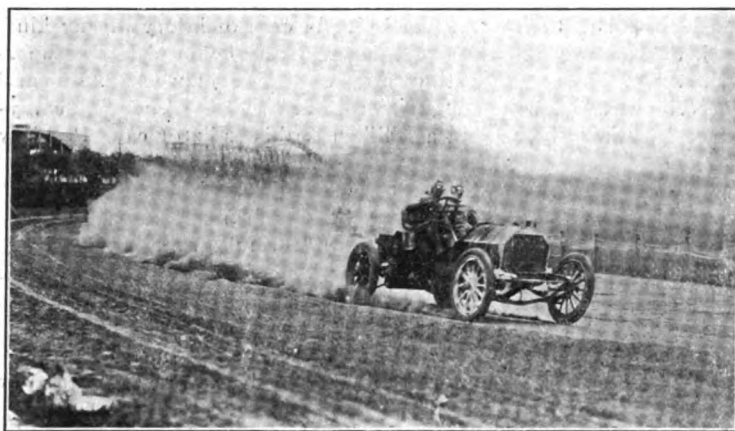
Accidents and Tragedy at Brighton Beach  
Enrich Box Office—Basle-Poole Win  
on Dusty Track.

Amid the tumultuous cheers of the largest crowd that ever gathered to witness the finish of a 24 hours race in this country, the Simplex car, driven alternately by Charles Basle and Al Poole, won the first twice-around-the-clock contest of the season, at Brighton Beach New York City, on Saturday last, 14th inst., piling up a total of 1,145 miles for the long grind. Although numerous predictions were made that the record

foreign car in the race, which, piloted by DePalma and Parker, looped the mile oval 1,107 times. In the matter of tire equipment of the winners, an ever interesting question, Continental tires and demountable rims scored a double victory, being fitted to both the Simplex and Stearns.

Driving in their usual spectacular style, the Chevrolet brothers in Buick No. 1 made the running interesting for the field all the time, and finished fourth, with 1,049 miles to their credit. They also set up the only new hour records which the race produced, raising the four hours figures from 217 to 219 miles, and repeating the trick again in the fifth hour, when they changed the former record of 267 miles to 269. That consistency which in the past has landed it

the crash. Later the car again charged through the cloth barrier with Strang at the wheel, but he managed to keep it right side up and brought it back on the course. In the final tally it was credited with 989 miles. The next accident after that in which Bradley was killed occurred just after 2 o'clock in the morning. This time the trouble happened at the turn into the backstretch and the unlucky car was the Buick No. 2 driven by George DeWitt. The car lost a tire as it rounded the turn to the backstretch, swerved to one side and turned over. DeWitt escaped injury altogether, but Jack Tower, his mechanic, was thrown out and one of his legs was broken. He was taken to the hospital and will recover, it is said. Like his alternate, Burman supplied



EVIDENCE THAT THE COMPETING CARS KICKED UP SOME DUST

of 1,196 miles established last fall would be lowered, these prophecies never were in danger of being fulfilled, the winning team falling short of the record by 51 miles, despite the oft repeated assertions of the management that the track was "faster than ever." The race was marked by the usual fatality and numerous accidents, for which the track has an unenviable reputation.

Second honors went to a Stearns manned by Mulford and Patschke, who rolled up 1,120 miles. Although regularly on the Lozier staff, they were "loaned" for the occasion, as the Lozier interests declined to compete under the changed conditions by which the race was a free-for-all event instead of for stock cars, as in the past. Third place went to the Fiat, the only

well up in front was not displayed by the Rainier team, Disbrow and Owen, on this occasion, and fifth place, with 1,037 miles, was its portion. The last one to cross the four-figure division was the Croxton-Keeton, which made its first debut in 24 hour racing, and made a very creditable showing for a small car. Driven by Spenney and Lund, it slipped around quietly and regularly, and, although no match for the big fellows in speed, its plugging qualities resulted in a score of 1,004 miles.

Lewis Strang and Leo Anderson handled the ill-fated Marion, which figured in the first accident, going through the fence early Saturday morning and crushing its mechanic, W. F. Bradley, so badly that he died at the Coney Island Hospital an hour after

considerable of the fireworks in the early part of the race, and was conspicuous among the leaders, but after DeWitt's upset the car never again was a dangerous factor. At the finish it was in eighth position with 927 miles to its credit. Although protested by three other teams for violation of the rules by the alleged replacement of undamaged parts with new ones to more quickly complete a repair, the Chevrolets' Buick was allowed to finish, the Buick people taking an appeal from the referee's decision. The case will be decided by the contest board of the American Automobile Association.

Another debutant was the Cole, also in the small car class, which distinguished itself by making a hurried and informal

### SUMMARY OF THE 24 HOURS RACE AT BRIGHTON BEACH.

No.	Drivers and Car.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	Basle-Poole, Simplex	54	106	155	202	240	289	341	388	440	492	545	598	649	697	745	794	842	880	926	971	1,014	1,059	1,103	1,145
2	Mulford-Patschke, Stearns	54	109	160	210	245	299	325	370	423	476	528	579	630	677	726	775	824	857	901	952	993	1,038	1,076	1,120
3	DePalma-Parker, Fiat	56	109	155	202	244	299	352	395	448	497	545	593	641	689	729	759	808	842	881	930	974	1,018	1,060	1,107
4	Chevrolet brothers, Buick	56	112	163	219	269	320	370	408	453	508	558	609	654	703	730	774	810	852	894	933	979	1,015	1,049	
5	Disbrow-Owen, Rainier	54	108	156	208	256	305	353	404	443	496	550	580	616	652	703	747	793	818	865	906	935	959	998	1,037
6	Lund-Spenney, Croxton	48	95	143	185	231	273	317	360	405	451	491	535	581	621	664	706	752	774	802	845	889	920	963	1,004
7	Strang-Anderson, Marion	51	102	151	161	205	249	283	327	375	425	473	520	563	613	661	698	742	770	805	828	870	906	947	989
8	Burman-DeWitt, Buick	56	112	160	209	242	242	242	242	268	305	351	405	458	500	536	586	628	661	712	752	793	840	881	927
9	Endicott-Edmonds, Cole	49	99	145	185	187	227	236	270	314	353	389	430	448	456	466	503	533	556	588	627	660	692	723	756
10	Mack-McMahon, Selden	48	94	127	151	155	201	243	285	319	367	399	399	407	451	495	531	569	588	609	637	666	682	691	718
11	Roberts-Martin, Houpt	27	72	125	175	203	236	266	266	266	266	296	344	385	422	445	490	526	535	539	571	571	571*		
12	Howard-Dearborn, Stearns	56	108	160	213	258	310	349	400	435†															

\*Cracked cylinder. †Out with broken frame.





AT LEISURE AND IN ACTION IN THE REPAIR CAMPS

jump through the cloth fence, but returned to the track, although Endicott, the senior driver, received bruises which compelled his retirement; his mate, Edmonds, finished the race. The Cole rolled up 756 miles.

Ten of the twelve starters finished, the two delinquents being the Houpt-Rockwell and Stearns. Montague Roberts, who with Stanley Martin constituted the crew of the hyphenated and rejuvenated Bristol creation, did not make a very auspicious showing on his announced return to the racing game. Although it bore the supposedly lucky "7," this was not sufficient to offset the double combination of Friday, 13th. In the first hour the car was off the track for a long time with a leaking gasoline line, and in the 7th hour again went to the paddock with a broken steering knuckle, this time to stay three hours. Although hopelessly out of the race, the car again came out when repairs were completed and continued with indifferent luck until the 20th hour, when it again retired. It was announced in the 23d hour that a cylinder was cracked and the car was withdrawn. Howard and Dearborn, with Stearns No. 2, made things lively in the early hours of the race, setting a hot pace, and lasted nine

hours, when, with 435 miles opposite their names on the score board, the car was retired with a cracked frame.

Advertised more extensively in the daily press than any of its predecessors, the race drew the largest crowds in the history of such contests, the official attendance being given as 35,000. There were fully 20,000 persons and nearly 2,000 cars on hand for the start, which was delayed for an hour. The promoters certainly made hay while the moon shone, and are so elated over the gate receipts that they plan to stage another grind next month.

Not everyone who saw the race parted with the coin of the realm, however, for the far turns and fences on the back stretch were lined with men and boys who, when the officers were not looking, made a break for the infield and eventually lost themselves in the crowd.

In order that no careless spectator might get himself injured and attempt to deplete the strong box of the Motor Racing Association, that organization took extreme precautions to relieve itself of all responsibility. Over the entrance was a large sign warning all spectators to read the conditions under which they accepted tickets and which absolved the management from all

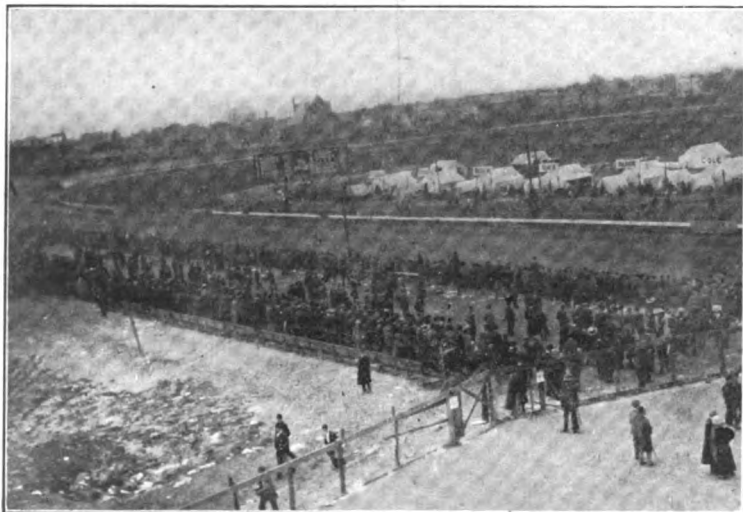
responsibility in case of injury of any kind.

Chevrolet evidently believed in the superstition attached to Friday the 13th and sought to rout any evil influences by carrying a Billiken on his radiator cap. Possibly this saved him from being put out of the race or going through the fence, but it didn't prevent a broken cam shaft.

Despite the "careful grooming by large gangs of men" for weeks previous, the track was as rutty and bumpy on the turns and in the straights as ever, while the dust on the first night was blinding. Rain on the afternoon following laid the dust for a few hours. The race was stopped for ten minutes shortly after midnight to restore the signal lights at the line, which were sagging so low that it was feared that they might become entangled with some of the cars.

#### Memphis Racemeet is Abandoned.

Giving as a reason for the postponement the inability of several prominent drivers to be present on that date, Homer George of New Orleans, who was promoting the racemeet scheduled to occur at Tri-State Park, Memphis, Tenn., on Saturday, 21st, has announced that the event has been laid on the shelf indefinitely.



TWO GENERAL VIEWS DURING THE 24 HOURS RACE

**BRAKES CHIEF CAUSE OF PENALTY**

**Many Perfect Road Scores in Harrisburg Contest Spoiled by Technical Examination—The Winners Announced.**

Of the 19 cars that finished the three days' endurance run of the Motor Club of Harrisburg, Pa., which ended on Wednesday, May 11th, only three managed to survive the 505 miles of cross-Pennsylvania and New Jersey traveling with perfect road and mechanical scores. The three honor markers were the Pullman, driven by N. Gallatin, which won Class A, for touring cars listing above \$2,000; the Kline-Kar, driven by J. A. Kline, which earned the only perfect score in the class for touring cars listing at \$2,000 and under, and the baby Maxwell, piloted by A. D. Rea, which scored the winning record in the class for runabouts selling at \$1,600 and under. The other winner, which none the less was a winner, although it did not get a perfect score, was the Inter-State, driven by W. W. Vandegrift, who won the class for roadsters listing at \$1,601 or over, with a debit of 11 points. Of this number 8 points were incurred for failure to reach the controls according to schedule during the third day's journey.

As described in last week's Motor World, the Motor Club of Harrisburg's third annual endurance contest began in that city on Monday, May 10th, the first day's journey taking the contestants to Atlantic City, N. J. Despite the rain and muddy roads encountered in Pennsylvania, only two cars lost points, although the strenuous going doubtless was responsible for many of the afterfindings of the technical committee which brought penalizations.

The second day's travel was over a course

in southern New Jersey from Atlantic City to Wildwood, and only three cars suffered penalization. In the final day's run from Wildwood back to Harrisburg rain and bad roads again were experienced and six cars, two of which had perfect scores until the beginning of Wednesday's run, were penalized. The first day's traveling from Harrisburg to Atlantic City was 168 miles, and the second day's route, from Atlantic City to Wildwood, via the roundabout way of May's Landing, Vineland, Alloway, Salem, Bridgeton, Millville and Cape May Courthouse, amounted to 139.6 miles. Wednesday's run was from Wildwood to Harrisburg, 197 miles.

Because of the immense amount of work entailed in examining the cars for technical faults and penalties against brakes, clutches and gears, the findings of the technical committee were not available until late Thursday. The results are shown in the appended table.

In view of the tremendous strain on the brakes while traveling over the hilly roads of eastern Pennsylvania, it is remarkable that any of the cars escaped the technical committee's searchlight, and the fact that only 6 cars of the 19 survivors escaped penalization in respect to brakes is an item that conveys a lesson in itself. Only one car was penalized under the heading of "gears," and one car was assessed 5 points on account of its clutch; a large number received points on minor technicalities.

All the winners deserve all the praise they received for coming through so well, but especial commendation must be awarded the baby Maxwell, which A. D. Rea, carried through the three days of long and exacting drives without a point against it in road, technical or mechanical classification. That such a little car was able to not only hold its own against more powerful and expensive cars, but to defeat a number, certainly is remarkable.

**Class A—Touring Cars Listing at \$2,001 and Above.**

	1st Day	2nd Day	3d Day	Brakes	Clutch	Gear	Technical	Total
N. Gallatin, Pullman.....	0	0	0	0	0	0	0	0
J. Burns, Franklin.....	0	0	0	0	0	0	3	3
R. L. Morton, Kline-Kar.....	0	0	0	7	0	0	0	7
Sam Cole, Kline-Kar.....	0	0	0	42	0	0	4	46
H. Bitner, Pullman.....	0	1	2	46	0	0	2	51
E. Yeager, Columbia.....	19	0	0	26	5	0	13	63

**Class B—Touring Cars Listing at \$2,000 and Under.**

W. W. Vandegrift, Inter-State.....	0	0	8	0	0	0	3	11
Frank Hasmer, Regal.....	0	6	20	24	0	0	0	44
H. L. Brownback, Enger.....	0	0	5	45	0	0	0	59
W. McCully, Kline-Kar.....	0	3	22	53	0	0	3	81

**Class C—Roadsters Listing at \$1,601 and Above.**

J. A. Kline, Kline-Kar.....	0	0	0	0	0	0	0	0
H. Weiner, Pullman.....	0	0	0	5	0	0	0	5
E. Greenwood, Marion.....	0	0	0	4	0	0	5	9
W. P. Sieg, Kline-Kar.....	27	0	3	5	0	0	0	35
H. P. Hardesty, Pullman.....	1	0	0	36	0	0	2	39
G. F. Snyder, Mitchell.....	Withdrawn.							

**Class D—Runabouts Listing at \$1,600 and Under.**

A. D. Rea, Maxwell.....	0	0	0	0	0	0	0	0
C. C. Fairman, Kline-Kar.....	0	0	0	5	0	0	0	5
E. Craig, Overland.....	0	12	0	0	0	0	24	36
Tom Seager, Warren-Detroit.....	0	0	58	9	0	25	1	93
G. Ickes, Pullman.....	Withdrawn.							

**ON CHEYENNE'S FOUR MILES TRACK**

**Oldfield Does Lightning Mile on Dirt Course but Meets Defeat Later—Wyoming's Governor an Official.**

That it is not necessary to spend hundreds of thousands of dollars to build a motor speedway capable of producing records, and that the celebrated California speed-record climate has a formidable rival, conclusively was proved at Cheyenne (pronounced "Shyanne"), Wyo., on the 11th inst. After filling their engagement in the Mormon capital a few days previously, B. Oldfield & Co., who are playing one day stands on the Rocky Mountain slope and gathering in all the stray shekels that the alluring and thrilling publicity of the wily Bill Pickens brings their way, jumped over to Cheyenne on Wednesday, 11th, and did their stock repertoire of record trials and match races on the Cheyenne Motordrome. Surprising as it may appear, this practically unknown course, which is a four miles circle and was completed without any great blare of trumpets last summer, now presumably is the holder of the American mile track record.

Kirschner, who is the understudy of the star, opened the performance with an unsuccessful assault on the mile record of 36:22 established by Oldfield at the Los Angeles Motordrome last month. Clocked by the electrical timing apparatus, he pushed the Darracq for a mile in 43 seconds flat. Oldfield with the Benz, disdaining to warm up, attacked the half mile figures of 14:76 made by Hemery at Brooklands, England, but the first attempt netted him 18 seconds. On his second dash Oldfield was clocked in 17 seconds flat, and was loudly cheered for what the press dispatches stated was a new world's record, but which is far short of the mark.

"Me and My Car" next gave attention to the mile figures and apparently bettered his Los Angeles mark, so that the Cheyenners may have reason to be proud of their track. In his first flight Oldfield covered the mile in 38:52, and caused Bedlam to break loose on his second try, when it was announced that he had negotiated the distance in 36 seconds flat; a 100 miles an hour clip. This abducts the record from the Los Angeles saucer by 22-100 of a second. The authenticity of the time, however, is open to question, according to rumor in the East which credited Pickens with holding one of the watches. Then came the amateur mile record dashes, Harold Brinker, of Denver, pushing an American car the distance in 57 flat, and Lisle Branson, Buick, doing it in 1:02½.

Following the trials was an eight miles match between Oldfield in the Knox and Branson in a Buick, the latter having a min-

ute handicap. The Knox closed the gap at a rapacious rate and Branson won only by inches, being almost nailed at the tape. Time, 8:46 $\frac{3}{4}$ . Another "dirt track record" was established by Brinker in the 25 miles free-for-all, which he won in 25:05. Oldfield started with a Knox but was eliminated by a broken connecting rod, which allowed Branson, Buick, to take second.

Ideal weather favored the meet, which was held by the Cheyenne Motor Club under sanction of the American Automobile Association. Affidavits have been secured by the club officials from timers and surveyors attesting to the accuracy of the timing apparatus and the correctness of the distance.

The track, which was built at a cost of \$5,000, is circular and has a decomposed granite surface. This, together with the rare altitude, is said to be responsible for the fast times made. Over 5,000 persons witnessed the meet, Governor Brooks acting as an official, while 2,000 United States regulars from Fort Russell guarded the course.

The summaries:

Time trials—Half mile, Oldfield, Benz, first, 0:18; second, 0:17. One mile, Oldfield, Benz, first, 0:38.52; second, 0:36 (record); Kirscher, Darracq, 0:43; Harold Brinker, American, 0:57; Lisle Branson, Buick, 1:02 $\frac{1}{2}$ .

Eight miles match between Oldfield, Knox, and Branson, Buick (1:00)—Won by Branson. Time, 8:46 $\frac{3}{4}$ . Oldfield's time, 7:46 $\frac{3}{4}$ .

Twenty-five miles free-for-all—Won by Harold Brinker, American; second, Lisle Branson, Buick. Time, 25:05. Oldfield also started but did not finish.

#### Oldfield & Co. at Ogden Races.

Although 5,000 persons crowded into the grandstand and bleachers at the half mile track in Ogden, Utah, Monday afternoon, 9th inst., to witness the race meet promoted by B. Oldfield & Co., the racing was nothing to brag about and the crowd consequently was more or less disappointed. The track was soft and dusty, and therefore slow time was made in all the events. The best Oldfield could do in his mile time trial was 1:12, while Kirscher's time was 1 $\frac{3}{4}$  seconds slower. Oldfield defeated Kirscher in a match. The summaries:

One mile against time—Won by B. Oldfield, 1:12; second, Ben Kirscher, 1:13 $\frac{3}{4}$ .

Five miles stock chassis handicap, "for Ogden champion"—Won by Bert Angel, Buick; second, B. Oldfield, Knox; third, Frank Irving, Thomas. Time, 6:51.

Two and one-half miles match between B. Oldfield and B. Kirscher—Won by Oldfield, Knox; second, Kirscher, Darracq. Time, 3:33 $\frac{1}{2}$ .

Three miles handicap, free-for-all—Won by Carl Winters, Buick; second, Frank Irving, Thomas; third, B. Oldfield, Knox. Time, 4:15. Also ran—Ben Kirscher, Darracq.

## DENVER DEFIES FRIDAY, THE 13TH

But the "Hoodoo" Works and an Accident Happens and Rain Falls—Oldfield & Co. in Evidence.

Friday, the 13th inst., proved an unlucky day for the promoters of the Overland Park automobile race meet at Denver, Col., on that date. B. Oldfield & Co. were the scheduled attraction, but the dusty track prevented the star of the troupe from doing better than 54 $\frac{1}{2}$  seconds for the mile. The 5,000 or less spectators consequently were disappointed. This, however, was not the unlucky feature of the meet. The hoodoo day of the week and month brought disaster to George A. Clarke, who ran his Overland car through a high board fence and injured himself and J. Allen, mechanic. The mishap occurred in the 10 miles race for cars listing at \$1,250 and under, which, with the exception of two rattling good motorcycle races, was the only event run before the rain came up and made further racing impossible.

Despite the threatening weather on Saturday, 14th inst., nearly 3,000 spectators journeyed to Overland Park to witness the second day's racing and the continuation of the program that was interrupted on Friday. Although it was raining hard in the city of Denver, the shower held away from the track and the latter was exceedingly dusty. For that reason the events were not as much appreciated as otherwise might have been the case.

Oldfield again tried for a fast mile, but he was a keen disappointment. It is true that he made the circuit in 53 $\frac{1}{2}$  seconds, but his press agent had led the people of Denver to believe that Barney would travel at the rate of 40 seconds or under, and for that reason 53 seconds to them seemed unusually slow. Kirscher, in a car of half the horsepower, made a mile in 55 $\frac{1}{2}$  seconds, and was the real star of the occasion, as he won a three miles handicap for a cup that was presented by the Governor. Kirscher also won the five miles free-for-all handicap.

In the stock car events, the two miles novelty was won by a Chalmers-Detroit, while Harry Bell, in an Overland, won the five miles scratch race over Peyton Hough, in a Warren-Detroit. The summaries:

#### First Day—Friday, May 13th.

Five miles motorcycle, professional—Won by B. W. Brazie, Merkel; second, Earl Armstrong, Indian; third, Glen W. Boyd, Indian. Time, 4:50.

Five miles motorcycle match, professional—Won by Joe Wolters, Merkel; second, A. V. Stratton, Excelsior. Time, 5:54.

One mile against time—By Barney Oldfield, Benz, 0:54 $\frac{1}{2}$ .

Ten miles, stock chassis listing at \$1,250 and under—Won by Peyton R. Hough, Warren-Detroit. Time, not given.

#### Second Day—Saturday, May 14th.

Five miles motorcycle match, professional—Won by Joe Wolter, Merkel; second, Alva Stratton, Excelsior. Time, 5:24 $\frac{3}{4}$ .

One mile time trials—Barney Oldfield, Benz, 0:53 $\frac{1}{2}$ ; Ben Kirscher, Darracq, 0:55 $\frac{1}{2}$ .

Five miles motorcycle, professional—Won by Earl Armstrong, Indian; second, Walter Brazie, Merkel; third, Glen W. Boyd, Indian. Time, 4:48.

Five miles for stock chassis—Won by Harry Ball, Overland; second, Peyton Hough, Warren-Detroit. Time, 6:20.

Two miles against time—By Barney Oldfield, Benz, Time, 1:49.

One mile against time—By Ernest McMillan, National. Time, 1:06.

Five miles free-for-all handicap—Won by Ben Kirscher, Darracq (scratch); second, Ernest McMillan, National (0:40). Time, 5:11 $\frac{3}{4}$ .

Five miles motorcycle match, professional—Won by Joe Wolters, Merkel; second, Alva Stratton, Excelsior. Time, 5:28 $\frac{1}{2}$ .

Two miles novelty, stock chassis—Won by Chalmers-Detroit; second, Peerless; third, Ford. Time, 4:03 $\frac{3}{4}$ .

Three miles free-for-all handicap—Won by Ben Kirscher, Darracq (scratch); second, Harry Ball, Overland (1:00); third, Peyton Hough, Warren-Detroit (0:40). Time, 3:00.

#### After the Cross-Continent Record.

Emblazoned with signs bearing its name, the tires it wears, the oil it uses and similar information concerning its equipment, a 30 horsepower Mercer car with C. H. Bigelow at the wheel left New York City early on Monday, 16th, in an attempt to establish a new transcontinental record. Bigelow's destination is Los Angeles, Cal., approximately 4,000 miles, according to the route which he will follow, and he plans to do all his driving by daylight. As outlined at present, the route includes Wheeling, W. Va., Columbus, O., St. Louis, Mo., and thence along the old Santa Fe trail. If Bigelow is inside the record when he reaches New Mexico he will be relieved by Harold M. Hanshue, the California crack. Indicative of the strenuous roads which are expected to be encountered, the car is equipped with shovels, tackle and other similar impedimenta. The best record for the cross-continent journey is held by a Franklin car—362 hours, made in 1906.

#### Trying to Revive Lowell Speed Carnival.

Despite the bad taste left by the deficits of the last two years, influences are at work to bring about a repetition of Lowell (Mass.) road race carnival on Labor Day. It is said that some of the influence is being supplied by New Yorkers.

**PATHFINDERS' TASK COMPLETED**

**They Receive Warm Welcome at Chicago  
and an "Extra" at Detroit—Glidden  
Route 2,839 Miles Long.**

Thirty-two days out from Cincinnati, O., where the tour will start on June 14, the Chalmers-Glidden pathfinder rolled into Chicago, the finishing point, on unlucky Friday the 13th, with its odometer registering 2,966 miles, and where it was accorded a hearty welcome by the large gathering of motorists that were on hand to await its arrival. The scouts were met at Davenport, Ia., by members of the Chicago Motor Club, and another delegation, among which was Hugh Chalmers of the Chalmers Motor Co., greeted them at Geneva, Ill., the escort gradually increasing as the Windy City was neared. Friday night the scouts were guests of the motor club at a banquet held at the Chicago Athletic Association, which was largely attended by prominent motorists. Speeches were made by David Beecroft, president of the Chicago Motor Club; Dai Lewis, the pathfinder; Hugh Chalmers, president of the Chalmers Motor Co.; Thomas J. Hay, vice-president of the Chicago Motor Club; E. L. Ferguson, of the A. A. A.; S. M. Butler, chairman of the A. A. A. contest board, and Harry T. Clinton, secretary of the Chicago Motor Club.

Most of the speeches had to do with the tour, but Mr. Chalmers delivered an address on the condition of the motor industry, in which he declared that it is a "stable" institution; that it is not a craze, and that soon it will become a selling proposition that will mean a survival of the fittest so far as the manufacturers are concerned. He predicted that inside of five years horses would not be permitted inside the loop district in Chicago.

Secretary Clinton announced that the Motor club has decided upon a huge bronze plaque for the Chicago trophy in the Glidden tour.

Following the arrival of the pathfinders in Chicago, a meeting of the powers that be was held, among those in attendance being Secretary Butler of the A. A. A., David Beecroft, a member of the contest board; Dai Lewis and E. L. Ferguson. After hearing Lewis's report, it was decided to change the start of the tour to June 14, the change being necessitated by the requirement of an extra day to make the run between Dallas and Oklahoma City, which was not allowed for in making up the schedule. The total length of the tour will be 2839 miles, instead of the 2,500 originally calculated on, and it will pass through thirteen states.

The daily itinerary, as now officially decided upon and which probably is final, will be as follows:

Days.	Miles.
1 Cincinnati to Louisville.....	162
2 Louisville to Nashville.....	193
3 Nashville to Sheffield.....	119
4 Sheffield to Memphis.....	161.7
5 Sunday in Memphis.	
6 Memphis to Little Rock.....	207.7
7 Little Rock to Texarkana.....	191.6
8 Texarkana to Dallas.....	217.1
9 Dallas to Lawton, Okla.....	200
10 Lawton to Oklahoma City, Okla.....	145
11 Oklahoma City to Wichita.....	216
12 Sunday in Wichita.	
13 Wichita to Kansas City.....	234
14 Kansas City to Omaha.....	242
15 Omaha to Des Moines, Iowa.....	160
16 Des Moines to Davenport, Iowa.....	190
17 Davenport to Chicago.....	200

The longest day's run will be between Kansas City and Omaha—242 miles—and the shortest will be from Nashville to Sheffield, Ala.—119 miles. The average daily run will be 189 miles, and the two Sundays en route will be spent at Memphis, Tenn., and Wichita, Kan., respectively.

Enthusiastic as was the welcome which Chicago gave to the pathfinders, it was surpassed by Detroit when Joe Gardham brought the car back to its home city on Monday, 16th. Seven miles outside the Straits City he was met by a reception committee headed by Mayor Breitmeyer, and including Hugh Chalmers, and Abner Larned of the Detroit Chamber of Commerce. After a short speech of welcome by the Mayor the escort of 30 cars formed in line and wended its way back to the heart of the city. Upon its arrival they were met by a large party of motorists, who welcomed the return of the pathfinder and its driver with hearty cheers.

For the first time in the history of the tour the pathfinding car will be a contestant for the Glidden trophy and will be driven by Gardham as a reward for his work in piloting the pathfinder on the exploring trip. That the knowledge which he gained on the pathfinding trip will be of immense advantage to him in the contest readily will be appreciated. On its arrival in Detroit the car had traveled 3,175 miles and brought back a record of not having killed a chicken or dog on the trip.

**Miss Scott Starts for the Coast.**

"Looking just too sweet for anything" and "smothered with bon voyage bouquets," to quote John C. Wetmore, a bachelor and a rare judge of that sort of thing, Miss Blanche Scott, accompanied by Miss Amy L. Phillips, left New York on Monday afternoon last, 16th inst., for their "tour de demonstration" to the Pacific Coast. Miss Scott was at the wheel of the white and gold Overland car, of course, for she is "the girl" referred to by the sign on the car: "The Car, the Girl and the Wide, Wide World." Miss Phillips, in Wetmore French, is Miss Scott's "souer de voyage." Miss Scott was attired in brown, Miss Phillips in blue. Previous to their departure, they were the guests at a luncheon served at the Claremont on Riverside Drive.

**BROOKS RUNS UP MISSOURI HILL**

**Makes Fastest Time in Kansas City Climb—  
Other Honors Well Distributed—  
One Spill Occurs.**

A. O. Brooks, driving a Lexington car, won the free-for-all event and scored the fastest time in the annual hill climb of the Automobile Club of Kansas City, Mo., held on the Dodson hill, near that city, on Saturday afternoon last, 14th inst. In the free-for-all class Brooks covered the 6-10 mile incline in 55½ seconds, which breaks the record for the course by 4½ seconds, the previous mark having been established in 1908.

Because of insufficient policing the climb was not as successful as former contests of the sort. The officials were unable to cope with the 3,500 spectators who crowded over the course, and the soft turns caused more than a dozen drivers to withdraw after reaching the course. Roy O. Kendall furnished the only exciting incident, when he overturned on the soft upper turn and put his Pennsylvania car out of commission. Kendall jumped as the car upset and escaped injury. The winning cars in the various classes were:

Cars costing under \$800—Won by Krit, 1:31½. Other entrants withdrawn.

Cars costing between \$800 and \$1,200—Won by Ford, 1:06½; second, Ford, 1:27.

Cars costing between \$1,201 and \$1,600—Won by Parry, 1:06½; second, Great Western, 1:07½; third, Everett, 1:13½.

Cars costing between \$1,600 and \$2,000—Won by Jackson, 0:58½; second, Henry, 1:10; third, Auburn, 1:12; fourth, Enger, 1:15; fifth, Herreshoff, 1:27.

Cars costing between \$2,000 and \$3,000—Won by Pennsylvania, 1:03; second, Jackson, 1:06½; third, Great Smith, 1:10½.

Cars costing between \$3,000 and \$4,000—Won by Palmer-Singer, 1:05; second, Palmer-Singer, 1:06½; third, Robert Mesch, Palmer-Singer, 1:26.

Free-for-all, cars under \$3,000—Won by Jackson, 0:55½; second, Lexington, 0:56; third, Great Western, 1:00; fourth, tie between Apperson and Ford, 1:00½; fifth, Great Smith, 1:02; sixth, Jackson, 1:05.

Free-for-all (no restrictions)—Won by A. O. Brooks, Lexington, 0:55½; second, Jackson, 0:56½; third, Apperson, 0:59½; fourth, Great Smith, 1:00½. Pennsylvania overturned.

**Spencer Heads the Sedalians.**

Automobile owners of Sedalia, Mo., have formed the Sedalia Automobile Club, with the following officers: S. E. Spencer, president; W. H. Highleyman, vice-president; Damon Fay, secretary; F. W. Phipps, treasurer. The organization starts with 17 members.

## MUST DRAW LOTS FOR THE MEDALS

**Nineteen Perfect Scores in New Jersey Run and Only Six Gold Medals—Those Who Earned Them.**

After a week's delay the Motor Contest Association has announced the results of his two days easy contest from New York to Atlantic City and return, May 10th and 11th. There were 19 perfect scorers out of 31 starters, and as there was but one gold medal in each class, or six in all, the 19 are to be asked to draw lots to decide the ownership of the really and truly gold medals. The others who qualified will have their disappointment assuaged, however, by receiving medals which are gold on the outside, whatever they may be beneath the surface. Silver and bronze medals constitute the second and third prizes, respectively, in each class.

Following are the results:

Class 1A—Cars listing at \$800 and under.	
Driver and Car.	Penalizations.
R. E. Gillam, Hupmobile.....	0
E. D. Cutting, Hupmobile.....	9
Class 3A—Cars listing between \$1,201 and \$1,600.	
W. H. Bowers, Regal.....	0
George L. Reiss, Overland.....	0
W. Mulstay, Maxwell.....	1
W. C. Davenport, Buick.....	191
*F. Warmington, Cole.....	1000
Class 4A—Cars listing between \$1,601 and \$2,000.	
Lewis Strang, Pierce-Racine.....	0
Herbert F. Earl, Auburn.....	0
Paul Harvey, Franklin.....	0
Joseph Bell, Chalmers.....	0
W. F. Bradley, Marion.....	0
N. L. Lichtenberg, Cadillac.....	0
L. R. Burne, Cadillac.....	0
Leo Anderson, Midland.....	0
Philip Hines, Buick.....	1
Charles Schaefer, Maxwell.....	3
*J. L. Bryer, Koehler.....	1000
Class 5A—Cars listing between \$2,001 and \$3,000.	
Richard Newton, Stoddard-Dayton....	0
W. C. Poertner, National.....	0
O. R. DeLamater, Mitchell.....	0
Charles Hinman, Mora.....	0
Joseph Trehou, Mercer.....	0
Class 6A—Cars listing between \$3,001 and \$4,000.	
Charles F. Fox, Franklin.....	0
Neil Whalen, Matheson.....	0
Robert M. Flagg, Welch-Detroit.....	2
W. C. Spenney, Croxton-Keeton.....	21
†W. E. Shuttleworth, Haynes.....	1051
Class 7A—Cars listing \$4,001 and over.	
V. P. Pisani, Zust.....	0
Joseph Kingsland, Zust.....	41

\*Out; accident. †Withdrawn.

### Amateur Association Abandons One Event.

Because of conflict with other competitions which are carded for the same day, and also owing to the fact that the association has a hillclimb scheduled on Ander-

son's hill, White Plains, N. Y., on Saturday, 28th, two days previous, the Amateur Automobile Contest Association, which is composed largely of New York brokers and bankers, has decided to postpone its climb on Briarcliff hill, which was set for May 30th. It probably will be held later in the season. Coincident with this action, the card for the White Plains climb has been lengthened by the addition of a free-for-all class, in which each contestant will have two trials. There will be five events, held under A. A. A. rules and sanction, the Wall street amateurs, who first flouted it, having had a second "think" and decided to recognize A. A. A. authority.

### Philadelphians Back a Motordrome.

The Philadelphia Motordrome Association, which recently was incorporated under the laws of New Jersey with capital stock of \$2,000,000, has for its purpose the erection of a two miles vitrified brick track at Clementon, N. J., 12 miles from Philadelphia, where, it is stated, 663 acres of high, dry land have been purchased. George H. Robertson, the racing man, will supervise the building of the track—when the construction work begins.

The plans call for concrete stands, with seating capacity for 50,000 persons; for a hotel with roof garden, etc.; for a club house; for garages and for buildings in which to house a permanent exhibition of cars and accessories. Indeed, the prospectus is very similar to the Atlantic City motordrome project, which never came to a head. Blue prints of the Clementon motordrome already are in existence, however. The officials of the company, as given by its publicity man, are as follows:

A. C. Patterson, president Excelsior Trust Co., Philadelphia; H. S. Reed, assistant treasurer Union Trust Co., Philadelphia; L. Kuehnle, president Marine Trust Co., Atlantic City; M. R. Margerum, secretary Interstate Fair, Trenton, N. J.; Geo. H. Robertson, winner Fairmount Park races, New York City; Mayne C. P. Parker, M. & M. E., Philadelphia; Harry J. DeBear, automobile department, the Bulletin, Philadelphia; Edward L. Bixby, manager C. E. Miller Co., Philadelphia; C. E. Folmer, ex-Recorder Deeds, Pottsville, Pa.; Frank G. Cassler, decorator, Philadelphia; W. H. Woodward, attorney-at-law, Philadelphia. Counsel for P. M. A., S. Boyer Davis and Weaver & Drake. Architects, Milligan & Webber.

### Sea Gate Motorists Form a Club.

Motorists of Coney Island and vicinity have formed the Sea Gate (N. Y.) Automobile Club with the following officers: T. H. Schneider, president; Gottfried Wasternacher, John Petri, T. Angermeier, vice-presidents; Harry Newmann, secretary; M. Brayer, treasurer. The membership is restricted to fifty. There are twenty-four names on the roll at present.

## RACING AT THE ROSE CARNIVAL

**San Franciscans Gobble Everything at Santa Rosa Meet—Ruddle and Murray the Biggest Winners.**

San Francisco cars and drivers carried away all the prizes at the two days race-meet held in connection with the annual rose carnival at Santa Rosa, Cal., on Friday and Saturday, May 6th and 7th. The biggest scorer at the meet was A. Ruddle, who piloted his Ford to victory in five events and scored second in the only other event in which he was entered. Frank Murray, Buick, also was a heavy scorer, winning four firsts, one second and one third. C. O. King, in a Maxwell, was the most persistent runner-up, finishing second four times, besides winning one race. The attendance was good on both days and a majority of the races resulted in close finishes. One of the most exciting events was the 5 miles scratch on Friday, when Murray and King fought neck and neck all the way, the former winning by a foot.

The summaries:

### First Day—Friday, May 6th.

Five miles for stock chassis, 230 cubic inches—Won by A. Ruddle, Ford; second, W. C. Morris, Autocar; third, Frank O'Brien, Ford. Time, 5:42½.

Ten miles stock chassis, 231 to 150 cubic inches—Won by C. O. King, Maxwell; second, Frank Murray, Buick. Time, 10:27¾.

Ten miles stock chassis, 230 cubic inches—Won by A. Ruddle, Ford; second, W. C. Morris, Autocar. Time, 10:58¾.

Five miles stock chassis, 231 to 450 cubic inches—Won by Frank Murray, Buick; second, C. O. King, Maxwell. Time, 5:12¼.

Ten miles handicap, for first and second finishers—Won by Frank Murray, Buick (0:59); second, A. Ruddle, Ford (0:35); third, Walter Morris, Autocar (1:05). Time, 10:27¾.

### Second Day—Saturday, May 7th.

Five miles stock chassis, 230 cubic inches—Won by A. Ruddle, Ford; second, Walter C. Morris, Autocar; third, Frank Murray, Buick. Time, 5:26¾.

Ten miles stock chassis, 231 to 450 cubic inches—Won by Frank Murray, Buick; second, C. O. King, Maxwell. Time, 10:13¾.

Ten miles stock chassis, 230 cubic inches—Won by A. Ruddle, Ford; second, Walter C. Morris, Autocar; third, Frank Murray, Buick. Time, 11:01.

Five miles stock chassis, 231 to 450 cubic inches—Won by Frank Murray, Buick; second, C. O. King, Maxwell. Time, 5:16¾.

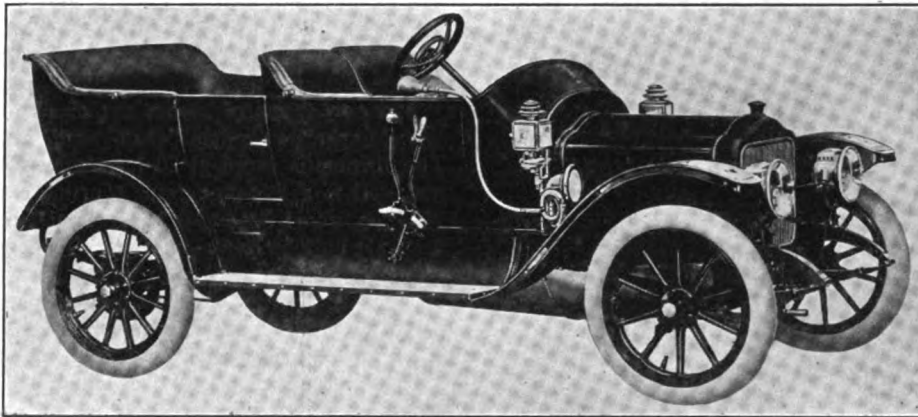
Ten miles handicap for first and second finishers—Won by A. Ruddle, Ford (0:40); second, C. O. King, Maxwell (0:14). Time, 11:58.



**WHITE WILL RETAIN LONG STROKE**

**First Announcement of the 1911 Line—  
High Powered Gasolene Model to be  
Produced this Fall.**

Six different models altogether will comprise the line of White cars which is to be produced during the latter part of the present year and the beginning of next. Four models will be designed for pleasure service,



NEW TORPEDO BODY OF WHITE GASOLENE CHASSIS.

two each of the gasolene and steam types, and two for commercial work. Announcement to this effect made by the White Co., of Cleveland, carries the unexpected information that a new gasolene chassis is to be added to the present line, thus completing the balance between the gasolene and steam models, affording in each class one of medium and one of higher horsepower.

Structural details of the new gasolene model have not been disclosed as yet, save for the bare announcement that the power plant will be of 40-60 horsepower and will rank as a seven-passenger machine. It will be ready for fall delivery, however, and it is promised that it will embody several radical features.

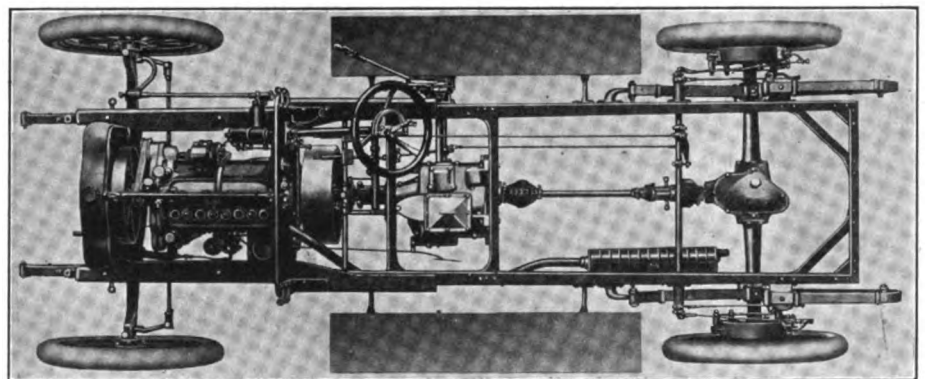
The existing models, having proved entirely satisfactory, are being continued with very few changes in construction. The gasolene car, which was introduced nearly a year ago, like the famous steam car, has required little alteration. Its power plant, which forms the basis of both the gasolene pleasure and commercial products, retains the neat and compact character which already has brought it some little distinction.

The four cylinders are cast in block form, with intake and exhaust passages integral, thus doing away with external manifolds, and besides cleaning up the exterior of the motor, introducing a number of advantages. The intake gases are heated as they pass to the cylinders, while the exhaust, by contact with jacketed surfaces, are cooled as they leave the cylinders and so are robbed of a portion of their superfluous energy. This not only assists in muffling the

exhaust, but tends to facilitate the clearing of the waste products from the cylinders. The long-stroke feature of the engine is retained in the unchanged dimensions. The stroke of  $5\frac{1}{8}$  inches is roughly  $1\frac{1}{4}$  times the bore, which is  $3\frac{3}{4}$  inches.

The valve gear is entirely enclosed. The springs and stems are enclosed by a removable plate. As both sets of valves are placed on the left side of the motor, only one cam shaft is required, and that has a rather unusual feature in the compression

releasing device, which is employed to facilitate starting. By means of a small lever mounted on the dash immediately in front of the steering wheel, it is possible to give the cam shaft a slight longitudinal move-



WHITE GASOLENE CHASSIS SHOWING COMPACT POWER PLANT.

ment in its bearings. The effect of this is to bring a special set of cam faces under the exhaust lifters, thus keeping the valves unseated during a portion of the compression stroke. As soon as the motor has been started, the shaft is returned to its normal position and the valve motion is taken up in the regular way.

Another excellent feature of the motor is the oiling system. The two-bearing crank shaft, which is mounted in annular bearings, is formed with oil ducts, leading from grooves on each crank disc, which are eccentric with respect to the cranks. The effect of this arrangement is to cause the oil to be circulated through the ducts by centrifugal force from each of the end bear-

ings to the first crank pin bearings, from the outer crank pins to the two central ones circulation also is maintained by centrifugal force. The oil is led outward through ducts to oil pipes, which are mounted on the face of the crank webs, the result being that the direction of flow for the entire distance through which the oil travels is eccentric to the shaft movement, so that it is impelled entirely by centrifugal force.

The main oil reservoir is located in one of the crank case supporting arms, which is enlarged for the purpose, and from which a gear driven pump lifts the oil to a single sight feed glass located on the dash. From the sight feed glass the flow is by gravity to the end crank shaft bearings, whence the circulation to the lower connecting rod and shaft bearings is as already indicated, while the upper end bearings and the pistons are lubricated by the familiar splash system. Overflow arrangements preserve the proper level in the case and prevent flooding and the system is otherwise safeguarded against abuse.

Ignition is secured by means of the Bosch high tension magneto system, the magneto itself being placed on the right side of the engine, where, with the centrifugal water circulating pump, it is entirely removed from the carburetter and valve gear, and is thus more or less isolated from sources of possible injury. As the illustration makes plain, the exterior of the motor is particularly clean, a slight alteration in the arrangement of the water piping since the

model first was introduced, contributing to this effect.

Transmission is through a leather-faced cone clutch, which is distinguished by reason of the method employed for attaching the leather facing to the cone. Instead of the usual rivets, a series of T-head bolts are used, which are drawn up from the inside of the conical rim and serve to force the leather into corresponding slits in the surface of the cone, thus securing it positively and at the same time avoiding the necessity of piercing it at a number of different points. Adjustable pedals are used for both the clutch and the service brake, this feature being made possible by the direct thrust motion of the pedal arms.

The change speed mechanism, which is mounted in the waist of the chassis directly back of the clutch, is supported on three lugs which are carried by two cross frame members. It is of the selective sliding pinion type, and affords four forward speeds,

fer materially in point of chassis design and size, as well as in transmission gear ratio. As is customary in handling commercial vehicles, the bodies are made to suit the requirements of the purchaser, and may be adapted to a wide variety of purposes.

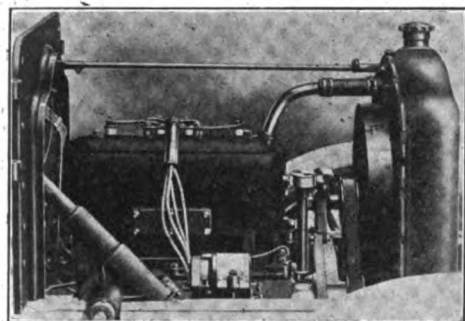
matic regulating devices on the water, fuel and steam controls, the operator is relieved of all care in regard to them and the generation of steam proceeds in direct obedience to the demands of the engine.

The engine is of the two-cylinder, compound condensing type, with piston slide valves and the so-called "Joy" valve gear. A recent innovation is the adjustable burner which may be regulated to adapt it to different grades of fuel, such as gasoline, kerosene or even lower grades of distillate. On the Pacific Coast, indeed, most of the White steamers in use burn a cheap and low grade fuel known as "California distillate," which is said to have given the best of satisfaction.

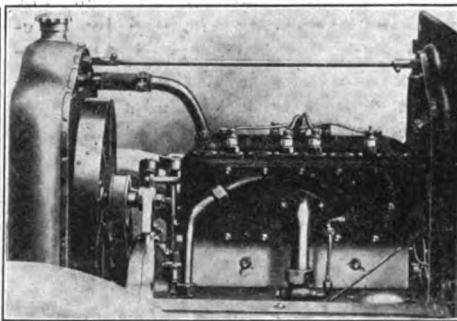
The two types of steam car are known, respectively, as models "O-O" and "M-M." The former is rated at 20 horsepower output, and is a five-passenger touring car of 110-inch wheel base and 32 by 4 inch tires; it also is built in limousine form. The larger model is built on 122 inch wheel base, has 36 by 4 inch tires, and its power plant is rated at 40 horsepower output. In seven-passenger touring form it is designated as the "Presidential pattern," owing to the circumstance of the use of a car of corresponding form by the Chief Magistrate of the United States. Five-passenger touring bodies also are fitted to the larger chassis, as are limousines built to accommodate either five or seven passengers.

#### Injury Done by High Gear Stunt.

While it is perfectly possible to induce a car to run very slowly on high gear by the



RIGHT SIDE OF WHITE ENGINE



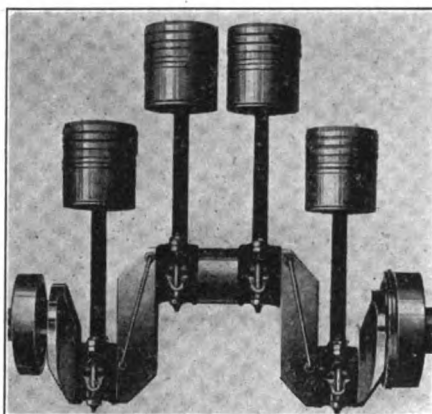
VALVE GEAR ON LEFT SIDE

the direct driving relation being secured on the third speed, with the fourth speed "geared up." This arrangement, which is rather out of the ordinary, when employed, generally is applied only to cars of much greater power. Final drive to the semi-floating rear axle is through a double jointed propeller shaft. The torque reaction is absorbed through the forward ends of the rear springs, which also drive the car.

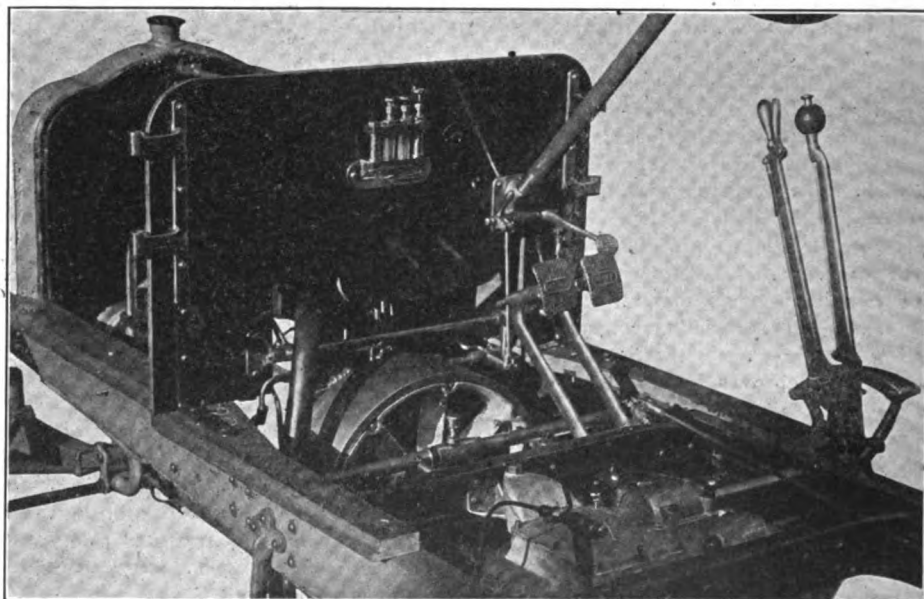
Although here treated as one car, the present gasoline pleasure line actually is listed in two distinct models, on which basis the forthcoming output would consist of seven instead of six models. Actually the difference between the two gasoline types now on the market is confined largely to matters of wheel base, tire size, and body design. The two forms are distinguished as models "G-A" and "G-B." The former has 110-inch wheel base and is fitted with 32 by 4 inch quick detachable tires; it may be equipped with either five-passenger touring, four-passenger small tonneau, or torpedo types of body, and is adapted to receive the rear attachment, which constitutes the "Domestic Express" equipment, which is the designation applied to a form of light baggage carrying body.

Model "G-B" has a wheel base of 120 inches, 34 by 4 inch tires, and is somewhat heavier in the matter of frame construction. Its body equipment takes the form of a roomy five-passenger touring structure, or a limousine or landaulet. Both styles now are equipped with three-quarter elliptic rear springs, instead of with semi-elliptics as formerly, while a minor alteration in the form of the radiator filling cap, as well as the altered lines of the torpedo body, assist in the slight distinction between the present output and that of the first series of cars, which now have been entirely disposed of.

The commercial vehicle line consists of a 3-5 ton and a 1½ ton chassis, which remain the same in construction as heretofore, and which have the same motor as is used in the present gasoline cars but dif-



CRANK SHAFT OILING DUCTS



WHITE CHASSIS SHOWING CLUTCH AND GEARSET FEATURES

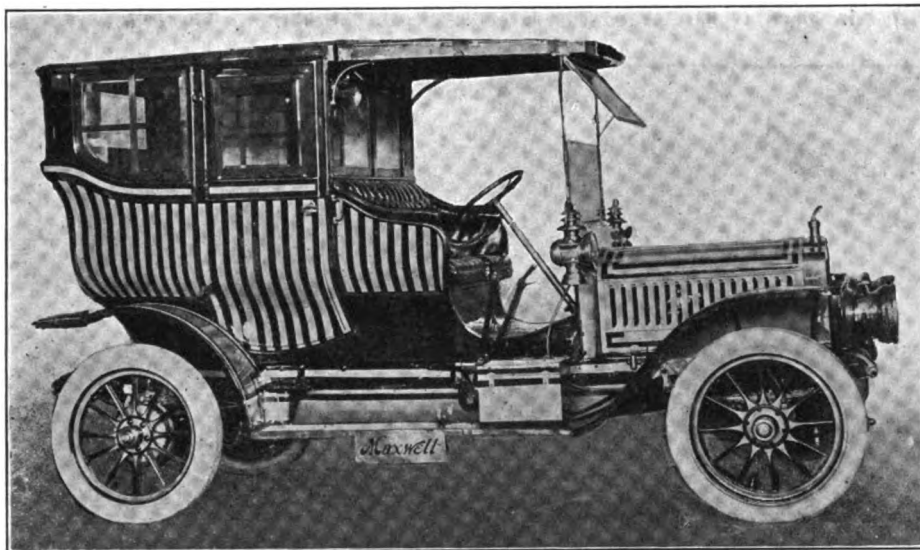
The construction of the steam models remains practically the same as in the preceding series. As heretofore, the semi-flash generator consists merely of a closed coil of steel tubing, capable of holding less than a third of a cubic foot of steam and water in the 40 horsepower size. By means of auto-

expedient of gently applying the service brakes, the practice is not advisable, even under stress of slow-moving traffic, when it is desirable to drive as slowly as possible and yet to avoid frequent gear changes. It overheats the brakes and creates undue wear in the linings.

## ZEBRA STRIPES FOR SIAM'S KING

**His Majesty Purchases an American Car of Distinctive Appearance—Its Equipment and Its Royal Billiken.**

Although King Chulalongkorn of Siam already is said to possess quite a collection of automobiles, he is still adding to it. His latest purchase is a 40 horsepower four cylinder Maxwell touring car. It mounts a specially constructed limousine body and is distinguished by zebra stripings and radiator cap surmounted by a quill and inkpot Billiken, typefying royal authority. Every appointment that makes for com-



SPECIAL MAXWELL LIMOUSINE FOR KING OF SIAM

fort, convenience and safety has been incorporated in the car.

The interior is upholstered in a rich pearl gray silk, with gold brocade, and a priceless rug is to adorn the floor. Among other distinctive features are a stationary French beveled oval-shaped mirror, collapsible *escritoire*, complete toilet set, floral vases, electric lights, interior speedometer, speaking tube, especially constructed wardrobe under seats and adjustable foot rests with silk plush pillow-shaped hassocks. Silken curtains bearing the royal crest in golden embroidery are operated simultaneously by a single draw cord. With colors beautifully harmonious, the interior is veritably a symphony in gray.

Capt. Lgopoopooff, of the Royal Palace Guard, has been appointed royal chauffeur and will accompany the car en route to Bangkok, Siam.

### The Air a Gasolene Car Consumes.

Most motorists are aware of the fact that automobiles use quite a large volume of air in the "mixture" which is exploded in the cylinder, but few could tell off-hand just what is the proportion of air to a gallon of gasolene. This was brought out by H.

Clifford Brokaw, in a lecture before the New York West Side Y. M. C. A. last week. He fixed the amount of air used for every gallon of gasolene at 8,580 gallons, and remarked that, as air is free of cost, it follows that if a greater proportion of gasolene than the theoretically correct one is used, it carries with it greater cost and less efficiency.

"It is not very difficult to tell whether or not you are feeding the correct mixture," said Mr. Brokaw. "Watch the exhaust pipe. If the exhaust is black, it means that you are feeding too much gasolene. If the exhaust pipe, on the other hand, sends out clouds of rank-smelling, blue-looking smoke, it means that you are feeding too much lubricating oil. The majority of mo-

torists use too much gasolene and too much oil.

"If the upkeep of your automobile is very great and the outlay for gasolene, oil, tires and repairs seems to be leading you straight to bankruptcy or the county poorhouse," said Mr. Brokaw, "stop, take an accurate accounting and locate the leakage, for your machine, once bought, should not be a constant drag on your purse. It's the owner's own ignorance that too frequently makes his automobile appear in the light of an expensive luxury. It is the man and not the machine that is at fault."

### Picturesque Park Opened to Motorists.

Palmer Park, the beautiful scenic resort near Colorado Springs, has been thrown open to motorists. This is a triumph which the motor car obtained by sheer progress, for the late donor of the park, Gen. J. W. Palmer, had inserted in the deed of conveyance a clause that automobiles should be barred until "horseless carriages shall be improved so that they are as noiseless as horse-drawn vehicles." That the powers that be consider that this time has arrived is indicated by the raising of the embargo placed upon the motor car.

## COMPLEXITIES OF CARBURETTERS

**Foreign Notion of the Principles Involved—Areas, Choke Tubes, Atomizing and Other Considerations Discussed.**

Despite the complexities which surround the operation of the ordinary carburetter, it is a fact not generally appreciated that the design of a carburetter of the ordinary sort is far from difficult. Indeed, like the calculations which are involved in designing the connections to an ordinary steam engine, the sole basis is the area of intake to the cylinders, which thus becomes the unit of consideration. Indeed, if questions as to the absolute uniformity of the mixture applied to each charge be set aside, or if the compensation for different speed conditions be supposed negligible, it would seem that a very fair sort of carburetter might be designed and built by almost anybody, and that, too, without serious perplexity or difficulty. At least, such would be the natural conclusion were judgment to be based solely on an exposition of the principles of carburetter design which a foreign expert recently has laid down.

"The almost universal use of carburetters of the float feed spray type has caused the development of this portion of the motor car along various lines, all of which lead to increased efficiency," is his optimistic conclusion on the subject. There is, however, according to his opinion, still some doubt as to the principle to adopt in proportioning the various areas of the throttle, choke tube and jet, in order to get the most satisfactory results. He is reasonably certain, nevertheless, that the best method to follow is that of making all calculations dependent on the area of the throttle. "It is, of course, assumed that the area of the throttle when fully opened is sufficiently large to supply the engine with a full charge of mixture without unnecessary restriction," he says.

"When running under full throttle it is obvious that all the air passing through the carburetter must enter through the combined passages formed by the choke tube and the extra air ports, no matter what form these may take," he explains. "In order to obtain the greatest efficiency from the carburetter it is of the utmost importance that the combined area of these ports should be at least equal to the throttle area. If this latter condition be fulfilled it may be accepted that the fuel mixture will pass through the carburetter with a minimum of resistance; in fact, it is an essential condition if maximum power is to be obtained from an engine.

"These combined areas being known, the next point is to determine the choke tube area in relation to that of the extra air port, and on this question there is still a great

difference of opinion, judging from present-day construction. Generally speaking, the smaller the choke tube the slower will the engine run, and, if the combined areas referred to are maintained, it does not follow that a carburetter with a reasonably small choke tube is less efficient than a carburetter with a large one.

"The difficulty with a large choke tube is that throttle sensitiveness is lacking when a nearly closed position obtains, because of the fact that as soon as throttle area falls below the area of the choke tube control of the mixture is lost unless the carburetter is set for a very rich mixture. Hence, to ensure easy starting and slow running a small choke tube is necessary. In practice this area varies from one-eighth to one-quarter of the full throttle area, and for ordinary conditions a choke tube area equal to one-sixth of the throttle area will be found to give very satisfactory results.

"Coming now to the more vital question of fuel adjustment, this is usually determined in two stages, and is perhaps the most troublesome part of present-day carburetter adjustment. The first operation entails adjusting the carburetter to give the correct level of gasoline at the jet; this is at the best a tedious operation, and when it has been effected, the size or area of the jet aperture must then be found. This is usually done by fitting the carburetter to the engine it is intended to feed, and then enlarging or reducing the jet aperture until the best running mixture is obtained.

"It is common knowledge that some carburetters do not effectively atomize the gasoline, but pass a column of spirit which maintains a more or less compact mass until it reaches the engine, and it is also well known that an effectively sprayed mixture gives more economical running.

"With a view to completely atomizing the fuel, endeavors have been made from time to time to utilize wire gauze for this purpose. These attempts have failed more or less for two reasons: Firstly, the gauze was placed at such a distance from the jet that the velocity of the fuel had fallen to low values; secondly, air impregnated with road dust, etc., was drawn through the gauze at the same time, the latter making an effective trap for most of the dust and foreign matter, with the result that the supply of mixture was quickly choked."

#### To Prevent Mud-Streaks on the Body.

For the sake of preserving the finish on the sides of the body, cars which are not equipped with weather strips between the running boards and the frame sides should be provided with leather cheeks for this purpose, such as readily can be contrived and installed. The cost is comparatively slight and the resulting protection practically ensures the tonneau doors and side panels from those mud-streaks which so quickly mar the finish, even when the body is given the best of care.

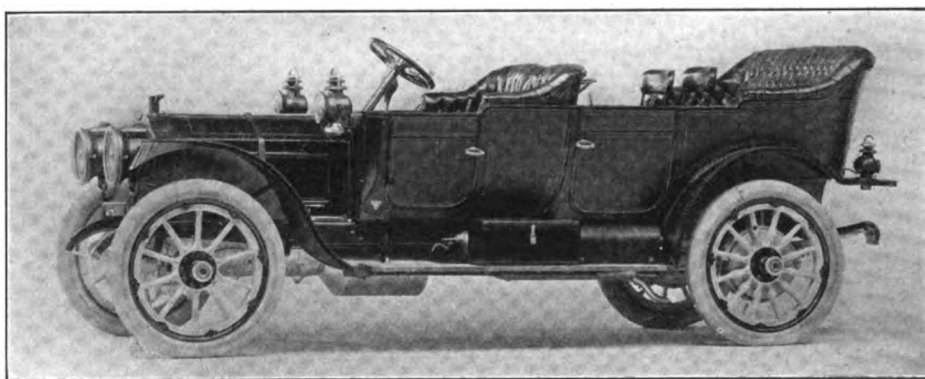
## PACKARD SHEDS ITS OLD BODY

**Adopts a New One of Torpedo Type—The 1911 Line and Some of its Characteristics Made Public.**

Abandoning to a certain extent the practice which it has adhered to for several years of affording the least possible distinction between the cars produced one year and those of the next succeeding vintage, the Packard Motor Car Co., of Detroit, Mich., in announcing its plans for the 1911 season discloses its purposed adoption of a new style of body design and a new color scheme. Thus while the structure of the two types of chassis produced will remain much as heretofore, the exter-

iors of  $\frac{1}{2}$  inch smaller size in front than in the rear.

Such mechanical alterations as have been made are in the nature of detail improvements, it is said, and they are extensive; their exact nature, however, is not disclosed. The "thirty" motor has cylinder dimensions of 5 by  $5\frac{1}{2}$  inches, bore and stroke, while the "eighteen" motor has a bore and stroke of 4 1-16 by  $5\frac{1}{2}$  inches. Both motors, which correspond in points of general design, develop their rated outputs at speeds of 650 revolutions per minute. Such characteristic mechanical features as the hydraulic governor system on the carburetter, the Eise-mann magneto ignition with separate transformer coil, the automatic lubricating system, dry plate clutch and axle-mounted change gear set are retained without significant alteration. These features appear



NEW PACKARD FORE-DOOR STYLE TOURING BODY

nals of the vehicles produced from now on will be decidedly at variance with that which has prevailed hitherto.

As the accompanying picture shows, the new style body partakes in a general way of the general class of torpedoes; but it is designated as the "fore-door" type. It is pointed out that it differs from the regular torpedo in that the front and rear body panels are made in strong relief, while the general lines are suggestive of the victoria. The new colors will be Packard blue with gray striping as to the body, black as to the frame, fenders and similar parts, while the running gear will be gray striped with black.

The complete line applied to the "thirty" chassis will consist of a touring car, phaeton, close-coupled car, runabout, limousine, fore-door limousine and fore-door landaulet—the two latter being distinguished by the complete enclosure of the front seats. The smaller "eighteen" chassis will be produced as a five-passenger touring car, close-coupled, runabout, limousine and landaulet similar to the larger patterns. Tops will be included in the standard equipment of the open cars, as will Continental demountable rims, in addition to other and standard equipment. In the new models, the tire sizes will be, respectively, 36 by  $4\frac{1}{2}$  inches and 34 by 4 inches, front and rear, instead of the present specifications, which call for

on both models, which, in fact, practically are duplicated in everything but power and size.

#### Care Required in Dismounting Magneto.

Magnetos which are driven by an auxiliary motion shaft which is fitted with a universal joint of the Oldham coupling type, should not be dismantled until the floating key of this member has been plainly marked, together with a least one of the corresponding flanges on the shaft sections. This will enable it to be reassembled in exactly the same way that it stood before dismantling. Through an apparently inconsequential irregularity in the formation of the parts, a reversal of the keypiece might result in causing the shaft to bind, thus straining it, and possibly in some way affecting the electrical output of the magneto.

#### Why Body Bolts Require Attention.

While there is small chance for the bolts which hold down the body to become loose, so long as they are held properly by means of spring washers, still it is well to inspect them from time to time in order to make sure that they are well secured. Should the nuts become lost, or the bolts be sheared off through any shifting of the body, there is some chance that the body may work out of place in one way or another, thus causing a serious accident.



### ADVANTAGE OF LARGE TIRES

Old Subject Discussed from New Standpoint—Table Showing Relation of Tire Area to Car Weight.

Although every driver of a motor car has a fairly clear idea of the relation between tire sizes and their wearing qualities, few know exactly how to determine for themselves by pure calculation the factor of tire wear. To the great majority, therefore, the statistics compiled by the Franklin Mfg. Co., of Syracuse, N. Y., will be helpful in showing just how the wearing qualities of a tire, aside from all questions of quality of the material used, are determined by calculation. From these figures it appears that the superficial area per pound weight of car varies from a maximum of 2.04 inches for every pound of car, in the case of one of the Franklin models, down to a minimum of 1.23 square inches per pound in one model cited which is of a different make.

In a general way it may be said that the wear of a tire is fairly uniform around its circumference, because the many little skids and slides caused by braking are distributed over the whole surface during an extended period of use. Since a blowout is caused by either a sudden weakening of the envelope or a sudden increase of internal pressure, it is important that the tire size be such that this wear shall be distributed over a large area. The increase in surface area must be obtained by an increase in the diameter of the wheel, as the part of the tread in actual contact with the road is but very small. The cross section of a tire also should be large, in order that the sudden increase of internal pressure due to the plunge of the car when meeting an obstruction will be distributed over a large area. It is clear that a tire with a cross section diameter of 5 inches has a much larger inside surface area proportionately than one of only 4 inches—namely, in the proportion of 25 to 16. A larger wheel diameter also is preferable, for then the force of the pressure will be distributed over a much larger area.

The standard for comparisons of tire equipment on a motor car may be taken as the superficial area of the entire tire. For a convenient unit a square inch can be used. Since the wear on the tire, or an increase of pressure on it is to the greatest extent caused by the weight of the car, this standard may be considered as the number of square inches of tire area per pound of car weight in full touring trim, exclusive of passenger weight. This standard, from specifications of a number of tire manufacturers, requires 1.7 square inches superficial area per pound of car weight. Several well known makes of car average from 1.4 to 1.7 square inches per pound. In Frank-

lin cars the margin of safety is 2.04 square inches of tire for every pound of car weight.

In a table made up by the Franklin Mfg. Co. the features of various Franklin models in respect to tire sizes are contrasted with those of eight other well known cars, as follows:

Model	Passenger capacity	Car weight fully equipped	Tire sizes	Total tire area	Tire area in sq. inches per lb. car weight
G-T	4	2,000	F. 32x3½ R. 32x4	4,172	2.03
D-T	5	2,600	F. 36x4 R. 36x4½	5,326	2.04
H-T	7	3,100	F. 36x4½ R. 37x5	5,860	1.93
Other Makes.					
A	5	3,300	F. 36x4 R. 36x4½	5,320	1.61
B	5	3,600	F. 36x4 R. 34x4½	4,996	1.39
C	5	3,600	F. 36x4½ R. 36x4½	5,600	1.55
D	5	2,700	F. 34x4 R. 34x4	4,752	1.76
E	5	2,840	F. 36x3½ R. 36x3½	4,492	1.60
F	7	4,100	F. 36x4 R. 36x4	5,040	1.23
G	5	3,775	F. 36x4 R. 34x4	5,040	1.35
H	7	4,175	F. 42x4½ R. 42x4½	6,648	1.60

### The Care of Planetary Gears.

On account of the difficulty experienced by most learners in mastering the art of properly handling the gear change of the sliding pinion type, it should become an established practice with agents and dealers to see to it that cars undergoing the ordeal of the instruction period are subjected to frequent overhauling. In particular, it should be seen to that the gear boxes are thoroughly cleared of all oil or grease, and flushed out with kerosene oil. Otherwise certain small particles of hard, chipped metal from the gear teeth are pretty apt to find their way into the bearings, to the ultimate sacrifice of their good condition.

In many respects nothing could be superior for the small and medium sized car than the planetary type of change speed gear. At the same time, the success of this mechanism depends absolutely upon the way in which it is maintained. It is all-essential that it be kept filled with a proper amount of clean lubricant of the proper consistency, and that the brakes which are used to bring the low and reverse drives into action are so adjusted as to give good contact when brought into action, yet so as not to drag when out of engagement. To this end a certain amount of lubricant should be used under the bands, yet not enough to prevent the brakes from being forced down into good contact with the metal of the drum when required.

### THE BRIGHT SCHEME THAT FAILED

Being the Story of a Dealer with Expansive Ideas—How They Led to the Bankruptcy Court.

Influenced by the abounding optimism which prevails in automobile selling and spurred to large deeds by the exploits of others, not a few venturants into the field greatly have overreached themselves and have contributed to their own rapid ruin by serious mistakes of policy and method. As an example of the energetic but overly ambitious attempt to be a "distributor" of cars in a large way, the case of a dealer in one of the largest cities is cited by a shrewd trade observer, who is familiar with all the circumstances attending the dealer's downfall. The case is one which has suggestive lessons for others who may be tempted to "bite off more than they can chew" and who entertain visions of being "distributors" when they lack the capital and the organization to be successful in that role.

"Through an association with the automobile business and the men in it," said the narrator, "the chap I have in mind got the itching to become a dealer on a large scale, so that he might harvest some of the apparently easy money. He therefore threw up a good position to embark in the automobile business for himself, securing a large slice of territory for a car made in the Middle West and selling around \$2,000.

"Being able to command quite a little ready cash, he plunged to the extent of binding himself to take 200 cars. The manufacturers expressed cautious doubts about his being able to handle so many, but he overcame their objections by painting highly colored pictures of his own selling ability and a waiting market for the cars, that was ripe for the picking. His next move was to hire a moderate sized but expensive salesroom on Automobile Row.

"Before he was really well settled and had had time to get a string of prospective buyers to work on, the cars began to arrive in embarrassing quantities. Following out a brilliant scheme that he had in mind all along, he began placing cars on consignment with a number of dealers in the surrounding small cities and towns. To these dealers he offered a straight 15 per cent. commission on all of his cars that they would sell, and he urged them to make free use of the demonstration cars which he left with them. He figured his own profit out of the fact that he was getting a little more than 20 per cent. for himself, from which the suburban dealer's 15 per cent. would come.

"Is it hard to imagine what those kind-hearted suburban dealers did, under such a free-and-easy arrangement? It does not require much imagination to guess. They



took him at his word and used his demonstration cars freely—indeed they did! One or two of the more conscientious ones kept the cars standing in the exhibition room without harm for the first few weeks, but after he had visited them a couple of times and had taken them to task for not using the cars to give demonstrations to customers, they, too, began to put the cars into actual road service.

"In addition to using them for night joy riding and for lending to their friends, the cars sometimes were rented out by the suburban dealers. In fact, the machines were called upon for all kinds of service where the dealers wanted to save their own cars from wear or damage, and were used frequently for towing jobs and errand work.

"Not only that, but as most of these dealers were themselves agents for cars selling for from \$1,000 to \$1,500, and on which they made more than 15 per cent., the cars which the would-be distributor so kindly left with them served as excellent foils for comparison. The dealers would tell their prospective customers that while they handled the \$2,000 car, they nevertheless would recommend the \$1,500 car as being just as good, and the customers would be impressed with their honesty, thinking that the dealers were willing to take a smaller profit in order to give customers the better bargain.

"It took about three months for the situation to become so acute that the free-handed distributor awoke to where he was at. The cars from the factory were still arriving, and his capacity for paying for them was exceeded. He canvassed his suburban dealers, to find out what they had done and to gather in some money, and was dismayed to find that not one of them had disposed of a car for him.

"To his vigorous exhortations they merely shrugged their shoulders and, pointing to the now more or less worn and dilapidated demonstration cars, told him to take the machines away, as they did not believe they could sell them. From this point on things moved quite rapidly. The comparatively few cars that he himself had sold at retail gave him hardly little more than enough to pay the expenses he had incurred in his Automobile Row headquarters. The only cars he could turn back to the manufacturers were sadly used up, and he was 'in bad' all around. He was closed out, the manufacturers and his friends made the best they could out of the wreckage, and his career as agent and distributor was over."

#### Cold Water for Preserving Finish.

Sprinkling all varnish work of a new car with clean cold water is recommended as a method of preserving the finish. The effect of chilling the varnish is to harden it, so that dust and mud will be less likely to cling to it than would be the case, particularly if the car happens to be given its maiden trip on a hot day.

## MOTORING AS A CATARRH REMEDY

### New York Physician Testifies that it Cured His Own Chronic Case—Specialists Had Failed.

While several physicians recently have stated that under certain conditions the automobile is an important factor in assisting convalescence, and in benefiting in a therapeutic way those who have sedentary occupations, their remarks usually have been more general than specific and only expressed opinions formed upon second-hand information. But there is one doctor who owns a motor car himself, who asserts that the driving of this car cured him of chronic nasal catarrh of many years' standing, after most of his own knowledge of medicine, and that of the best specialists, had failed to give him relief from the distressing malady.

"It so happens," writes Dr. Samuel A. Visanska, of New York City, N. Y., "that early last fall I purchased an automobile to replace my old 'buggy,' which I had often found a trial in many ways. I soon began to really enjoy my new vehicle and ceased to dread the long trips to suburban points which had heretofore been something of a bugbear. At first I thought this enjoyment was mainly because of the time I would save and the rapidity with which I could now dispatch all my calls for the day. Before long, however, I began to realize that my pleasure in my automobile trips was due to another reason as well. For many years I have been a sufferer from nasal catarrh, but after using my automobile in all kinds of weather for a few months I find myself really cured of this ill. Heretofore, during the winter seasons I have had the treatment of our best specialists, and one winter I was forced to seek the milder climate of Florida, in order to get some relief from this most distressing ailment. To-day I cannot detect a trace of the former obstinate trouble, and hence I am enthusiastic about my condition, and as the driving of my automobile on fair days and dark days, in rain or snow, in sleet and sunshine, is the only marked change in my habits, I am literally forced to attribute the improvement of my physical condition to this one source.

"Of course, this is but the limited experience of only a single instance, but its value lies in the plausibility of such a cure as it appeals to my reason. In fact, so logical does it seem that I believe I can even go further and assert that the continued use of the automobile would prove a curative instrument in all cases of catarrh of the nasopharynx as well as chronic bronchitis, and even for pulmonary tuberculosis.

"If we consider the reasons for this belief their force seems more and more con-

clusive. In the first place, while using an automobile the patient gets more air and purer air than under ordinary outdoor conditions; also he takes deeper breaths and more continuously fills the entire lungs and nasal passages with pure air than under any other conditions of which I know. He does this unconsciously, too, and without apparent effort. When we add to this fact the exhilaration of the motion and consequently improved circulation of the blood engendered by automobile riding, together with the sense of diversion and pleasure which the patient experiences during this process of deep breathing and lung expansion, we have almost an ideal condition for the cure of the dreaded and deadly ills of the respiratory system.

"For children the 'auto cure' is especially desirable, for they can seldom be induced to 'breathe deeply' for any length of time, while, as has been said, during the progress of an auto ride this process is absolutely automatic. Hence with our present knowledge of the benefits of outdoor sleeping and the increased popularity of the automobile, we are, I verily believe, in a fair way to rid ourselves even of the great white plague, and in a novel, delightful and altogether practical way."

#### Visitors Exempt from French Tax.

Although the cabled reports of the new automobile tax levied in France upon transient motor cars emphasized the severity of the assessments and made appear that it would bear heavily on tourists, it transpires that the cables were greatly exaggerated. Complete translations of the officially published wording of the measure, while showing a substantial increase in the tax levied, make plain that cars which are in the country less than four months are wholly exempt. The following translation of the measure is published in the "Journal Officiel":

Automobiles imported into France for temporary residence and which do not pay the direct tax, will be subject to the following taxation:

Fixed tax for a period of 360 days:

Cars with one to two seats..... 50 frs.  
Cars with over two seats..... 90 frs.

Plus a tax upon the horsepower per horsepower or fraction thereof:

1 to 12 horsepower..... 5 frs. per h.p.  
13 to 24 horsepower..... 7 frs. per h.p.  
25 to 36 horsepower..... 9 frs. per h.p.  
37 to 60 horsepower..... 12 frs. per h.p.  
61 horsepower and over ..... 15 frs. per h.p.

These taxes will be collected proportionally to the stay in France per month, any part of a month being taken as a whole month.

Cars whose consecutive stay in France does not exceed a period of four months will be free of above taxes. The original reports of the measure made it appear that for an American to take a car over to France for touring purposes would expose him to heavy assessment, but the 'four months' exemption removes that possibility.

## FOR PREVENTION OF BACK-KICKS

Ingenious but Simple Device that Serves the Purpose—How it is Applied and How it Operates.

Recognizing the need of some sort of appliance to safeguard the hand and arm of the operator when starting the motor, manufacturers long have been on the lookout for devices suitable for this purpose. Nevertheless, accidents resulting from back-kicking engines have continued to multiply, until the latest figures given out by the International Association of Accident Underwriters show that practically one-half of the accidents which motorists suffer arise from this one cause. Hitherto, most of the safeguards applied have been in the way of arrangements to prevent the starting crank from being engaged until the ignition mechanism had been retarded. In the new system which has been adopted by the American Locomotive Co., of New York City, however, a releasing device is fitted to the crank itself, so that in the event of a back kick it releases automatically.

The device, which is the invention of William R. Webster, a Philadelphia consulting engineer, and which is now being applied to the entire line of Alco cars, consists of a simple mechanical trip mechanism attached to the ordinary starting crank in such a way that it will disengage it from the crank shaft in the engine is reversed.

As the accompanying illustrations show, the amount of motion which is necessary to effect the release under the unusual condition of a back kick is very slight. The first picture shows the starting crank in its normal position. In the second it is shown in the position at which it would be released from the crank shaft were the engine reversed. Externally there is nothing to indicate the addition of the device to the car save the small collar which surrounds the starting shaft close up under the radiator.

As a matter of fact, the appliance consists of but three parts. Pinned directly to the shaft is a collar which constitutes part of a ratchet which turns freely when the handle is rotated from left to right, as in starting the engine, but which locks when the handle is moved in the opposite direction. Outside the first collar and fitting it loosely is a second collar, which engages the first part when in reverse movement, owing to the action of a ball pawl. On the inner face of the second part is a cam surface which is adapted to engage with the supporting bracket, which forms the third essential member of the device, and which limits its travel in the backward direction, owing to the shape of the engaging surfaces.

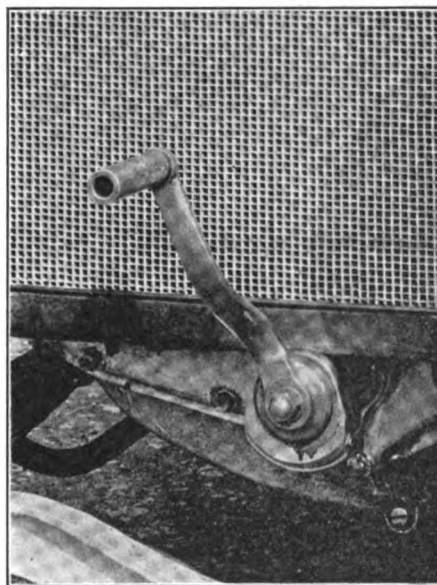
When the starting handle is engaged with

the crank shaft in the regular way, the lug on the bracket is in contact with the cam face on the intermediate piece at its lowest point. Forward motion of the shaft does not affect this relation in any way. But if the movement of the engine is reversed,



ALCO SAFETY STARTING CRANK.

the intermediate piece at once is clutched to the collar surrounding the starting shaft, which, in turn, causes the cam face on the intermediate member to rotate in contact with the finger on the bracket. This movement, in the very small angle which is



RELEASE POSITION OF CRANK.

shown by the pictures, causes the starting shaft to make sufficient longitudinal movement to disengage the main ratchet, thus releasing the crank from the engine. Such is the position of the release mechanism with relation to the engine cranks that it is thought to be practically impossible for any injury to be received.

## MOTOR CARS INSTEAD OF OX-TEAMS

Consul in Mexico's Great Coffee District Points to an Opening—Feat of First Automobile.

American automobile exports to Mexico have been increasing steadily during the past two years, and already have passed the half million dollar mark. That there are, however, many opportunities hitherto neglected is clearly shown by the report of Consul Albert W. Brickwood, stationed at Tapachula, in the state of Chiapas, Mexico. Particularly the transportation of freight offers inducements to American firms desiring to enlarge their foreign trade.

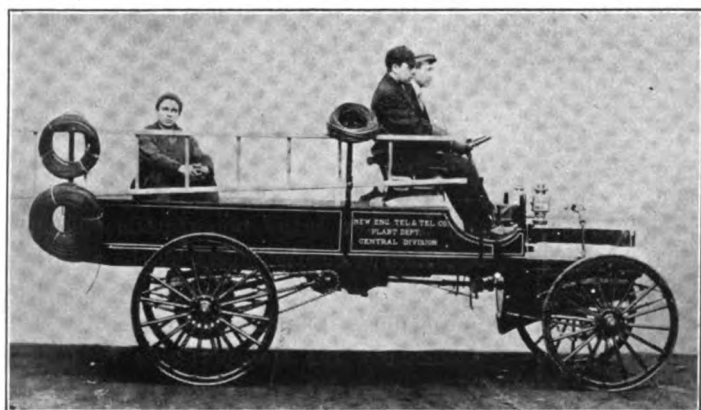
"On February 16, 1910," writes the consul, "an American automobile made the first automobile trip in the States of Chiapas, accomplishing a run of over 80 miles in 5¼ hours from Jalisco, a station on the Pan-American railroad, to Tuxtla Gutierrez, the capital of the state. Some portions of the road need repairing, and there is no doubt that with the road rehabilitated the run can be made to Tuxtla Gutierrez and back to Jalisco in one day, with several hours' stop at either end, as against the present dilatory trip by coaches of three days, averaging seven to eight hours as a day's journey, with all consequent inconvenience. The mail at present is carried from Jalisco to Tuxtla Gutierrez in light carts, in about 30 hours, with delays in the rainy season. The towns are strategic points for the state, are dependent at the present time on the antiquated ox carts for their freight and for commerce, entailing the necessity of ordering in advance from 6 months to a year, if the merchants wish to maintain well-stocked establishments. The congestion at Jalisco at times reaches 300 tons and more.

"There is little doubt that once the state government were convinced of the vast possibilities through developing the district alluded to, no difficulty would intervene in obtaining monetary concessions for mail service that would make it worth the while of any company to introduce an automobile service for passengers and particularly for freight.

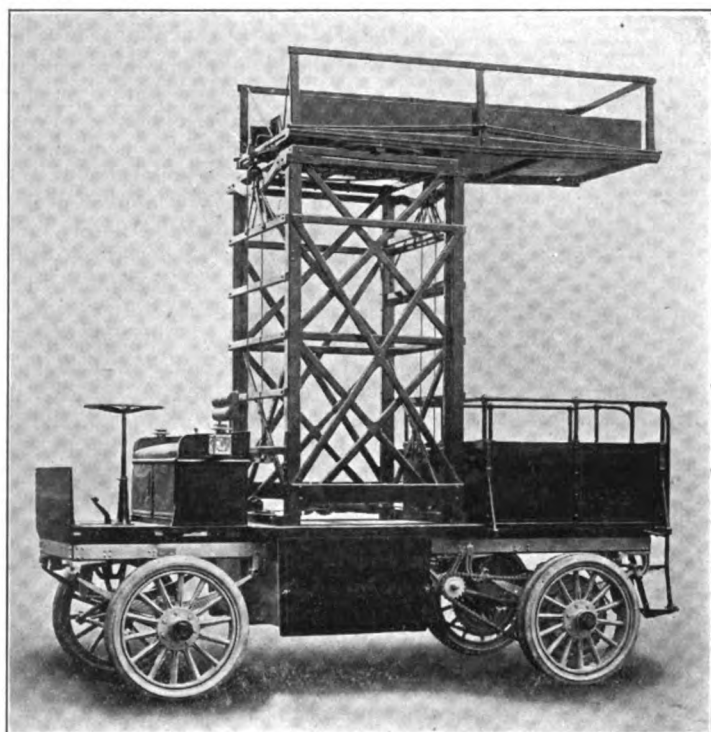
"It would well repay American firms wishing to enlarge business to send down experts to look over the country. Automobile wagons for hauling freight, coffee, rubber and other products and merchandise to and from town, railroad station and plantation, could also be used to great advantage in the principal towns on the Pan-American railroad, and especially in Tapachula, the seat of the coffee district of Soconusco.

"Light runabouts, if exhibited and their capabilities proved, undoubtedly could be sold to many, to be utilized in trips between plantations and towns."

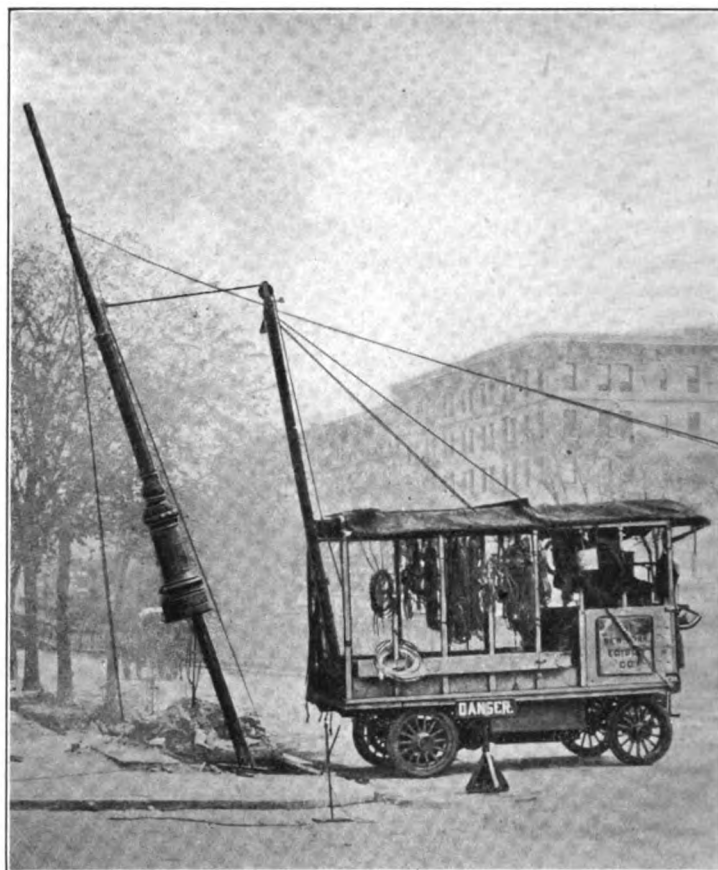
## MOTOR VEHICLES EMPLOYED IN ELECTRICAL FIELD WORK.



CHASE TROUBLE WAGON FOR TELEPHONE WORK



TOWER WAGON FOR AERIAL REPAIRS



MOTOR TRUCK EQUIPMENT FOR ERECTING LAMP POSTS.



DRAWING CABLE THROUGH UNDERGROUND CONDUITS BY ELECTRIC WINCH ON MOTOR TRUCK

## WHAT TO DO IN CASE OF ACCIDENT

### Continued Exposition of First Aid Principles—Treatment of Fractures and Precautions to be Observed.

Were a compilation of accidents possible it doubtless would be found that in a summary of the various forms of injuries possible, fractures should be found far more numerous than any other kind of hurt. This especially is true in the case of automobile accidents, and it therefore follows that every automobilist should know how to treat a fracture, should he at any time be called upon to treat such an ailment.

To properly construct a bandage is the most important essential in the treatment of fractures, and this knowledge is called into requisition more often in the case of fractures than in any of the various forms of injuries that have been described in two previous issues of the Motor World.

#### Fractures.

Briefly described, a fracture is a breaking or solution of continuity in a bone, and the general classification of fractures are simple, compound, comminuted, multiple and complicated. In a simple fracture, the bone is broken into two fragments, but does not protrude through the surrounding muscular tissue, the skin being uninjured. In a compound fracture the bone is exposed to or communicates with the air by a wound of the soft structures. In a comminuted fracture the bone is broken or crushed into a number of pieces at the same point, and communicate with one another. In a multiple fracture the bone is broken into a number of pieces, but at different parts of the bone, and do not communicate with one another. In a complicated fracture there is, in addition to the breaking of a bone, an injury to some important adjacent structure, resulting from the fracture, as blood vessels, nerves or joints.

A fracture is either complete or incomplete. A complete fracture is the usual variety, and involves the entire separating or loss of continuity of the bone. An incomplete fracture does not involve the entire separation of bone, and frequently occurs in children, owing to the elasticity of the bone in early life, and has received the name "green-stick" fracture. The direction in which the bone is broken is indicated by the terms transverse, oblique and longitudinal. An impacted fracture occurs when the broken ends of the bone are driven into each other, and remain thus fixed.

The signs and symptoms of fracture are: Deformity, abnormal or increased mobility, or, as it is sometimes called, false point of motion; bony crepitus, pain, loss of function and subsequent swelling and discoloration of the injured part. The deformity is

caused by the displacement of the ends of the broken bone, as the result of the violence causing the injury; also the muscular contraction at the affected part, and attempted movement on the part of the patient, which causes a shortening and change in the direction of the limb, and considerably deformity at the seat of injury. The deformity, as a rule, is not particularly apparent in impacted fractures. Abnormal mobility is the result of the solution of continuity or break in the bone, producing a "false point of motion," which is detected while manipulating the part. Crepitus is caused by the rubbing together of the ends of the broken bone, and, when detected, is a positive sign of fracture. It is absent in impacted fracture, and also where muscle or other tissue have fallen between the ends of the bone; consequently, an absence of crepitus does not necessarily mean an absence of fracture. Pain is caused by the contact of the fragments of the broken bone with the adjacent structures, also the strong muscular contraction that occurs at the seat of injury. More or less heat, redness and discoloration of the part may or may not be present. Loss of function is the inability on the part of the patient to make use of the injured limb. The swelling and discoloration are due to the subcutaneous escape of blood and serum at the seat of fracture.

The repair, union or knitting of the bone is begun by Nature soon after the occurrence of a fracture, and is accomplished by a substance formed at the seat of injury, known as callus, which is thrown around and between the ends of the broken bone. Although soft at first, the callus gradually hardens, and at the end of varying periods, depending upon the bone injured, but not usually exceeding six weeks, the fragments are firmly united. The minute structure of callus becomes in time (about a year) similar to that of bone. Sometimes the formation of the callus is imperfect or insufficient, and the broken bone does not become united. This condition constitutes an ununited fracture. The popular belief that the pain is much greater while the knitting process is going on is absolutely without foundation.

#### Treatment.

The object of the surgeon in treating a fracture is simply to assist Nature. He first carefully reduces or sets the fracture—that is, he tries, as far as possible, to bring the broken ends in opposition or directly against each other, and by retaining them in position for a certain length of time by splints or some other form of support, the permanent union is effected by the callus, and the function of the part generally restored. Although it is best that a fracture be reduced and the proper dressing applied as quickly as possible, it should be remembered that the union of the fragments does not begin for some time after the injury

has been received, and that a fracture may remain several days before being reduced, and be still followed by very good results; and that a frequent cause of compound fracture is the outcome of unskilful manipulation. Consequently when one not a surgeon is called upon to attend a person where a fracture is suspected, his duty consists in protecting and making immovable the injured part, and conveying the patient to a hospital, or wherever he can receive the necessary and proper treatment. However, should this be impossible, as the result of the accident having occurred where the professional services cannot be obtained for an indefinite period, an effort may then be made to reduce the fracture, but the manipulations are to be made only with the greatest care.

As a rule, the injured person should not be moved from the position in which he is found until an examination has been made as to the character of the injury. A violation of this rule is very often the cause of a compound fracture. If the injury is about the ankle or wrist, it can easily be exposed; however, if the injured part is nearer to the body, the clothing should be cut away, and not removed in the ordinary way, which would be likely to disturb the fragments and increase the suffering. The different garments need not be needlessly cut, but, if possible, ripped at the seams. If a fracture has occurred, an examination will probably show one or more of the ordinary symptoms already described. If the necessary surgical attendance can be secured within a number of hours, the splints should be applied without an attempt at reducing the fracture. Otherwise an effort in this direction is justifiable.

The reduction of a fracture consists in bringing the ends of the bone together, and is accomplished by extension and counter-extension. The term extension, when applied to the treatment of fracture, indicates the procedure whereby the broken limb below the seat of injury is pulled from the body. In counter-extension, the upper fragment, or the portion of the broken bone nearest the body, is held securely in position, or is carried in an opposite direction from the lower fragment. This manner of reducing a fracture is performed by the hands or an instrument devised for the purpose. The hands are generally used, however. The extension and counter-extension should be made in a straight line—that is, in the long axis of the broken bone.

After the seat of injury has been examined and the presence of fracture ascertained, the clothing that was previously turned aside can now be replaced and wrapped around the injury, thus affording quite a protection to it. The splint should now be applied, and the patient removed to a place where he can receive the proper treatment.

When the fracture is compound, no effort should be made to apply splints until



the wound has been covered as quickly as possible with an antiseptic material or some form of clean dressing. If a blood-clot fills the wound it should under no circumstances be removed until the patient is in the hands of a surgeon. The protection of such a clot prevents the entrance of poisonous germs into the system. If a portion of the broken bone protrudes through the skin, no attempt should be made to remove it, but the dressing applied as before stated.

Splints can be made of any material which is capable of rendering the part immovable without injury to the soft tissues to which they are applied. They should be long enough to extend above and below the injury, and generally including the nearest joint, and in some cases two or three, as in a case of fracture of the thigh. Their diameter should exceed that of the limb, although this is not absolutely necessary, as a sword or cane makes a very good splint. Two splints are generally used—one for the inner side and one for the outer side of the limb. Splints should always be padded on the side next the skin, so as to prevent undue pressure and injury. After a splint has been fitted to a limb, it should be retained by the necessary bandages; they should not surround the limb at the point of fracture, nor should they be drawn so tight as to increase the suffering.

Thin boards are considered the best for splints (at least, temporary use), being light, and easily formed to suit special occasions. Other things may be used, however, with very good results. Among those which can be secured in emergencies are shingles, cigar boxes, laths, barrel staves, bark and branches of trees. Book covers, sole leather, newspapers tight wrapped, canes, umbrellas, broomsticks, straw and other such materials may also be used. A folded coat, or any article of clothing, or a pillow makes a very valuable temporary splint and pad combined, and is particularly useful in fracture of the leg.

For padding, any soft substance—cotton, oakum, furniture stuffing, straw, hay, moss, grass, leaves, etc., may be used. Bandages for retaining the splint may be formed of handkerchiefs, neckties, suspenders, strips of clothing, straps, green twigs, rope, cord, wire, etc. Care should be taken when using such things as cord or wire that the skin be well protected, so as not to cut or injure.

Fractures of the cranial bones are usually followed by symptoms of concussion or compression of the brain. A fracture occurring at the base of the skull is usually caused by a blow about the forehead or opposite the point of fracture, or by a fall from a height, the person striking on the head or upon the feet, and has, in addition, special symptoms which point directly to this form of injury—viz., an escape of blood from the nose and ear, and beneath the thin membranes covering the eye; or, what is still more positive, an escape of a colorless fluid from the ear. The patient should

be placed on his back in a cool, dark room and kept perfectly quiet. Cold, in some form, should be applied to the head, to prevent excessive reaction. For the same reason, the internal use of stimulants should be avoided.

Fracture of the inferior maxilla (lower jaw. The body of the bone (the portion into which the teeth are inserted) is the usual seat of fracture, which is generally compound, having a communication with the cavity of the mouth. The deformity is shown by the irregularity of the teeth on the affected side. Crepitus, swelling, dripping of saliva, and bleeding from the mouth are also generally present. The teeth should be brought together, thus allowing the superior maxilla (upper jaw) to act as a splint. A four tailed bandage (described later) should then be applied to retain the parts in this position.

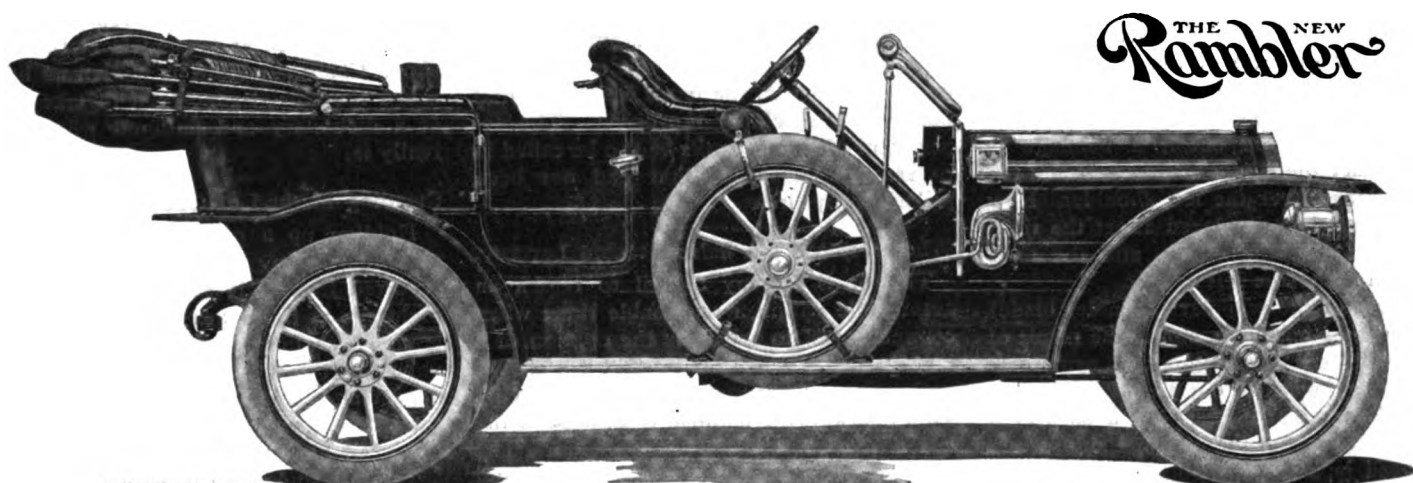
Fracture of the spinal column should be suspected when, following an injury to the back, there appears more or less paralysis below the point of injury as a result of pressure upon the spinal cord. The ordinary symptoms of fracture are not usually present nor should they be looked for, as an effort made to elicit crepitus, etc., may result in further injury to the spinal cord. The patient should be allowed to assume a position which is most agreeable to him (preferably lying down), provided he does not lie face downward. An ice bag, or some form of cold, may be applied to the seat of injury and perfect rest enjoined. If it is absolutely necessary to move the patient, care should be exercised not to allow any movement of the spine. The after treatment, which consists of efforts to adjust the fragments of the injured bone and to prevent subsequent inflammation and injury to the spine, and to reduce the paralysis, should be attended to only by the surgeon.

Fractures of the ribs are caused by direct violence as the result of a fall or blow or being subjected to severe pressure, as in a crowd or great muscular contraction. The seat of fracture is usually between the third and eighth ribs. The floating ribs (eleventh and twelfth) are rarely broken, owing to their single attachment to the vertebral column, which allows sufficient freedom whereby to escape injury. Embarrassed and shallow breathing, accompanied by a sharp or lancinating or stabbing pain at the injured part, or a "stitch in the side," is usually complained of. Crepitus is sometimes detected by placing the hand or the ear against the injured side, and then having the patient take a deep breath or cough. It is uncommon to find an external evidence of a fracture, and great care should be exercised in the examination so as not to cause greater injury. A broken rib may be followed by serious consequences, as an injury to the lung, which would be evidenced by shock, spitting of blood, and, in some cases, a crackling sensation when the hand is carried over the skin at the seat

of pain, due to presence of acid under the skin. The treatment consists in limiting the action of the affected side as much as possible. This is met with by the application of bandages or adhesive plaster. A triangular bandage, folded in the form of a cravat and bound snugly about the chest, would answer for a temporary dressing. A flannel or muslin bandage about three inches wide and made to circle the chest would be much better, however. At the present time the most effective means of treating a fractured rib is by the use of adhesive plaster, applied either entirely or two-third of the way around the chest, as follows: Strips of plaster one and a half or two inches wide and sufficiently long to surround the chest are prepared. The strips are heated and then applied firmly around the chest from above downward, following as nearly as possible the course of the ribs, each strip overlapping the lower third of the preceding one. The space covered by the strips should be about eight inches in width. Or, for example, if the fracture is on the right side, the adhesive may be first applied about four inches to the left of the spinal column, and carried around the right side of the chest to about the same distance to the left of the breast bone, thus restraining the action of the injured side without materially affecting the opposite one. In the use of bandages or the plaster already described it is very important that they (especially the plaster strips) should be applied at the end of the respiration, as at this time the chest is smallest in size and the broken fragments are brought closer together. Care should be taken that the application does not seriously interfere with the breathing. This treatment may also be used in severe contusions of the chest.

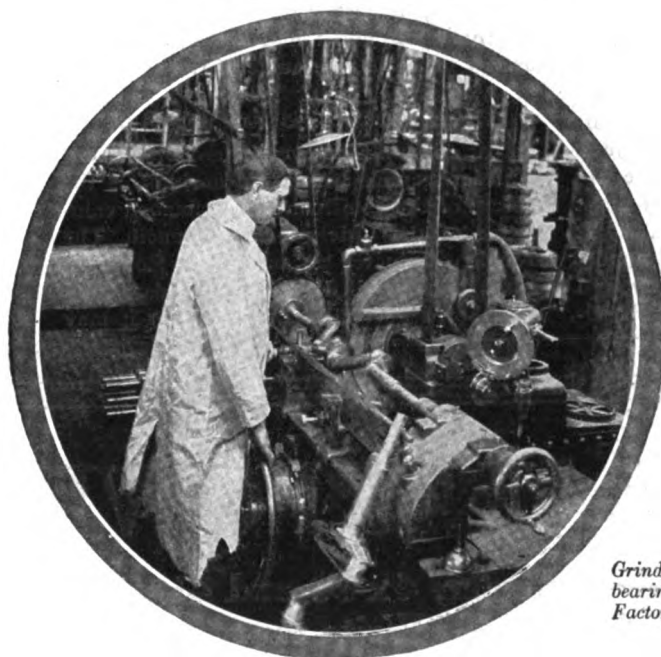
Fracture of the clavicle, or collarbone, is more frequent than any other bone in the body. It is usually caused by an indirect violence, as the falling upon the shoulder. It will be remembered that the collar-bones hold the shoulders upward, backward and outward. Thus the deformity following injury to this bone would be drooping of the shoulders downward, forward and inward with some changes in the outline at the site of the fracture. The patient may be laid down, with a pillow between the shoulders, or, if he is to be removed, the following temporary support may be used: A soft pad is placed well up in the axilla, or armpit, the forearm being laid against the chest and the shoulder raised by pressing the elbow upward, and held in this position by an assistant or by the patient himself, until the following support is given: A triangular or Esmarch bandage, folded in the form of a cravat, or a long strip of cloth, should be placed under the elbow and one end carried upward, across the chest, and the other across the back, and the two ends fastened over the opposite shoulder. A similar bandage is then placed against the outside of the arm, or the in-





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jured side, and the one end of this bandage brought across the chest and the other across the back, the ends then being fastened under the arm of the opposite side. For example, we will say that the right clavicle is fractured. The left forearm is brought across the chest, a bandage is placed under the elbow of that arm and the ends fastened over the left shoulder. Now a second bandage is placed about the right arm just above the elbow, and the ends tightened under the left armpit.

Fracture of the scapular (shoulder blade) very rarely is met with, and is the result of direct violence. The signs and symptoms are not very marked, due to the thick covering of muscular tissue. In a suspected fracture, the arm of the opposite side should be placed in a sling and kept quiet by the side of the chest.

#### What Caused the Puncture Epidemic.

Business simply swamped the automobile repair shops in the Tonowandas, N. Y. on Thursday last. The immediate cause of this sudden rush to the garages was a combination of small boys, a junk dealer from Buffalo and a load of tin brads. The junk dealer bought a wagon load of the tin brads at the Niagara Radiator Co.'s plant on Oliver street, North Tonowanda, N. Y. The boys could not let such a good opportunity pass, climbed into the wagon and proceeded to scatter the brads by the hand-

ful all along Oliver street. As this street is very popular with motorists, it was not very long before a number of automobiles suffered punctures, some of the cars picking up half a dozen of the brads before the first puncture was felt by the driver. The department of public works had to be called in to remove the brads that had not been picked up by tires.

#### When Commission Sales Become Larceny.

That it is larceny to fail to return an automobile within a reasonable time, when commissioned to sell it, is the opinion of a jury in the Kings County (N. Y.) county park. George Salzman had been asked by Tom Sharkey, the pugilist, to dispose of the latter's automobile on commission. The machine was stored at Sheepshead Bay, and on February 3 Salzman took it out and failed to come back with it. When arrested some two weeks later he claimed to be looking for a purchaser. The jury refused to believe him and found him guilty of the larceny of \$2,800, the value of the car.

#### When Automobiles Are not Junk.

That automobiles, even if temporarily out of order, cannot be classed as junk, is the dictum of the chairman of the finance committee of the Chicago City Council. The trouble originated in an order from the comptroller to all department heads asking that they report all "junk," so that it may

be advertised and sold to the highest bidder. The Fire Department then reported an automobile, which at present is in the repair shop. Chairman Snow is quoted as having asked the official concerned to take a look at a dictionary and find out what "junk" really is.

#### Startling Method of Obtaining a Joy Ride.

Holding up a garage employe in order to obtain a "joy ride" is the latest "stunt" reported from Salt Lake City, Utah. The nightman at the Sharman Automobile Co.'s garage was ordered at the point of a revolver to throw up his hands, then tied to a post and gagged, after which precaution the lone highwayman jumped into the finest car available and drove away. Six hours later the abandoned car, with a broken rear wheel, was found by the police at a street corner.

#### Fines Squeezed Out by West Orange.

How great the income of some communities from automobile fines amounts to is shown by the report from West Orange, N. J., that on Sunday last Justice Condit collected fines aggregating \$325 in the space of an hour. The violators of the speed law were arrested on the road on top of Orange Mountain, where a fine road about a mile long tempts drivers to make fast time. Five of them paid \$50 each and one had to pay \$75.

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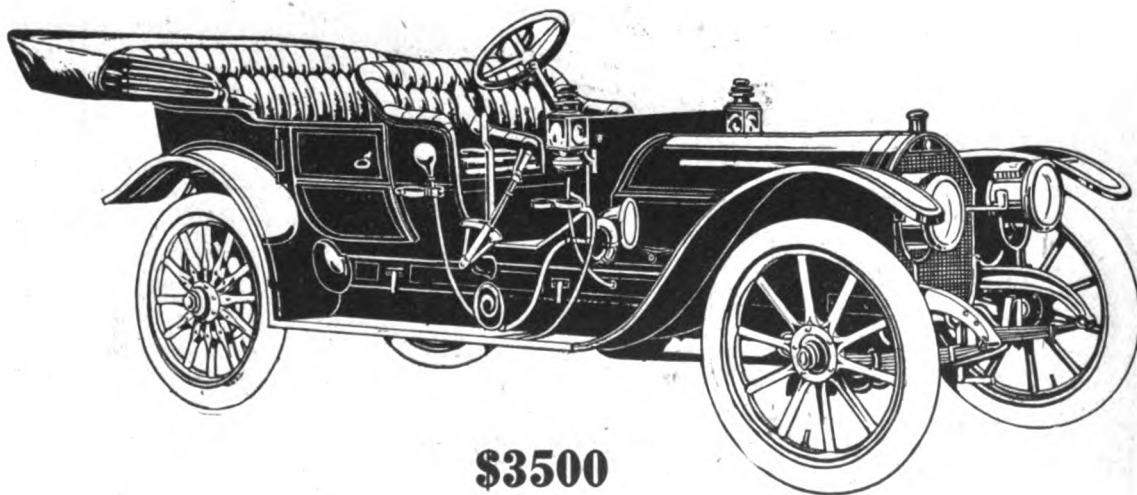
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## RECENT PATENTS.

954,359. Carburetter and Controller for Internal Combustion Engines. John L. Tate, Jersey City, N. J. Filed Jan. 21, 1909. Serial No. 473,432.

1. In combination, an internal combustion engine, a dynamo driven thereby, a motor, electric connections between said dynamo and said motor, and a coil included in said connections for heating fuel for delivery to the engine.

954,434. Means for Suppressing the Resistance of the Negative Electrode Flame in Electric Vapor Apparatus. Peter C. Hewitt, New York, N. Y., assignor, by mesne assignments, to Cooper Hewitt Electric Company, a corporation of New York. Filed March 21, 1902. Serial No. 99,333.

1. In a vapor electric apparatus, a container of suitable shape and dimensions, a positive and a negative electrode therein, and means for causing the surface of the negative electrode at which the current enters it to lie in a plane at an oblique angle to the path of the current between the two electrodes whereby the flame is caused to project itself out of the path of the current.

954,453. Transmission Gearing. Arthur J. Morse, Torrington, Conn., assignor to Connecticut Motor Vehicle Co., New York, N. Y., a corporation of New York. Filed June 6, 1907. Serial No. 377,596.

1. In a motor vehicle, the combination with an engine shaft running continuously in one direction, a drive shaft for propelling the car, and means introduced between said shafts for propelling the car at any speed up to the maximum of that of the engine shaft or in either direction at the will of the operator, said means comprising a flywheel driven with the engine shaft, means for connecting one of said gears with the drive shaft, and means co-operating with the engine shaft for causing said gears to rotate on their axis.

954,488. Carburetter. Austin M. Wolf, New York, N. Y. Filed May 26, 1909. Serial No. 498,519.

In a carburetter, a float chamber, a mixing chamber passing immediately adjacent said float chamber and separated therefrom by a wall, said wall forming a cover to said float chamber, a valve in said wall establishing communication between both said chambers, and an adjustable cock in said cover admitting atmospheric pressure to said float chamber, as described.

954,491. Carbon Remover. Robert Zastrow, Racine, Wis. Filed Dec. 6, 1909. Serial No. 531,542.

1. A carbon remover for explosive engines, comprising a guide shaped to fit in an opening in the end of the engine cylinder, a stem passing through the guide eccentric thereto and adapted to turn therein, and a scraper blade carried by the end of the stem to be moved over the surface of the piston of the engine by the turning movements of the stem.

954,531. Transmission Mechanism. John M. Mack, Allentown, Pa. Filed April 28, 1906. Serial No. 314,226.

1. In a transmission mechanism, the combination with a driving shaft, of a jack-shaft, a series of gears fixed thereon, gears arranged at the end of said driving shaft, and said jack-shaft meshing with each other, a bevel gear adapted to rotate with the gear

of the driving shaft, a counter-shaft, a bevel gear thereon in mesh with the bevel gear aforesaid, a clutch on said jack-shaft normally engaging the gear arranged at the end thereof, a series of gears loosely mounted upon said driving shaft in mesh with the gears fixed upon the jack-shaft, clutches arranged upon said driving shaft, and means for releasing the clutch of the jack-shaft as one of the clutches on the driving shaft is shifted into operative position, and engaging the clutch of the jack shaft as the remaining clutches of the driving shaft are severally shifted into operative position, substantially as specified.

954,630. Carburetter. Albert Howarth, Providence, R. I., assignor to Star Carburetter & Supply Co., Providence, R. I., a corporation of Rhode Island. Filed Jan. 8, 1908. Serial No. 409,781.

1. In a carburetter, the combination of a tube; a throttle valve adapted to open or close at will the upper part of said tube; a concentric tube of small diameter, extending up into the first named tube from the bottom of the carburetter and having an open bottom accessible to the external atmosphere; a nozzle shorter than said second named tube and having a top which is provided with a central upwardly directed vent or opening, the latter being made with an interior conical valve seat, concentric with and continuous with said vent or opening; a needle valve having a head and whose shank near said head is screw-threaded, but is elsewhere smooth and cylindrical, which needle valve extends axially up into said nozzle and has a conical end adapted to close said valve seat and vent or opening; a fixed support having a screw-threaded hole in which the threaded part of said shank is engageable; means for supplying gasoline to said nozzle; and a cap fitting upon the said nozzle at its upper end in proximity to said vent or opening, and provided with discharging slots extending radially through the tubular sides of said cap, which are adapted to discharge gasoline spray out into the ascending air currents in the concentric space between said second named tube and said nozzle.

954,697. Spark Plug. Herbert F. Provandie, Boston, Mass., assignor of one-half to the Randall-Faichney Co., Boston, Mass., a corporation of Massachusetts. Filed May 24, 1909. Serial No. 497,866.

1. A spark plug having an insulating body, spark points, a metallic stem supporting one of the spark points and having a sight opening extending longitudinally through the body of the plug, a light-transmitting partition which prevents the passage of gases through the opening, and means for detachably securing said partition to the plug.

954,748. Differential Locking Gearing. Edwin Luckwill, Cardiff, England. Filed Oct. 28, 1909. Serial No. 525,120.

1. The combination, with a differential gearing comprising gear-wheels and pinions operatively connected together, a revoluble casing or spider supporting the said parts, and non-revoluble shafts mounted in the said pinions, said shafts and pinions being provided with opposed friction clutch-members; of cams carried by the said shafts and provided with projecting arms and adapted to operate the friction clutch-members to lock the said pinions to the said shafts, and an operating ring encircling the said differential gearing and operatively connected with the said arms.

954,785. Carburetter. Horace O. Craven, Schenectady, N. Y. Filed March 29, 1909. Serial No. 486,315.

1. In a carburetter, a cylindrical casing having an outlet, and air and hydrocarbon inlets, a tube extending diametrically across said casing, closed at one end, communicating with said hydrocarbon inlet at the other end and having openings in its wall, a cylindrical valve in said tube, and a rotary member in said casing connected to said valve and controlled by differences of pressure therein to actuate said valve.

954,844. Elastic Non-Skidding Tire Chain. Charles E. Abrams and Charles H. Mason, Chatham, N. Y. Filed Nov. 16, 1907. Serial No. 402,465.

An elastic non-skidding tire chain comprising two circumferential rim chains, composed of a plurality of elastic and inelastic links provided with eyes at their ends connected together, V-shaped links provided with eyes secured in the eyes of the inelastic links, the inelastic links of one chain being arranged opposite the elastic links of the other chain and cross chains connecting said V-shaped links in zigzag order.

954,905. Carburetter. Austin M. Wolf, New York, N. Y. Filed May 8, 1909. Serial No. 494,777.

1. A carburetter for the purpose described having a float chamber, a mixing chamber, an air inlet leading thereto, and a jacket separate from the mixing chamber and air inlet around said mixing chamber and within said float chamber.

955,053. Wheel Tire. George W. Crawford, Perth Amboy, N. J., assignor to the Safety Tire Company, a corporation of Maine. Filed Jan. 18, 1910. Serial No. 538,589.

1. In a wheel tire, the combination of a shoe and an interior spring member normally under tension, said spring member comprising a split ring which decreases in cross-section through substantial portions of the ring's length from an intermediate portion to or toward the ends, whereby the strain on the ring is distributed.

955,062. Oiling System for Engines. George W. Fairfield, U. S. Navy. Filed Dec. 26, 1908. Serial No. 469,204.

1. In an oiling system, the combination with a wrist pin bearing, and a crank pin bearing, of a hollow rod connecting the wrist pin and crank pin and having its bore in communication with said pins, an oil cup on the upper end of the connecting rod and communicating with the wrist pin, a pipe secured to the connecting rod and having its upper end connected with the oil cup, the pipe having a flared lower end extending around the lower end of the said connecting rod and adapted to be immersed in oil as the crank pin is rotated, and check valve in said pipe.

955,128. Roller Bearing. William J. Brewer, Brooklyn, N. Y., assignor to New York Oilless Bearing Co., New York, N. Y., a corporation of New York. Filed March 26, 1909. Serial No. 485,889.

1. In a roller bearing, the combination with an axle or shaft and a relatively rotatable wheel or box provided with interior annual bearing edges concentric with said shaft, of a retainer rotatably mounted in said wheel or box and comprising a pair of rings spaced apart in alignment with said bearing ledges and connected together with



cross ties, said retainer rings being provided with journal bearings having restricted openings cutting the peripheries of said rings, rollers mounted in the wheel or box and engaging the shaft, and laterally extending journal ends formed on the rollers and rotatably mounted in the journal bearings of the retainer rings for rolling engagement with the bearing ledges of the wheel or box.

955,144. Two-Stroke Cycle Internal Combustion Engine. George Enderby, Harrogate, England, assignor of one-third to Henry Johnson, Harrogate, England. Filed Oct. 21, 1909. Serial No. 523,820.

1. The combination of a working cylinder and a pump cylinder co-axial with each other, pistons in the cylinders, a hollow piston rod passing through and connecting the pistons and extending beyond the working piston, a sleeve serving as a guide for the extension of the piston rod, and a port near the end of the extension generally covered by the sleeve but opening into the working cylinder and connecting the two cylinders through the hollow piston rod when the piston nears the end of the explosion stroke.

955,188. Tire. Louis M. Nelson, Pennington, N. J., assignor to Nelson Tire Co., a corporation of Wyoming. Filed Nov. 2, 1909. Serial No. 525,912.

1. A tire comprising a resilient body portion, the tread surface of which is interrupted at intervals with relatively soft portions, the latter terminating in their uncompressed condition short of the remaining tread surface whereby to form tread depressions.

955,204. Current Controlling Mechanism for Internal Combustion Engines. Lewis T. Rhoades, Mont Clare, Pa. Filed Aug. 18, 1909. Serial No. 513,379.

1. In a device of the character described, the combination with a shaft, a disk fixed to the shaft, a contact device mounted to turn on the shaft, and having an annular series of contacts or projections, a pin or stop on the disk, a spring around the shaft secured at one end to the shaft, and at its other end to the contact device to normally hold one of the projections in engagement with the pin, and compel the contact device to turn with the shaft, means operated by said projections to close an electric circuit, and means for temporarily retarding the movement of the contact device to increase the tension of the spring, and accelerate the movement of the contact device when released from the retarding means.

955,213. Wheel Rim Securing Means. Otto R. Schoenrock, Chicago, Ill. Filed Oct. 15, 1908. Serial No. 457,948.

1. The combination with the felly of a wheel, of an outer rim, a resilient tire secured thereto, an inner rim having an out-turned edge and an inturned edge, a split ring having a groove for the reception of the inturned edge of said inner rim and having a flange adapted to engage said outer rim, a ring secured to said felly between said split ring and said felly, and a wedge for expanding said split ring, said second named ring having a portion thereof cut away to accommodate said wedge.

955,218. Carburetter. John W. Smith, Stanley, Iowa, assignor of one-half to Frank A. Sherman, Independence, Iowa. Filed May 18, 1909. Serial No. 496,779.

1. The combination of a cylinder, a carburetter connected therewith and open at

its outer end for the admission of air, an inlet valve, a stem connected with the inlet valve and passing through the carburetter, an auxiliary fuel admitting valve arranged in the carburetter and mounted on the stem, springs supported on the said stem and both houses within the carburetter for holding the valves on their respective seats, one spring being located between the valves and the other outwardly from the auxiliary valve, and means for automatically controlling the opening of the inlet valve without affecting the auxiliary valve.

955,222. Carburetter. Alfred E. Stoker, Detroit, Mich. Filed Feb. 19, 1909. Serial No. 478,913.

1. In a carburetter, the combination of a mixing chamber having a circular bore to admit air and an outlet passage, a piston valve adapted to close said bore, a coil spring to carry the weight of said valve, and an adjustable spring to regulate the travel of the valve.

955,244. Automobile Transmission Gearing. Robert E. Wynn, Brownsburg, Ind., assignor of two-sixths to Charles D. Rodenbaugh, two-sixths to James H. Kelly, and one-sixth to George Graves, Indianapolis, Ind. Filed Feb. 13, 1909. Serial No. 477,587.

1. The combination, with a driving member, of a driven member having its axis at an angle to the axis of the driving member, a driving gearing comprising a pair of aligned shafts, a differential gearing having a main body and gears connecting said shafts, a plurality of concentric gears carried by the main body of the differential gearing and axially movable thereon, means for axially shifting said concentric gears independently, and means embodied within the structure and rotating therewith to lock the shiftable gears in their different relations.

955,256. Universal Joint. Allen H. Fetzer, Galion, Ohio. Filed Nov. 10, 1908. Serial No. 461,905.

1. A device of the character described, comprising a ball and socket joint or coupling, the socket member having inwardly extending trunnion-like bearing rolls, and the ball member having elongated openings therein whose walls are tapered inwardly and also curved inwardly at the sides, said walls being curved outwardly at the ends,

and case hardened metal bushings applied and conforming to the outlines of the walls of said openings, each bushing being separate and entire from the socket member and insertible and removable therefrom.

955,286. Ball Bearing. August Riebe, Berlin, Germany, assignor to the Hess-Bright Mfg. Co., a corporation of New Jersey. Filed July 30, 1907. Serial No. 386,209.

1. A cage for ball bearings having between each two adjacent balls two independent means for separating them, one of such means consisting of a relatively soft material extending normally between each two adjacent balls a sufficient distance to hold the balls separated in use, and the other of said means constituting an emergency device adapted to hold the balls separated when the first of said means is worn out or melted.

955,292. Carburetter. Frank W. Sickles, Hartford, Conn., and Thomas D. Millea and Michael J. Carroll, Springfield, Mass., assignors to Siro-Carburetter Mfg. Co., Springfield, Mass., a body corporate of Massachusetts. Filed Aug. 17, 1908. Serial No. 448,832.

1. In a carburetter, a mixing chamber having a fluid inlet, an air inlet, and a fuel inlet, a longitudinally movable and normally non-rotary valve for said fluid inlet, a valve operating on a plane at right angles to its axis for said air inlet, a valve the plane of which coincides with its axis for said fuel outlet, and means to operate said valves simultaneously.

955,306. Anti-Skidding Device. Nathan Barnett, Chicago, Ill. Filed Jan. 20, 1909. Serial No. 473,366.

1. A vehicle tire, comprising a casing and a plurality of anti-skidding devices arranged around the tread surface thereof, each of said devices comprising a cup-shaped washer having an upstanding polysided flange, and a polysided frusto-pyramidal head inclosed by the flange, the flat edges of the bases of said heads fitting within the flanges of said washers so as to prevent the washers from turning with respect to the heads.

955,493. Automobile Lamp. Egbert E. Allen, Atlanta, Ga. Filed Nov. 13, 1909. Serial No. 527,852.

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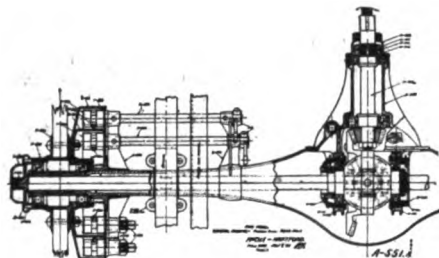
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1. In a lamp, the combination of a body provided with guideways, number plates slipped into said guideways, a closure for the guideways having a portion cutaway, and fastening means having a part extending across the cutaway portion of said closure for retaining it and the number plates in position and exerting a yielding pressure upon the number plates to prevent rattling thereof or the formation of spaces between adjacent edges.

955,494. Vehicle Body. Samuel R. Bailey, Amesbury, Mass., assignor to S. R. Bailey & Co., Inc., Amesbury, Mass., a corporation of Massachusetts. Filed June 22, 1908. Serial No. 439,673.

1. A vehicle body comprising a longitudinal bottom iron having a vertical side portion, a vertically disposed metal side plate having its lower edge portion rigidly secured to said side portion, a sill secured to the outer side of said plate at the upper edge portion thereof, and a side secured to the outer side of said sill, substantially as described.

## Automobile Axles



THE McCUE AXLE.

### Full Floating Rear Axles I Beam Front Axles

The highest class product for high grade cars.

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Every part good, a worthy whole results.

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cars appeal to the experienced motorist.  
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The  
Ultimate  
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THE F. B. STEARNS CO., Cleveland, O.  
Licensed under Selden Patent  
The White Line Radiator Belongs to the Stearns.

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THE OIL THAT GRAPHITIZES  
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SAVE YOUR TIRES  
by attaching to your Air Pump  
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STA-RITE Spark Plugs  
have "Stayed Right the Longest" for seven years. Get a set from your dealer and have "Plug Happiness." Repaired free of charge. Price now \$1.00.

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1735 Michigan Ave., Chicago  
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Send for list of size plugs used in 305 cars and engines.



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The Standard American Valves for  
Automobile, Bicycle & Vehicle tires  
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"Rhineland" Machine Works Co.  
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15 cents per line of seven words, cash with order.  
In capitals, 25 cents per line.

**FOR SALE**—Pullman Special, 40 horse-power, 121-inch wheel base, six passenger demi-tonneau, run about 1,000 miles; bought to order late in the season of 1909 and has been stored all winter; special cloth lined top, two extra tires, tire cover, double brass tire irons, full lamp and tool equipment Bosch magneto, upholstered in full French hand buffed leather. Looks like new. Will sell at sacrifice. J. A. KLINE, General Manager, B. C. K. Motor Car Co., York, Pa.

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PNEUMATIC TIRES  
For all Standard Rims  
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**BALDWIN CHAINS**  
BALDWIN CHAIN & MFG. CO.,  
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### YOUR SAFETY DEPENDS

on the efficiency  
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No matter whether your car costs \$500 or \$5,000, it's the ability of your brakes to hold when you need 'em that is most important. Brakes lined with RAYBESTOS grip—they hold—they insure safety. See that your brakes are lined with RAYBESTOS and do not accept a substitute.

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MAKE GOOD—ALWAYS

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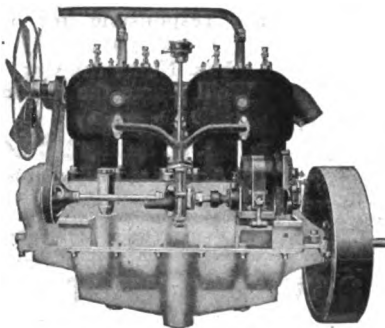
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STANDARD OF  
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40 h.p., 4 cylinder, 4 cycle motor. Cylinder bore  $4\frac{1}{4}$  in., stroke 5 in., length of piston  $5\frac{1}{2}$  in., length of connecting rods 12 in., size of valves  $2\frac{1}{4}$  in., valve lift 5-16 in. All gears cut helical. Made for standard sub-frame  $17\frac{3}{4}$  in., and 3 in. drop to shaft center.

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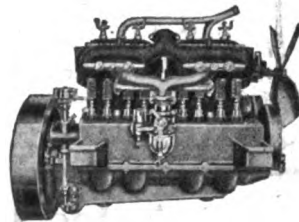
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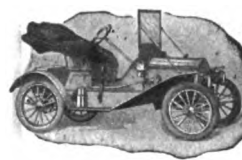
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\$875 buys a smart, practical car that will take you anywhere. Bosch magneto, clincher tires, lamps and horn. Write for Book "B."

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STAND THE TEST

Because they run better, wear better, and are better in every respect.

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## SEEKS TO QUELL ALL TIRE FEARS

**A. L. A. M. Committee Issues an Optimistic Statement—Would Discourage Buying in Advance of Current Needs.**

With about a dozen of the most prominent tire makers represented at the conference, the tire committee of the Association of Licensed Automobile Manufacturers held a session on Tuesday, 24th inst., after which it issued an account of the meeting which is designed to push away the dark clouds of fear that have been hovering over the tire situation. The tire committee has been enlarged by the addition of Horace DeLisser, of the United States Motor Co., and James W. Gilson, of the Mitchell-Lewis Motor Co., and these, together with Chairman Albert L. Pope, L. H. Kittredge and S. D. Waldon, were present, as was Alfred Reeves, the general manager of the association.

"After a full discussion and consideration of the tire question as it affects the owner, dealer and automobile manufacturer," the optimistic official report of the committee's session declares, "it was decided that the situation, so far as it relates to the purchase and sale of tires, need not be so pessimistically considered as some recent reports would indicate. In fact, a more optimistic view can now be taken. The manufacturers of cars in America are not in the position where it is necessary for them at this time to contract for the next season's requirement of tires, and the rubber tire manufacturers seem to be able to handle the present situation along lines that are expected to be in favor of the car owner.

"There seems to be an impression that it is necessary for car owners to purchase tires for future use, due to the feeling that there is to be an abnormal advance on this particular product in the near future. While some increase may be expected, car owners should understand the conditions of buying now and be warned of the disadvantages

that might occur in purchasing in advance of current needs.

"There is hardly any question that the saving at the present time will be largely offset by the deterioration in surplus tires and the passing of the guarantee period. It was the opinion of the conference that the interests of all will be served by a normal attitude toward future requirements."

### Bennett Goes with Willys-Overland.

George W. Bennett, eastern manager for The White Co., has resigned that office to become sales manager of the Willys-Overland Co., Toledo, Ohio. The change will take effect June 1st. Bennett, who is aggressive and progressive to his finger tips, will be no stranger to his new duties. He was for years sales manager for T. B. Jeffery & Co. and later for the Knox company, and there is no department with which he is not intimately familiar.

### Evans to Make Wagons and Parts.

R. H. Evans has bought the plant of the Marine City Iron Works, at Marine City, Mich., which is to be used for the building of light motor delivery wagons and automobile parts. The enterprise will be known as the Evans Motor Car & Parts Mfg. Co., with Evans as secretary and treasurer. He is also secretary and treasurer of the Automobile Mfg. & Engineering Co. Both concerns will have offices in Detroit.

### Hayden Eames Retires from Studebaker.

Hayden Eames, formerly general manager of the Studebaker Automobile Co. and in charge of the Studebaker automobile interests, has retired from those duties. He is at present interested in stimulating the electric power companies, in the possibility of increased business in the supplying of current for electric vehicles.

### Death of Republic Rubber's President.

Warner Ames, president of the Republic Rubber Co., Youngstown, O., died on Wednesday, 18th inst. His death was due to angina pectoris.

## FORBES SUES FOR AN ACCOUNTING

**Brings Action Against Willys and American Motor Car Sales—Litigation Results from Old Disagreements.**

In the wake of disagreements which arose some months ago and which increased after the purchase of the Toledo Motor Co., suit has been brought by Thomas P. C. Forbes, Jr., against John N. Willys, president of the Willys-Overland Co., for an accounting, and against the American Motor Car Sales Co., of New York, for money judgment and for a receiver. The proceedings were instituted on Monday, 23d inst., in the Marion County Superior Court, at Indianapolis, Ind. Judge Vinson Carter, of the superior court, with whom the receivership suit was filed, has not yet taken action on the petition.

Paralleling the Forbes suits, a similar suit has been brought against Willys in the Federal court by Henry F. Campbell, of Indianapolis. In the former Willys is given as residing in Indianapolis, while in the latter it is assumed that he lives in Toledo, so that between the two courts the complainants are more or less sure of being right.

It has been known for some time that Forbes, who was in a sense a partner with and assistant to Willys when the latter launched on his really big career as a manufacturer, has been nursing grievances of one sort and another. These have finally come to head in the present litigation.

In his petition Forbes alleges that the American Motor Car Sales Co. was incorporated in New York in 1907, and that he owns 200 shares of common stock and 100 shares of preferred stock. It is alleged that this company contracted with the Overland company and the American Motor Car Co., of Indianapolis, to control and sell their output, and that in 1909 4,000 vehicles were sold, making more than \$400,000 of profits.

It is set out that in 1909 the stockholders



of the Sales company agreed that out of the surplus funds the Toledo company should be purchased, and that the stock of that company should be held and owned by the stockholders in proportion to their stock in the Sales company. It is alleged that the sum of \$385,000 was paid for the Toledo company, and that Willys, president of the controlling company, held the Toledo company stock in trust for the stockholders.

It is alleged that on October 26, 1909, Willys increased the capital stock of the Toledo company from \$10,000 to \$2,000,000 and changed its name to the Willys-Overland Co. The plaintiff complains that Willys has refused to issue stock of the latter company to the stockholders of the American Sales Co. in proportion to their holdings in the last named company, and that he has refused to render them an account, or to allow them to inspect the books. They aver that they have received no dividends, and that there has been no distribution of profits except in connection with the purchase of the Toledo company.

The plaintiff asks Judge Leathers to compel the defendant to render an accounting to issue stock to the stockholders and that he be enjoined from disposing of any of the stock.

In his suit against the American Motor Car Sales Co. for a receiver, Forbes alleges that on account of President Willys's management of the company it is in danger of insolvency. It is averred that Willys controls the board of directors, the other directors except himself being "dummy" directors, and that the stockholders have been denied the right to participate in the management of the company. It is alleged that in 1909 Willys paid \$65,000 to D. M. Parry for 404 shares of stock in the Overland company, that extravagant salaries have been paid to the officers of the defendant company, and that large sums of money belonging to the defendant company have been used by Willys for investments of a personal nature.

It is also alleged: "That Willys directed the bookkeeper of the defendant to credit the account of Willys with large sums of money as back salary; \$1,000 a month from September 1, 1908, and with \$150,000 a year from September 1, 1909, covering a period of time for which he had already received the regular salary allowed him by the defendant of \$1,200 a year."

The plaintiff also asks for \$5,000 of salary he alleges is due him as a sales agent for the company, and for possession of stock alleged to be due him.

President Willys on Monday night gave out the following statement:

"A little over two months ago I was offered the stock held by Messrs. Campbell and Forbes for \$2,000,000. I refused to buy it, as I considered their price far more than the stock was worth, and to show them

that I was sincere I offered to sell them my stock at that time at the same rate, which they refused to accept. While they have not received cash dividends, they have received stock dividends, being a very large percentage on the amount of their investment, on which they have had offers in cash at par.

"The charges appearing in the complaints have no foundation. When the matter is fought out the fullest investigation will be offered every stockholder as to all of my actions in the management of the several companies."

#### Brake Lining Involved in Litigation.

Seeking to restrain the administrator of the estate of the late Arthur H. Raymond from getting a patent on a brake lining supposed to have been invented by the deceased, and asking for \$10,000 damages from the Royal Equipment Co., of Bridgeport, Conn., suits have been brought by Fred L. Horton, of Lynn, Mass., in the superior court at Bridgeport. Horton claims that the patent which the administrator is endeavoring to obtain for the estate is his (Horton's) invention and not Raymond's, although it was through the latter that the Royal company arranged to have the brake lining. He also claims that the \$10,000 represents the part of the profits to which he was entitled on the brake lining and that the company already has made and sold.

#### Merger Near to Consummation.

Officials of the Dayton Motor Car Co. and of its younger brother, the Courier Car Co., both located in Dayton, O., refuse to affirm or deny that the negotiations have been completed for their merger into the United States Motor Co., according to dispatches from Cincinnati, although the president of the latter company stated that no consolidation has yet been effected. Meanwhile President Benjamin Briscoe, in a Detroit interview, declares that the United States Motor Co. is not yet through with its program of acquirement and expansion, stating specifically that "One deal in particular is practically closed, but it is not expected that the papers will be signed until early in June."

#### Veerac Secures a Factory Site.

The Veerac Motor Co., which has its general offices in Minneapolis, Minn., has obtained a factory site of five acres at Anoka, in the district between the Twin Cities. The product is to be a 20 horsepower, two-cycle, air-cooled commercial vehicle.

#### Cole Acquires Another Building.

The Cole Motor Car Co., of Indianapolis, Ind., has increased its capacity for the production of Cole "30" cars by taking over the building which formerly was occupied by the Reliable Auto Exchange, and which adjoins the company's main building on East Washington street. The annex thus

acquired has three floors and yields about 30,000 square feet additional space. It will be used exclusively for painting and final finish work.

#### Changes Among Prominent Tradesmen.

Paul H. Bruske has been made contest manager of the E-M-F. Co., of Detroit, Mich. He has been sporting editor of the Detroit Times for the past six years.

Charles A. Singer, Jr., has been made sales manager of the Palmer & Singer Mfg. Co., of New York City, and will direct the distribution of P-S cars. The New York City store management has been given to Fred J. Titus.

Mortimer Reeves, brother of Alfred Reeves, the general manager of the Association of Licensed Automobile Manufacturers, has been appointed contest manager of the United States Motor Co. He will have charge of the Maxwell, Columbia and Brush entries in competitive events.

#### Stephens and Cropley to Handle Cars.

Reorganizing its Chicago sales and distributing arrangements, the Cole Motor Car Co., of Indianapolis, Ind., has placed the handling of the Windy City trade and the Illinois agencies with a new company, which G. W. Stephens and F. S. Cropley have formed for the purpose. Stephens, who is president of the Factory Auto Supply Co., of Chicago, formerly was advertising manager for the G & J Tire Co., and Cropley was that company's Chicago representative. For the present Stephens & Cropley will continue to use the salesroom of the Standard Automobile Co., but shortly will take quarters where the Cole exclusively will be handled.

#### Kinsey Erecting a Large Addition.

The Kinsey Mfg. Co., of Toledo, O., in order to provide for a greatly increased production of hoods, radiators, fenders and fittings, is extending its plant. The extension takes the form of a three story concrete and brick building, 288x105 feet, and an "L" which is to be 75x65 feet, with three stories and a basement.

#### Federal Rubber Opens Southern Branch.

The Federal Rubber Co., of Milwaukee, Wis., has opened an exclusive branch of its own in Atlanta, Ga., located at 170 Peach-tree street. The branch will be in charge of G. M. Seewald, late of the Alexander-Seewald Co. and who for ten years previous was the Atlanta representative of Morgan & Wright.

#### Detroiters Form Company in Gaylord.

The Gaylord Motor Car Co. has been organized in Gaylord, Mich., with a capital stock of \$100,000, to make cars. Guy Hamilton, of Detroit, Mich., is the moving spirit, while Gaylord citizens have subscribed for the stock.



## TO GROUP ITS DETROIT PLANTS

**United States Motor Acquires Immense Site for New Factories—Will Have Office Building Downtown.**

Having decided upon a comprehensive "group plan" for its factories in Detroit, Mich., the United States Motor Co. has selected a site of almost 200 acres in the northern part of the city, along the main line of the Grand Trunk railway, north of Holbrook road. The merger company also has announced that it is to build a large structure at Woodward avenue and Charlotte street, for executive and departmental offices in Detroit, and where the executive, sales, publicity, financial and purchasing departments will be represented by responsible officials.

The latter building, which is to be ready in October, will have a frontage of 97 feet on Woodward avenue and 198 feet on Charlotte street, and in addition to containing the company's Detroit offices will have salesrooms and reception rooms for pleasure cars, for commercial vehicles and for Gray motors, respectively, together with a garage, stockroom and repair shop. A separate garage for the commercial vehicles will be established elsewhere.

After considering a number of sites for the "group plan," the officials of the United States Motor Co. decided on an extension of the property recently acquired by the Brush Runabout Co., which, after having bought 30 acres for its new factory, added 30 more soon after, the land now being available in conjunction with that which has been arranged for adjoining it. The grouping of the factories will bring the new plants of the Briscoe Mfg. Co., the Gray Motor Co. and the light car department of the Alden-Sampson Mfg. Co. all in the neighborhood of the new Brush factory.

### Mysterious Ad Evokes a Denial.

What is supposed to be a result of the mysterious meeting held last week in the Detroit office of the attorney for the new Association of Motor Car Manufacturers manifested itself on Sunday last in the form of large advertisements in the newspapers of various cities, proclaiming "an attempt by the automobile combination to destroy the independent automobile manufacturers of America" and concluding with a list of all the more prominent and some less prominent unlicensed makers, all of whom were made to appear as subscribers to the advertisement, thereby suggesting the possibility that the independents had combined as a solid phalanx of resistance to the Licensed Association's campaign. T. B. Jeffery & Co. was one of those whose name was given in the list at the bottom

of the advertisement, but in response to an inquiry, Jeffery & Co., who always had held aloof from both sides of the Selden situation, wired: "We have not authorized nor approved the use of our name in advertisements of any organization."

### Counselman Moves up Chalmers Ladder.

Lee Counselman, who, after being promoted from salesman, has been vice-president and assistant general manager of the Chalmers Motor Co., of Detroit, Mich., will assume the title of general manager on June 1. The latter title heretofore has been held by President Hugh Chalmers himself, but the change does not mean that Chalmers in any sense will retire from active control of the affairs of the company. He will devote his time to the larger duties of a general executive. In succeeding to Counselman's duties as assistant general manager, C. C. Hildebrand will become also a stockholder and director of the company.

### Chair Makers Turn to Automobile Tops.

The Ramsay-Alton Mfg. Co., of Portland, Mich., which heretofore has made Morris chairs, is taking up the manufacture of automobile tops, special machinery having been installed for this purpose. J. Hayes, of Detroit, Mich., has invested \$10,000 in this branch of the company's business, and large quantity production is planned.

### Engine Company Organized in Dayton.

The Mead Engine Co. has been incorporated in Dayton, O., with Cyrus G. Mead, secretary of the Citizens' Electric Co., and Adam Schanze, a millionaire brewer, among the incorporators. The company plans to build automobile engines, and declares its intention of employing 1,000 men when its factory is completed.

### Brennan Building a Big Addition.

The Brennan Mfg. Co., of Syracuse, N. Y., manufacturing motors for the automobile trade, has commenced the erection of an addition to its plant, the new building being 100 feet long and two stories high. Its purpose is to increase the company's capacity for motors of the commercial vehicle type.

### Still Enlarging the Rambler Plant.

More additions are to be made to the plant of Thomas B. Jeffery & Co., of Kenosha, Wis. Plans have been announced for a new power plant, an addition to the machine shop and a new enlargement of the motor assembling department. Other buildings will be added before fall.

### Supply House to Begin Manufacturing.

The Interstate Automobile Supply Co., of Sioux City, Ia., is going into the manufacturing end of the accessory and automobile parts business. It has started a factory and applied for membership in the local Manufacturers' Association.

## TIRE CHAIN PATENT IS UPHELD

**Weed Wins in Case Against Excelsior Supply—Parsons Patent Held "Basic to a Large Extent."**

In face of the fact that non-skid chain grips for tires are so simple in construction that a host of accessory tradesmen have been tempted to produce them for the market and a small army of patent attorneys have unequivocally declared themselves able to "break" any basic patent claims concerning such devices, the Weed Chain Tire Grip Co., of New York, after a hard fought legal battle with the Excelsior Supply Co., of Chicago, has obtained a decision broadly sustaining its patent control of the tire chain situation. While the Weed company previously has obtained favorable decisions in the courts, the case against the Excelsior company is by far the most important so far obtained, by reason of the vigor and resources with which it was fought.

The monopoly claimed by the Weed company is based on the original Parsons patent, Parsons being the English inventor who was the first commercially to develop the non-skid loose chain idea for motor cars. The complainants in the case, before the United States Circuit Court, Northern District of Illinois, Eastern Division, sitting at Chicago, are the Weed Chain Tire Grip Co., Harry D. Weed, and the Parsons Non-Skid Company, Ltd., while the defendants are the Excelsior Supply Co. and the Motor Appliances Co. The complaining company also has recently brought infringement suits against a number of other manufacturers and sellers of unlicensed chain grips, including the Whittaker, Morgan, Cleveland, Pitts, Superior, Fox and others.

Judge Sanborn's opinion in the Excelsior case, handed down on the 20th inst., is in full as follows:

Infringement suit based on the Parsons patent No. 723,299, issued March 24, 1903, for a chain-tire grip. Complainants are, respectively, assignees or interested in the patent. One of defendants sells a similar device, and the other manufactures it. The patentee's description of his invention, and two of his claims, are as follows:

It has been proposed to guard against slipping and puncturing by incorporating an anti-slipping or anti-puncturing device in the tire itself, which has the effect of slowing it considerably or causing disintegration and having other objectionable features. According to my invention I overcome these objections by providing a separate construction, giving, in effect, a non-slipping medium between the surfaces in contact, and merely suspending or engaging with the wheel, but not fixed thereto, and it is free to travel around the wheel by action of rolling contact.

The device constituting my invention consists of a network of rings or strips of metal or other suitable material or a series of small chains or bands fitting loosely over the periphery of the wheel and passing from side to side across the tire—that is, not incorporated with it—and prevented from coming off by two rings, hoops, or their equivalent, preferably of wire or other suitable material, such rings or the like, or one of them, being provided, if desired, with means of attachment and detachment, such as right and left hand screw-thread and nut, and the said rings or the like being smaller in diameter than the periphery of the wheel they cannot come off accidentally.

Anti-slipping and protecting means for the

peripheries of wheels, pulleys or the like, comprising attaching elements at opposite sides of the wheel, and an anti-slipping or protective medium secured to the attaching elements and extending across and around the periphery of the wheel said parts being disconnected from though retained on the wheel whereby the anti-slipping or protective medium is free to move or shift its position around the periphery thereof.

Anti-slipping or protective means for the peripheries of wheels, pulleys or the like, comprising two rings or annuli at opposite sides of the wheel, and an anti-slipping or protective medium consisting of a chain or chains secured to the rings and extending across and around the periphery of the wheel, said parts being disconnected from but retained on the wheel whereby the anti-slipping or protective medium is free to move or shift its position around the periphery thereof.

Advantages claimed for the device are thus stated by counsel:

The construction of the device by which it is loose on the wheel and free to travel circumferentially around it when in action gives several important results referred to in the patent. In the first place, "freedom of travel" adds very materially to the anti-slipping qualities of the device, in effect continuously laying down on the ground in front of the tire "a non-slipping medium," consisting of a series of loose cross chains, under conditions affording a maximum of traction result. In the next place, it prevents the disintegration of the rubber tire, which, as suggested in the patent, in all other proposed constructions had proved a fatal obstacle to the use of a metal traction device on a rubber tire. Again, it prevents the inevitable and objectionable "slowing" of the tire in action, which occurs where metal traction plates or similar parts are incorporated in the tire.

It is also essential in a practical device that it must be securely maintained on the tire against coming off, particularly at times of greatest strain when the machine is skidding. While the device is simple, a complicated problem is involved, which had to be comprehended by the inventor, and must be understood in order that the full scope of the invention can be comprehended. The elements of the problem are, that by all prior inventors it was supposed to be necessary to fasten the device rigidly upon the tire, or incorporate it with it, instead of being left loose or flexible. Such devices proved failures for a number of reasons. They wore out the tire by abrasion at the point of contact, "slowed" it by destroying resiliency, wore themselves out by friction, and were difficult to keep on. These objections were to a great degree overcome by the patent grip. It lessens wear by stopping the slipping, is easy to put on and take off, distributes and lessens wear of the tire by its circumferential travel, and has proved a great commercial success, superseding all other forms.

This changing of the universal idea that an anti-skid device must be securely fastened to the tire required invention, and the device described by the patentee, with such improved construction as experience and mechanical skill suggested, is fully capable of carrying out the inventive idea. There is an operative device, utility, a greatly improved result, commercial success and the supplanting of all other like devices.

It is true, and clearly disclosed by the evidence, that circumferential creeping, or what Parsons calls traveling around the wheel by action of rolling contact, was not new with him as a practical result, but he was the first to claim and fully utilize it, and understand its significance in the art. It is the inevitable law of the rolling wheel. It is even difficult to keep the tire itself from creeping forward on the rim. This tendency has been well understood since the time of the bicycle. And when an anti-slipping device is put on the tire, however firmly, it will travel around it. All other inventors, however, conceived the notion that this circumferential creeping was a detriment, and must be prevented in order to get traction and prevent slipping. Parsons was the first to understand that this motion was beneficial, that the best traction would be given by utilizing it, as well as the best form of anti-skidding. He therefore reversed the prevailing idea that this motion must be prevented as much as possible, and specified a loose grip, "merely suspended on or engaging with the wheel, but not fixed thereto . . . free to travel around it." He also contrived a novel means of carrying his idea into practical application; that is, by a loose grip, held upon the tire by side-members of sufficiently less diameter than the tire to securely retain the device in place. Neither of these things had been done before. This is not an attempt to patent a function, result, idea or abstraction, but a new conception and new embodiment of that conception, producing an improved result, useful in itself, and commercially successful. It is entitled to liberal treatment, both as to anticipation and infringement.

To the objection that the claims are functional, it may be said that claims for means for, or mechanism adapted to a certain result, and like functional claims, are not objectionable if limited to the invention shown by the specification and drawings. So narrowed, they are valid. (*Hobbs v. Beach*, 180 U. S. 383, 21 Sup. Ct. 409, 45 L. Ed. 586; *Paper Bag Case*, 210 U. S. 405, 28 Sup. Ct. 748, 52 L. Ed.,

1122.) Moreover, some of the claims, like the last one quoted, read directly on the illustrated construction.

Another objection, that the disclosure is not complete, may be answered by saying that no one has found any difficulty in building the devices, nor is it thought that even a workman unskilled in the art, after reading the patent, could not properly construct it. Even functions not specified, where means to secure them are claimed, but not fully explained, have not been so construed as to avoid the patent. In the rubber tire wheel cases, the important side tipping function, all there was to distinguish the prior art, was not clearly claimed, nor was the proper tension on the securing wires, by which such function was secured, even suggested, but the patent was sustained everywhere except in the Sixth Circuit. (*Consolidated Tire Co. v. Fire Proof Tire Co.*, 151 Fed., 237, 80 C. C. A. 589; *Rubber Tire Wheel Co. v. Milwaukee, etc., Co.*, 154 Fed. Rep., 358.) This was for the reason that the side-tipping function of the tire was universally found on the wheels built by workmen everywhere.

Anticipation is asserted through a number of patent anti-skidding devices, but they were all designed on the rigidly attachable notion, with that relation of the parts to each other, which distinguished the Parsons patent entirely wanting. Those most relied on are the Gifford British patent and the Clark-Wertheim-Rosenberg patents, all of which were abandoned by the patentees, no doubt partly because too early in the art, but also partly for the reason that they were all of the rigidly attached kind. Gifford says that his invention consists in combining metal with the outer part of elastic-tired wheels to prevent slipping and grip the road. The first eight of his figures show devices either going through the tire or sunk into it. The tenth and eleventh figures show a metal chain ladder, "secured to the periphery of an elastic tire." It is perfectly manifest that he never thought of a loose grip, free to travel on the tire. It is easy enough at this day, after Parsons has shown the way, to convert his metal ladder into a perfect Parsons grip. This is a common method of showing anticipation, but is not a successful one. The Gifford disclosure is also too vague and incomplete to constitute an anticipation.

The Clark-Wertheim-Rosenberg patents represent the same invention patented in different countries. In the specification of each and all of them it is said that the device (which was made for bicycle tires) is so embedded in the rubber of the tire casing that it cannot change its position as a whole. By making some changes disclosed by the Parsons invention, it is now possible to obtain fair results from its use, although it rapidly wears out. The Clark invention was for a different combination and, though not entirely inoperative, possesses little utility.

What prevents these prior patents being anticipations is chiefly this, that the relation of parts which make Parsons' novel and useful is absent. If the Gifford chain ladder be used, and the inevitable tendency toward travel around the tire results from such use, the device falls off. Or, if the side members be put far enough down to prevent this at first, then as soon as one of the cross members breaks, off goes the whole device again. Gifford came nowhere near discovering the proper relation of parts. The Parsons invention is a new mechanical combination, with appropriate location and length (shortness) of the side members, and appropriate length of cross members, which, by their combined operation, each modifying the other, looseness, circumferential travel and secureness, make a practical and successful whole.

I think the patent fully operative, useful, not for a function, not anticipated, basic to a large extent, fully valid and infringed. Defendants' grip is almost identical. Complainants are entitled to the relief asked.

### The Week's Incorporations.

Allentown, Pa.—Hamilton Automobile Co., under Pennsylvania laws, with \$10,000 capital.

El Paso, Texas—Christie Automobile Co., an Arizona corporation, admitted to do business in Texas. Capital stock, \$20,000.

Denver, Col.—R. S. Motor Co., under Colorado laws, with \$25,000 capital. Corporators—John B., Elizabeth N., Walter B. Glasser.

Fargo, N. D.—Wheelock Auto Co., under North Dakota laws, with \$5,000 capital. Corporators—W. M. Ball, J. E. Frame and D. H. Bolt.

Elmira, N. Y.—Elmira Electric Vehicle Co., under New York laws. Corporators—Eugene Diven, Donald P. Beardsley, Alexander S. Diven.

Plattsburg, N. Y.—Booth Taxicab Co.,

under New York laws, with \$2,000 capital. Corporators—Charles M. Miller, Harry L. Booth, Seth S. Allen.

Akron, Ohio.—Akron Inner Tube Co., under Ohio laws, with \$10,000 capital; to manufacture inner tubes. Corporators—J. E. Dice and others.

Hyde Park, Mass.—New England Motor Truck Co., under Massachusetts laws, with \$50,000 capital; to deal in automobiles. B. H. Piper, H. A. Henderson.

Cleveland, Ohio.—Cleveland Automobile Spring Co., under Ohio laws, with \$2,000 capital. Corporators—Christian Genl, John B. Hull, E. W. Fair and others.

Chicago, Ill.—Mercury Motor Co., a West Virginia corporation, with \$200,000 capital; to do business in Illinois; manufacturing machinery. President, Sidney A. Cryor.

Austin, Tex.—Imperial Garage & Sales Co., under Texas laws, with \$10,000 capital; general automobile business. Corporators—Paul S. Miller, J. W. Crotty, I. A. Miller.

Portland, Ind.—Bimel Spoke & Auto Wheel Wheel Co., under Indiana laws, with \$130,000 capital. Corporators—Fred Bimel, J. O. Fuqua, W. D. Schwartz, W. H. Detamore.

Newark, N. J.—T. C. M. Mfg. Co., under New Jersey laws, with \$100,000 capital; deal in automobiles and parts. Corporators—A. Morris Thomson, Allan C. Coats, William McKay.

Birmingham, Ala.—Interstate Automobile Association, under Alabama laws, with \$4,000 capital; to do general automobile business. Corporators—George M. Webb, J. B. Oates.

Indianapolis, Ind.—Pyle Spring Tire Co., under Indiana laws, with \$50,000 capital; to manufacture automobiles tires and parts—Corporators—G. C. Pyle, W. G. Hunter, W. D. Pyle.

Wilmington, Del.—Moore Electrical & Automobile Co., under Delaware laws, with \$50,000 capital; general garage and automobile business. Corporators—R. E. Moore, E. R. Pussey, E. Moore, Jr., all of Wilmington.

New York City, N. Y.—United States Wheel Co., under New York laws, with \$1,000,000 capital; to manufacture all kinds of wheels for automobiles, cars, etc. Corporators—T. Tooker, S. P. McConnell, B. M. Fellows.

Detroit, Mich.—Hale Motor & Machine Co., under Michigan laws, with \$125,000 capital; to manufacture motors, transmissions and general automobile parts. Corporators—S. E. Hale, Cleveland; Charles Ritter, J. C. Hudson, Henry C. Walters, R. J. Brennan, Joseph W. Humphrey, J. E. Dubois, Fred Houser, of Detroit.

### Increases in Capitalization.

Indianapolis, Ind.—Novel Carburetter Co., increases capital to \$15,000.

## IN THE RETAIL WORLD.

Mrs. Katherine O'Gorman has opened a garage on Miles avenue, near Lloyd avenue, Providence, R. I. The building is 100x50 feet.

A. R. Hale & Son have leased the store at 1040 South Main street, Los Angeles, Cal., and will conduct an automobile supply business.

Mr. Post has filed plans for the erection of a three story garage, 74x125 feet, at 404 Eleventh avenue, New York City. The cost is estimated at \$40,000.

A garage that will cost \$30,000 is being built on the site of the old Bancroft Seminary property in Frankford, Pa. J. Harary Schumacher is the owner.

A new concern, styled the Park Garage, has been opened on South Ervay street, Dallas, Tex. T. E. and R. A. Harvey will manage the establishment.

J. M. Goodbar is going into the garage business on fourth street, Memphis, Tenn. The building will be of brick, one story high, and cost about \$10,000.

W. E. Luetgens and Edward P. Brown have formed a partnership and will open an automobile supply store in Manchester, Conn. They will sell bicycles also.

The Acme Vulcanizing Co. is the style of a new concern which has opened a plant in North Seventh street, Terre Haute, Ind. Cordell and Pinkston are the owners.

Davis & Smith is the style of the latest firm which has gone into the garage business in Biddeford, Me. They are located at the corner of Graham and Union streets.

The firm of P. W. Schulte & Co., Detroit, Mich., has been dissolved. Mr. Schulte keeps the garage, while his partner, Charles Berdan, will act as agent for the Kissel Kar.

Devoted exclusively to the repairing of automobile and bicycle tires, a shop has been opened at 221 West Seventh street, Wilmington, Del. H. P. Goslin is the manager.

The Taylor Motor Distributing Co. has moved into its new salesrooms at 210-212 North 13th street, Philadelphia, Pa. Warren-Detroit "30" and Matheson cars are shown.

W. F. Alley, of Jacksonville, Fla., has purchased the business of the Roberts Motor Car Co., 314 West Monroe street. The name has been changed to Metropolitan Garage.

George Checkets, formerly of New York City, opened an automobile supply store on Railroad avenue, South Hamilton, Mass. Connected with the store will be a garage and salesroom.

Marcus Bros. have discovered the "Promised Land" in Canaan, Mass., and have acquired the Canfield garage there. The business in the future will be known as the Canaan garage.

W. J. Burt Motor Car Co. is the style of a new firm located at 10th and Main streets, Los Angeles, Cal. Repairing and the furnishing of spare parts is to be a specialty of the concern.

The W. C. Moore Auto Co., of Forty Fort, Pa., is erecting a brick garage at a cost of \$8,000. Besides doing general repair work, the company will deal in accessories and spare parts.

The Benoist-Buel Co. has succeeded to the business of the Benoist Bros. Mfg. Co., St. Louis, Mo. Walter C. Buel is the new partner in the firm, which is established at present at 3923 Olive street.

J. A. Boyd has organized the Commercial Auto Sales Co. for the sale of Chase delivery vehicles and Gramm trucks in Cleveland, Ohio. The salesrooms are located at 2158 East 9th street.

The entire plant of the White Steamer Garage Co. in Seattle, Wash., including four automobiles and a complete repair equipment, was destroyed by fire on May 13th. The loss approximately was \$20,000.

The Sharman Automobile Co., formerly on State street, Salt Lake City, Utah, has moved to new quarters at 164 East First South street. A renting and repair department has been added to the salesrooms.

The Cleveland Taxicab Service Co., Cleveland, Ohio, has absorbed the Citizens' Taxicab Co. and installed a new equipment of Stearns taxicabs. The color of the new cabs will be gray with red running gear.

The Mathews Garage Co., which was incorporated recently, has opened up at 57 John street, Bridgeport, Conn. The new garage contains about 10,000 square feet of floor space. Atlas cars are to be featured.

Meyers & Rosenstiel, who conduct an automobile garage at 54-56 Galena street, Freeport, Ill., have taken over the Mernitz Bros' garage on Jastram place. For the present they will conduct both establishments.

Hartford, Conn., has another exclusively electric garage added to its list. The new firm is styled Electric Auto Station and is located on Church street, between High and Union place. It will specialize in Baker electrics.

The garage hitherto conducted by the Mead Motor Car Co., on Juliana street, Parkersburg, W. Va., has changed hands. The new concern will be known as the Parkersburg Motor Car Co., with William Caskey as manager.

R. C. Shallberg, Davenport, Ia., has bought the property at 1204 Fourth avenue and will erect thereon a two-story brick garage, 45x150 feet. Oscar and Fred Shallberg, brothers of the owner, will manage the business.

Martin Sauer's garage and repair shop,

in Ida Grove, Ia., was destroyed by fire on May 17th. Several automobiles were burnt, and a damage estimated at \$10,000 was caused. Only a part of this loss is covered by insurance.

Lea, McKallip & Abbey, automobile dealers at 608-610 Travis street, Houston, Tex., have changed their firm name to Lea Auto Co. Jackson, Glide, Fuller and Babcock electrics are handled and a renting department has been added.

I. M. Powell, of Cordele, Ga., has purchased the lot between the Central Hotel and the Opera House, and will build thereon a garage. The building is to be of brick and will be 75x100 feet, and two stories high; it will cost \$10,000.

Max S. and Morris Apt are building a one-story brick garage at the corner of Montgomery avenue and Clifford street, Philadelphia, Pa. The building will be 126 by 32 feet, with a wing 97 by 113 feet which is to be used as a repair shop.

The Automobile Auction & Commission Co. has opened a garage and auction salesroom at 559-561 Seventh avenue, Pittsburg, Pa. Besides carrying on a regular garage business, the firm will deal in accessories and hold public auctions every Friday.

Frederick J. Cosgrove, proprietor of a garage at 527 East Superior street, Duluth, Minn., has filed a petition in voluntary bankruptcy. He places his liabilities at \$3,561.95 and his assets at \$560.35 in outstanding accounts and \$16,904.14 in stock in trade.

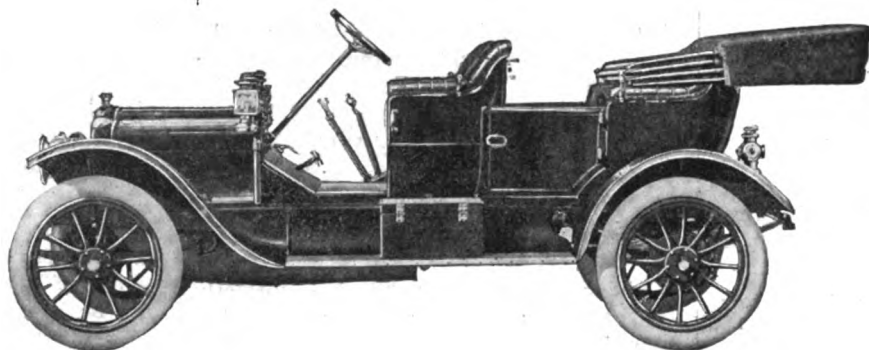
Reynold MacDonald of Fredonia and L. M. Whitton of Olean have formed a partnership to deal in automobiles and make repairs. The salesrooms and garage will be located in Mayville, N. Y., and be operated under the style The Fredonia and Olean Garage Co.

Ten dwellings now standing at 23d and Market streets, Philadelphia, Pa., are being demolished rapidly to make room for a four-story garage which will be occupied by the Autocar Co. The building will be of brick and reinforced concrete and will cost \$90,000.

Sam Johnson Auto Co., Inc., is the style of a new concern in Los Angeles, Cal., which has bought the repair establishment formerly occupied by the Auto Vehicle Co., and the California Automobile Co., covering 20,000 square feet of floor space. Besides doing a general garage business, the firm handles Tourist cars.

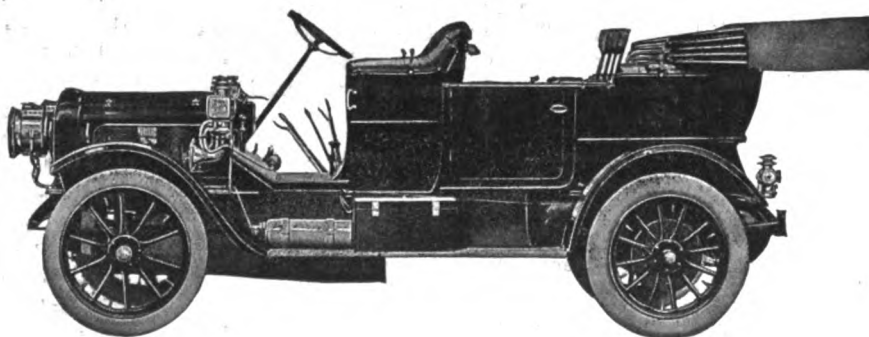
An involuntary petition in bankruptcy against the Stearns Auto Livery Co., Milwaukee, Wis., was filed May 18th. Two of the officers of the company are among the petitioners. F. W. Chase, vice-president, claims \$550 loaned to the company, and A. F. Eckstein, secretary, \$227.53 on the same account. The petition sets forth that the company admitted its inability to pay its debts in writing on May 17th.

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### The Development of Sane Driving.

Nothing more surely marks the foolish novice at automobile driving than a furious "slam-bang" method of proceeding through city traffic, in contrast with the calm and, one may say, polite way of the veteran. It is only a few years back that practically everyone who drove a car was in a degree a novice, because cars themselves were a new thing, but sufficient time has elapsed to develop distinct extremes between veterans and newcomers. Happily the former now set an example which the latter are wise to emulate.

In one aspect it is quite wonderful how some of the old-time "daredevils" have tamed down, so that a ride with them no longer is a case of having one's heart on one's tongue, but is as quiet and uneventful as basking on a cotton-wharf. It is not fines or accidents that have curbed their spirit so much as it is an appreciation of

the eternal fitness of things, emerging after the novelty of motoring has worn off.

There are evidences of a growing courtesy in the relation of automobile drivers not only to each other but to horse and trolley traffic as well. The chief violators of this courtesy are a few "low brows" and the novices. The "low brows" perhaps never can be brought to any sense of ethics in driving, but will remain hoggish, aggressive and unpleasant until they break their last car under them. The novices, however, are more promising, as it is possible to dissuade them from "raw" driving and from making pests of themselves, if they can be shown that there really is a finer art in "smooth," sane and courteous driving.

### Wearing Qualities of Small Cars.

Though the impression generally prevails that the average small car by no means is as durable as is the average larger and more expensive machine, due consideration of the relative conditions surrounding the two leads to the conclusion that sometimes one may be just as good as the other insofar as actual wearing quality is concerned. In other words, given the same sort of attention, it is not irrational to suppose that many of the cheaper and lighter machines would run nearly as many miles under normal highway and load conditions as the larger and more costly cars, were they given the same regular attention. This is not the same as saying that the added cost of the expensive vehicles is all profit or all equipment, but rather that the rickety condition into which so many small vehicles evolve after a year or two of service results quite as much from lack of careful upkeep as from any structural shortcomings which they may possess.

It is a fact that a majority of the low priced cars go into the hands of private owners who do most of the work on them with their own hands, and exercise their own judgment as to what is and what is not absolutely necessary to the satisfactory performance of the machine. Thus it happens not infrequently that such a car is allowed to deteriorate very rapidly, necessary adjustments being postponed until excessive wear has taken place, oil and grease reservoirs being allowed to become foul with sediment and such repairs as are necessary not infrequently being made in a hasty and slipshod manner. The inevitable result is

that cars of this order rapidly fall away, and while they may give excellent service and most creditably fulfil the requirements of their owners, their noisy performance and dissolute appearance leads to the hasty conclusion that they are worth far less than they really are.

The more costly products, receiving the constant attentions of a paid driver, are maintained in better shape. As a rule, too, their owners are willing to make a greater outlay in keeping up their appearance; so that they seem to wear better than do the small and cheap cars. That the latter also are apt to receive less expert handling on the road, to be put through more bone racking "stunts" and to be overloaded more frequently is another point tending to their disadvantage.

The point is that owing to the conditions surrounding their respective use, the small car constantly is at a disadvantage over the larger one, seldom is worked to best possible advantage and generally gives the impression of being less enduring than it really is. This discrepancy in the working conditions surrounding the use of large and small cars, added to such inherent disparities as really do exist, tend to heap upon the little car an amount of contempt on the part of the possessor of a large machine of which it in no wise is deserving.

### Possibility of V-Type Engines.

Many considerations point to the utility of the V-type of engine for certain classes of car, and it is not at all unlikely that its use may increase in future under pressure of such important requirements as compactness and interchangeability. Particularly urgent in the case of the commercial vehicle, whether of the passenger or merchandise pattern, these two factors are causing designers no little deep thought. Despite the well rooted popularity of the vertical engine at the present time, the industry still is in sufficiently flexible condition to welcome and to adopt without serious difficulty any other type which possesses sufficient merit to warrant its existence. Good evidence of this is furnished in the wide use of the horizontal opposed form of engine in small pleasure cars and the lighter commercials.

The peculiar merits of the V-type of engine, summed up in a few words, are that it is practically only half as long as a vertical engine of the same number of cylinders.



ders; that in the 90-degree form it is susceptible to almost perfect balance; that its valve mechanism and all auxiliaries can be mounted over the center of the crank case and hence in the most perfectly accessible position; that the arrangement thus permitted frees its exterior of encumbrances tending to interfere with the process of mounting and demounting from the chassis; that it may be secured to the frame readily without interfering with the natural form of the latter or necessitating the deformation of the bonnet in order to enclose protruding cylinder heads, as sometimes is necessary with the horizontal type of engine.

In weight, manufacturing cost, economy and flexibility, it should be about equal to the present standard of construction. In the matter of lubrication, it should be intermediate between the horizontal and vertical types, insofar as the oiling of the cylinder walls alone is concerned; ignition should present no difficulties, while in the matter of carburation some advantage should result from the close grouping of the cylinders.

At present the pleasure car field in no wise demands a shortening in engine length, which is one of the principal advantages of the V-type. Save in the case of one or two makes of eight cylinder engine, which otherwise would be inordinately long, this form of engine practically is unknown at the present time. Nevertheless, wherever applied, in large engines of the marine type, as well as in automobile work, it is noteworthy that its performance has been thoroughly creditable, especially in racing exploits. One small car builder abroad has produced a runabout driven by a twin V engine, which is said to have given a very good account of itself and which also has the reputation of being remarkably smooth running.

For commercial vehicle service, especially in the case of the motor cab and the light delivery wagon, the importance of space economy is very great, while it is not practicable in many instances to place the engine under the driver's seat. While this is possible with the opposed form of engine, the resulting arrangement by no means is as convenient as where the engine is carried in front, nor does it invariably permit as advantageous an arrangement of the transmission mechanism. Particularly in the case of the motor cab, it is noteworthy that the use of the V form permits a four-cylinder

## COMING EVENTS

May 27, 28 and 30, Indianapolis, Ind.—Grand Circuit meeting and national championship races on Motor Speedway.

May 27-31, Washington, D. C.—Washington "Post" five days endurance run to Richmond, Va., and return.

May 28, White Plains, N. Y.—Amateur Automobile Contest Association's hillclimb.

May 28 and 30, Kansas City, Mo.—Automobile Club of Kansas City's two days' race meet at Elm Ridge track.

May 28-31, Syracuse, N. Y.—Central New York inter-club relay run.

May 29-30, San Francisco, Cal.—San Francisco Motor Club's two days race meet at Tanforan.

May 30, Bridgeport, Conn.—Bridgeport Automobile Dealers' Association's hillclimb on Snake hill, Fairfield.

May 30, Denver, Colo.—Denver Motor Club's road race.

May 30, Oklahoma City, Okla.—Start of Oklahoma State Automobile Association's six days' reliability contest for "Daily Oklahoman" cup; 800 miles.

June 1, Berlin, Germany.—Start of Prince Henry tour, finishing at Homburg on 8th.

June 2, New York City.—Annual Orphan's Day outing at Coney Island.

June 3-4, Buffalo, N. Y.—Automobile races at Fort Erie track.

June 4, St. Louis, Mo.—Automobile Club of St. Louis reliability contest.

June 4, Portland, Me.—Portland "Telegram" hillclimb on Morrison hill, West Cumberland.

June 4, Worcester, Mass.—Automobile Club of Worcester's annual hillclimb on Dead Horse hill.

June 4, Philadelphia, Pa.—Quaker City Motor Club's race meet at Point Breeze track.

June 6, Atlanta, Ga.—Start of second annual New York-Atlanta Good Roads Tour, ending in New York June 14.

June 6-9, Richmond, Va.—Richmond "Times-Dispatch" endurance run to Raleigh, N. C., and return; 420 miles.

June 7, West Haven, Conn.—Yale Automobile Club's third annual hill-climb on Shingle hill.

June 11, Newark, N. J.—New Jersey Automobile and Motor Club's 280 miles reliability run.

June 11, Wilkes-Barre, Pa.—Wilkes-Barre Automobile Club's annual hill climb on Giant's Despair.

June 14-30.—American Automobile Association's seventh annual national touring and reliability contest for the Glidden trophy, starting from Cincinnati and finishing at Chicago.

June 16-22, Albany, N. Y.—Albany Automobile Club's sixth annual tour to Atlantic City, N. J., and return.

June 25, Port Jefferson, N. Y.—Automobile Club of Port Jefferson's hillclimb on East Broadway hill.

July 1, 2 and 4, Indianapolis, Ind.—Grand Circuit meeting on Motor Speedway.

July 2, Wildwood, N. J.—North Wildwood Automobile Club's roadability run from Philadelphia to Wildwood.

July 4, Wildwood, N. J.—North Wildwood Automobile Club's annual beach race meet on Ocean Drive.

July 4, Indianapolis, Ind.—Chicago Automobile Club's second annual race for the Cobe trophy on Motor Speedway.

July 4, Wildwood, N. J.—North Wildwood Automobile Club's race meet on Wildwood Speedway.

July 18-22, Milwaukee, Wis.—Wisconsin Automobile Association's first annual endurance test for "Milwaukee Sentinel" trophy.

July 30, Wildwood, N. J.—North Wildwood Automobile Club's race meet on Wildwood Speedway.

August 3-5, Galveston, Tex.—Galveston Automobile Club's beach races.

August 6, Philadelphia, Pa.—Quaker City Motor Clubs' race meet at Point Breeze track.

August 6, Wildwood, N. J.—North Wildwood Automobile Club's beach race meet on Ocean drive.

August 15, Washington, D. C.—Start of second annual Frank A. Munsey reliability contest.

September 5, Wildwood, N. J.—North Wildwood Automobile Club's beach race meet on Ocean drive.

September 10, San Francisco, Cal.—Automobile Club of California's road race in Golden Gate Park.

September 17, Syracuse, N. Y.—Automobile Club of Syracuse-Syracuse Automobile Dealers' Association joint racemeet at Fair Grounds track.

October 1, Mineola, L. I.—Sixth annual Vanderbilt Cup race on Long Island Motor Parkway, under the auspices of the Motor Cups Holding Co.

October 15, Mineola, L. I.—Motor Cups Holding Co., 278 miles international road race on Motor Parkway, for the Grand Prize of the Automobile Club of America.

engine to go into a length of bonnet which otherwise would be suitable only for a twin. This, in a casual way of thinking, should

furnish a telling argument in favor of the engine for use where space is at a premium.

## WAGNER GETS ONLY CLEAN SCORE

Pilots Native Car to Victory in the All-Connecticut Contest—Technical Examination Decided the Award.

Successfully upholding the honor of its native city and state in the first contest of the season in which it has participated, a 1910 Columbia car, driven by G. M. Wagner, was the only one of 21 contestants to emerge from the Automobile Club of Hartford's 600 miles All-Connecticut reliability run on the 19th to 21st inst. with a perfect road and technical score. The performance of the winning car is all the more

taxed three points for the delay. Up to that time he had no demerits and later passed the technical examination unsullied. Close on the heels of Rantz for place came Fred Reid in a National, who also ran dry of the Rockefeller fluid and, in addition, adjusted his clutch, all of which cost him four points. A remarkable fact was that all of the 21 starters finished the contest, and 20 of them took the final examination, the sole absentee being "Billy" Knipper in the Chalmers.

The contest was the most ambitious undertaking ever engineered by the Nutmeg State club, and, as its name implies, practically covered the entire state, touching 150 of the 168 cities and towns therein. Hartford was the starting and finishing

ton, the noon stop, Bristol, Collinsville and Tariffville.

Heavy rain on the day previous made the roads very muddy and the going hard, and as a result intermediate and low gears were in frequent use. An unusually high wind, which attained its greatest velocity near East Hartland, also retarded progress considerably, but it was not an ill wind, for it benefited everybody by drying up the roads rapidly. Despite the bad condition of the roads, fast time was made and Torrington, the noon stop, was reached by the leaders nearly an hour ahead of time. The early birds waited outside the control with their engines running, until it was time to check in.

So rapidly did the roads dry that the afternoon run was through clouds of dust, and the going was so good that most of the cars loafed to avoid checking in hours ahead of time. Many of the contestants suffered minor penalizations, the most unfortunate being J. F. Cogswell in a Cartercar, who ran out of gasoline in an out of the way place and lost an hour and three-quarters getting a fresh supply. Charles S. Lee in a Franklin, after having a clean record all day, ran out of gasoline within a few feet of the night control. Eight cars completed the day's run with clean sheets, as follows: D. Rankin, Chalmers; C. S. Carris, Franklin; F. A. Rantz, Speedwell; E. L. Nock, Lexington; G. M. Wagner, Columbia; H. F. Earl, Auburn; A. E. Kilby, Jackson, H. B. Gates, Overland.

Friday's run of 203 miles embraced the southeastern section of the state, through a thickly populous district, and was more in the nature of a pleasure jaunt than an endurance test. Fine weather prevailed and, except for a few bad stretches, the roads were ideal. On the outward run the cars passed through Meriden, Waterbury, Danbury and Stamford, where the turn-about was made and the homeward run begun, Bridgeport being the noon stop. Leaving the Park City, the cars followed the shore road to Saybrook and then turned north, following the west bank of the Connecticut river to Hartford. As might be expected, the penalties inflicted were small, but three of the honor men of the first day—Rankin, Chalmers; Kilby, Jackson; and Gates, Overland—fell from grace. The other five—Carris, Rantz, Nock, Wagner and Earl—preserved their scores and had for company J. F. Cogswell, Cartercar; W. S. Williamson, Cartercar; Fred T. Reid, National; H. Y. Ensign, Inter-State; G. S. McCutcheon, National, and S. A. Foster, Rambler, all of whom were assessed on the first day.

Rain fell heavily Friday night, and when the contestants awoke Saturday morning and heard the pattering drops there were many fears for what the day would bring forth, especially for those with perfect scores. When starting time arrived the rain practically had stopped and the faint-hearted ones screwed up their courage a notch or



G. M. WAGNER WITH HIS PERFECT SCORE COLUMBIA

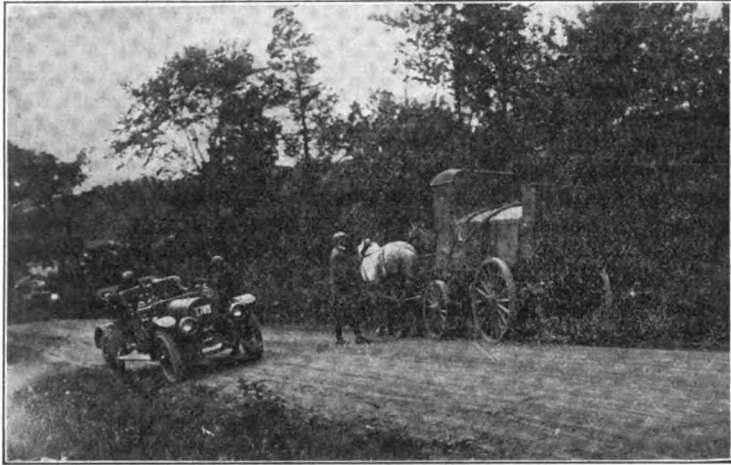
creditable in view of the fact that it was Wagner's first road contest. Three other cars—a Franklin, an Auburn and a Lexington—also went through the three days' running without penalization, but were unable successfully to withstand the searching ordeal of the technical committee at the completion of the contest.

C. S. Carris, at the wheel of a Franklin, whose string of perfect performances in a host of previous contests have earned for him the sobriquet of "Clean Score" Carris, came within an ace of tying the winner. After surviving the road test—clean, mathematically, if not in appearance, and likewise passing the final operative trials successfully, he suffered a penalization of one point for a loose oiler nut on the technical examination. Although shutting him out of the 100 per cent. column, this slight penalty does not, however, detract from Carris's excellent all-around performance.

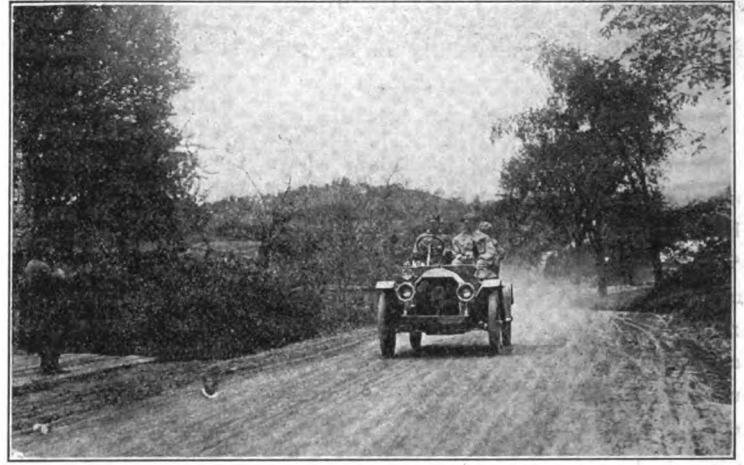
Fate also shattered the chances of F. A. Rantz in the Speedwell to finish in the honor class. During the hard going of the third day he ran out of gasoline and was

point of the daily runs, which embraced different territory and approximated 200 miles. The enthusiasm engendered by the contest was remarkable and cannot well fail to have a beneficial effect on the sport in that section. In Hartford the contest was a formidable rival of Halley's comet as a popular topic of interest, and in the other cities and towns large crowds were on hand to greet the tourists. In the rural districts schools were dismissed and the children lined up by the roadside and waved flags and cheered as the cars passed.

On Thursday, 19th, promptly at 6 a. m., the first contestant to start, Dean Rankin at the wheel of a Chalmers, received the word and sped away from the club headquarters on Allyn street in a cloud of smoke. The other cars followed at one-minute intervals, and in less than half an hour the last car had been despatched. The route lay through the northwest section of the state and embraced a rugged and mountainous territory, the distance being 207 miles. Some of the larger towns en route were Windsor, Winsted, Canaan, Torrington,



W. R. COUGHTRY CONSULTING A STANDARD OIL DISPENSER



WHERE THE GOING WAS SMOOTH AND EASY

two. Before the start President Speare of the A. A. A., who acted as referee, ordered all the drivers to put chains on their tires to reduce the liability of skidding on the muddy roads. Although the distance—191 miles—was the shortest day's run of the contest, it also was the hardest, owing to the bad roads. The course lay through the eastern half of the state and touched at New London, Norwich, Putnam and Rockville.

To prevent the racing and waiting outside controls which was done on the previous days, Referee Speare sent a pace-making car, a Pope-Hartford, carrying President Gillette of the Hartford club, to head the procession. The penalty for passing the pacemaker, except in case of its disablement, was disqualification, and none of the contestants incurred it. This day's run was productive of what narrowly escaped being a fatality when J. F. Cogswell, Cartercar, crashed through the gates of a railroad crossing in Danielson and a train just grazed the tonneau of the car. Of the five who started with unblemished scores four—Carris, Wagner, Nock and Earl—preserved theirs and Rantz in the Speedwell was the unfortunate one to soil

his record by running out of gasoline. Immediately after the cars checked at Hartford they were submitted to a clutch, brake and gear test, and this was followed by a technical examination. So rigid was this scrutiny that it was well towards Sunday morning when the last car was passed. The results are given in the table:

Class 2—Cars listing between \$801-1,200.		Penalizations.		
Driver and Car.		R'd.	T'cl.	T'l.
H. B. Gates, Overland.....	15	1	16	
J. F. Cogswell, Cartercar...	84	116	200	
Class 3—Cars listing between \$1,201-\$1,600.				
W. H. Bowers, Regal.....	10	3	13	
Dean Rankin, Chalmers.....	3	31	34	
A. E. Kilby, Jackson.....	4	56	60	
P. R. Haycock, Reo.....	53	10	63	
W. S. Williamson, Cartercar..	124	14	138	
Class 4—Cars listing between \$1,601-\$2,000.				
S. C. Hutchins, Franklin.....	3	5	8	
H. F. Earl, Auburn.....	0	21	21	
H. Y. Ensign, Inter-State....	16	31	47	
S. A. Foster, Rambler.....	46	62	108	
Class 5—Cars listing between \$2,001-\$3,000.				
G. M. Wagner, Columbia.....	0	0	0	
F. A. Rantz, Speedwell.....	3	0	3	
Fred T. Reid, National.....	4	0	4	
Charles S. Lee, Franklin.....	18	0	18	
G. S. McCutcheon, National..	1	28	29	
E. L. Nock, Lexington.....	0	33	33	

J. F. Corbett, Corbin.....	31	11	42
*Wm. Knipper, Chalmers....	45	1000	1045
Class 6—Cars costing between \$3,001-\$4,000.			
C. S. Carris, Franklin.....	0	1	1

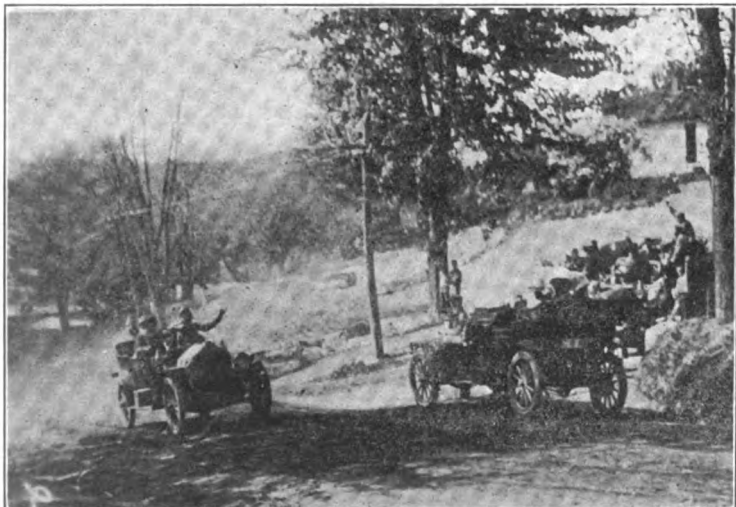
\*Did not take technical examination.

#### Bay State Snuffs Out Lights Bill.

After numerous attempts to secure its passage, that hardy perennial, the universal lights bill, which was introduced in the Massachusetts legislature some months since, has gone the way of all its predecessors. After being reported favorably, by the committee on roads and bridges and subsequently passed by the House with small dissent, the "poor farmer" and horse owners generally "got busy," with the result that the bill was killed in the Senate without a roll-call.

#### Perkins Heads the Memphis Club.

The Memphis (Tenn.) Automobile Club has been reorganized and a new board of governors elected, as follows: N. C. Perkins, president; S. B. Anderson, S. T. Carnes, Joseph Newberger, T. L. Ballard, Dr. D. M. Hall. A salaried secretary will be employed to give his entire time to the club's affairs.



WATCHERS ON ONE OF THE MANY HILLS



CARS ARRIVING AT HARTFORD AT END OF CONTEST

**JOHNSON WINS CHICAGO FUEL TEST**

**Drives 36 Horsepower Car 185 Miles with 1036 Ounces of Gasolene—Only Nine Entrants Appear.**

Stripped of much of the glory and prestige which attached to its predecessors, the Chicago Motor Club's twice postponed annual fuel economy test finally was staged on Thursday, 19th, with but nine of the original fourteen entrants participating. The course was to Lake Geneva, Wis., and return via the famous Algonquin hills, and totalled 185 miles. According to the formula evolved by the club and which determined the score of the contestants, William A. Johnson, driving a Cole "30" with full passenger complement, made the best showing, although his average mileage per gallon was not the highest. Johnson's car weighed 2,950 pounds loaded, and he averaged 23.6 miles per gallon of gasolene, using for the run 1,036 ounces of fuel, an ounce being equivalent to one-sixteenth of a pint.

Second honors went to the Hudson, driven by James Levy, which converted each gallon of gasolene used into 21.34 odometer miles. The car's loaded weight was 2,780 pounds and it required 1,146 ounces of fuel for the run. A. G. Schillo, Overland, although carrying much less weight than the Hudson, was more extravagant of fuel, and consumed gasolene at the rate of one gallon to every 17.09 miles. Its rating of 1,195 gave it third place. Only six of the nine starters finished. E. C. Haynes, Henry, and Jack Bender, Knox, both withdrew, the latter after using up all his spare inner tubes. H. E. Halbert's Grout, on its performance of 14.5 miles per gallon, would have been entitled to third place had it been able to finish the contest within the prescribed time, but it came in an hour and a half late, owing to transmission trouble. Although the little Hupmobile driven by E. A. Hearne was the most economical performer with 25.8 miles per gallon, its exceedingly light weight affected its standing under the formula and fifth place was its portion.

The course was selected with a view to variety, and while the roads were good the greater part of the way the cars also encountered some sand, a little mud and some "hills," as hills go in that nearly horizontal section, the Algonquin "humps" being the most formidable. It was fortunate that other troubles than economy did

not entail penalizations, for practically all the cars encountered mechanical trouble of one sort or another. The Hudson broke a right spring, and the Overland followed suit with a left one, topping this off with tire trouble. Another spring sufferer was the Fal car, and the DeTamble had a choked feed line.

Under the formula, a premium was placed on weight, and the small cars were handicapped to equalize their weight advantage. The formula consisted of the weight of the car (with passengers) divided by the quantity of gasolene consumed as expressed in ounces, which placed all on an equal competitive basis, the formula being calculated to disclose engine efficiency. The cars competed under the American Automobile Association's price classification, and in addition to the trophy awarded to the winner the class winners received certificates. The competing cars practically all were in the medium priced class as compared with the high priced, high powered machines which competed in former years, and the scant support which the trade gave to the affair was evidenced by the withdrawal of five cars at almost the last minute, various excuses being advanced for the action. It made it appear that few of them were anxious to test the "thirst" of their cars.

The results of the contest are shown by the subjoined table.

**Merrill and Shutcliffe Share Honors.**

Automobile racing evidently is in high favor with the residents of Shenandoah, Ia., and vicinity, for the first racemeet ever held there, which took place on Thursday, 12th inst., was attended by over 7,000 persons, many of whom came from out of town. Over 300 cars were parked at the track. Although a large field competed, the spoils were gobbled up by Merrill in a National and Shutcliffe with a Mason, each of whom corraled two races. While the times made were slow, the events were exciting and closely contested and aroused much enthusiasm.

**The summaries:**

Five miles open for gasolene cars—Won by Merrill, National; second, Wainwright, E-M-F. Time, 6:07¼.

Two miles free-for-all—Won by Shutcliffe, Mason; second, Merrill, National. Time, 2:42.

Five miles for cars rated at 25 horsepower and under—Won by Shutcliffe, Mason; second, Bruner, Hudson. Time, 6:04¼.

Ten miles free-for-all—Won by Merrill, National; second, Shutcliffe, Mason. Time, 12:34¼.

**THREE DAYS RACING AT SAN JOSE**

**Murray Wins Eight Events, Including the Whoop-la Race—One Spectacular Spill, but Without Unhappy Results.**

Three days of automobile and motorcycle racing formed the feature of the annual Rose Carnival at San Jose, Cal., on the 13th, 14th and 15th inst., and was productive of close finishes and fast time, although no records were broken.

On Friday, 13th, the opening day, in the 451-600 stock chassis race, John McDonald in a Winton, while rounding a turn in the second mile, had a tire explode and the car shot through the outer fence. Both men were thrown clear of the machine and escaped with severe bruises. The race was stopped in the fourth mile.

**The summaries:****Friday—May 13th.**

Five miles stock chassis, 230 cubic inches and under—Won by Ruddell, Ford; second, Dennis, Buick. Time, 5:58¾.

Five miles stock chassis, 231-450 cubic inches—Won by Murray, Buick; second, King, Maxwell; third, Warren, Matheson. Time, 5:15¾.

Five miles stock chassis, 451 cubic inches and over—Stopped in fourth mile on account of accident. King, Maxwell, leading.

Five miles free-for-all, Santa Clara County owners—Won by Warren, Matheson; second, Dennis, Buick. Time, 6:27.

**Saturday—May 14th.**

Five miles match, between Ruddell, Ford, and Onthank, Stevens-Duryea—Won by Ruddell. Time, 5:43¾.

Five miles handicap—Won by Murray, Buick; second, King, Maxwell. Time, 5:13¾.

Obstacle race—Won by Murray, Buick. Time, .40½. Distance, 500 yards.

Five miles handicap—Won by King, Maxwell; second, Murray, Buick. Time, 5:00¾.

One mile freak race—Won by Murray, Buick; second, King, Maxwell. Time, 1:23.

**Sunday—May 15th.**

Five miles stock chassis handicap—Won by Murray, Buick; second, King, Maxwell. Time, 4:59¾.

Five miles handicap, open—Won by Murray, Buick; second, tie between King, Maxwell, and Agraz, White; third, Warren, Matheson. Time, 5:22.

Five miles match, between Warren, Matheson, and Ruddell, Ford, not finished. Ruddell quit in first lap and Warren in second.

Obstacle race for cars with 115-inch wheelbase or under—Won by Murray, Buick; second, Holman, Maxwell; third, King, Maxwell. Time, 0:43.

Whoop-la race, same as obstacle race—Won by Murray, Buick. Time, 0:43¾.

Driver and Car.	H. P.	Miles per gal.	Ounces of gasolene.	Weight.	Per cent.
W. A. Johnson, Cole.....	36	23.6	1036	2950	2.8
James Levy, Hudson .....	22	21.34	1146	2780	2.42
A. G. Schillo, Overland.....	22	17.09	1295	2480	1.195
C. F. Van Sicklen, Falcar.....	28	13.7	1780	3390	1.9¼
E. A. Hearne, Hupmobile.....	17	25.8	947	1640	1.173
G. W. Turgeon, DeTamble.....	14	18.1	1351	1970	1.45

## HIS WAY OF BEATING THE TAXICABS

**It Required a Physician's Services, but he Cheerfully Paid His Price—and Saved Money, Too.**

A motor car version has been given to one of the humorous classics of the medical profession, and in its new form is serving to put automobile-owning physicians more or less on their guard, while at the same time it strikes a responsive chord in the breasts of those who have suffered from the "buzz-saw" rapidity of some taximeters. The story, as narrated in automobile circles, is as follows:

Having dallied in Manhattan's "white light" district until long past midnight, a well-to-do Jerseyman emerged from a Broadway "lobster palace" and asked the taximeter cab starter as to how much it would cost for a motor cab trip to his New Jersey home, situated in the "private estate" suburban district, some twelve miles out from Jersey City. The starter said that the trip would cost about \$30, whereat the Jerseyman, although well mellowed by his evening's entertainment, decided that he would take the subway "tube" to Jersey City, and perhaps engage a cab there.

In Jersey City he negotiated quarrelsome with a taximeter cab driver, but the latter refused to guarantee that the taximeter charge for the suburban run would be less than \$15. The Jerseyite then dropped in at a club, took several more supports for his courage and then headed homeward on foot, there being no trains or trolleys available. In his uncertain progress he discovered the night light burning brightly in front of a physician's house, so he rang the bell and asked the doctor, whom he knew by reputation, to come on a sick call. The physician dressed hurriedly, cranked his machine in the private garage in the back yard and was soon on the high road with the Jerseyman, on the way to the latter's home. As they drew up before the residence, after a quick run, the Jerseyman asked thickly what the doctor's charge was for a sick call at night, and the latter named his usual \$5 fee.

"Well, here's your money," said the Jerseyman, "and I'm much obliged to you, because that taximeter robber wanted to soak me \$15 for this trip. Good night, ol' man, and a safe trip home."

### Where the Black Man Bears no Burden.

How to support a whole town on the fines assessed on motorists, is a problem which has been solved successfully by the little negro town of Brooklyn, Ill. The officials of this town have found a prolific source of revenue and a good deal of private profit in arresting automobile drivers and running up fines and witness fees, particularly the

latter. Pleas of guilty are not wanted by the negro judge and the officials of the Brooklyn court. Instead, they insist on hearing witnesses, numbering the greater part of the town's male population. Then each one of the witnesses gets 60 cents, and this money, along with the regular fine and costs, must be paid by the unlucky motorist. All the expenses of the town are met by these fines and costs, while the majority of the people, it is said, do not have to work as long as enough automobiles pass through and pay them 60 cents for every time they go to court.

### The Downfall of Atlanta's Police.

One of the most amusing accidents that ever happened to an automobile occurred recently at Atlanta, Ga. The Atlanta Police Department possesses a new automobile patrol wagon provided with a long rear step on which the arresting officers ride when there is no room inside the vehicle. On this particular ride five extremely heavy officers conveyed a batch of prisoners to the station, and, as luck would have it, the step gave way at the moment the car entered the driveway to the station yard. The five officers landed in a heap on the pavement, while the prisoners made a rush for liberty. Although none of the policemen was badly hurt, and none of the prisoners succeeded in escaping, the order has gone forth that no more than one policeman at a time will be permitted to ride on the back step.

### Tall Argument Against Prohibition.

Probably the oddest argument against local option that has yet been advanced emanates from Rochester, a town in Michigan, 25 miles from Detroit. Rochester is in Oakland County, which went "dry" two years ago and "wet" this spring. Motorists who have occasion to pass through Rochester are rejoicing, because they say in the days of the "dry" wave they cut their tires all to pieces by running over empty whiskey flasks and broken beer bottles. Now that these "liquids" are sold by the glass in regular retail stores (i. e., bars), bottles are rarely met with on the streets and roads.

### "Fill 'em up" Policy Encounters Objection.

The experiment of the Chicago Automobile Club of filling the gasoline tanks of all cars stored in the club garage, whether or not the owner has ordered it, has been abandoned, because of the objections of some of the members. In the main, however, the innovation met with success, and in order to continue the practice without making it compulsory, the board has given orders that any member who may desire to do so may leave standing orders to have his gasoline tank filled on all occasions when his car enters the garage, without the necessity of giving definite instructions in each case.

## SHOWS THE DANGERS OF GASOLENE

**Expert Makes Startling Tests that Prove the Perils of the Vapor and the Harmlessness of the Fluid.**

Members of the Automobile Club of America were given a peculiar treat recently, when Mr. E. W. Marshall, a patent attorney, lectured before them on the "Safety of Gasolene." Some of the audience were startled when at the outset a lighted match was applied to a can of gasolene. But this, to Mr. Marshall, was simple, as was also the boiling of a can full of gasolene over an open flame.

The experiments were made in order to prove to the audience that, in order to explode gasolene, it must be in the form of vapor mixed with a considerable quantity of air. The lecturer partly filled a coffee pot with gasolene and ignited the vapor at the spout. Some distance away he placed another can filled with gasolene. He then poured the gasolene from the coffee pot through the burning vapor at the spout into the can at its side. Although the spectators shuddered, nothing happened.

Following these proofs of the safety of gasolene vapor when pure and unmixed with air came experiments showing the danger of the same when permitted to mingle with certain quantities of air. Mr. Marshall filled a large paper bag with air and then, by the use of an ordinary atomizer, saturated the air with vapor of gasolene. Inserting a spark plug attached to a battery, he caused an instant and heavy explosion.

In the second part of the lecture Mr. Marshall proved that all of the slow burning explosives are harmless when not under pressure by burning smokeless powder and lighting his cigar with the burning stick of powder. He also showed how to make a carburettor out of his cigar by smoking one with gasolene in it and igniting the mixture of smoke, air and vapor as it issued from his mouth. He then thoroughly saturated the cigar with gasolene and continued to smoke it, thus proving that gasolene cannot be ignited by the embers of a cigar.

Gasolene in various mixtures with air was exploded by several different methods, the speaker pointing out the need of great care in preventing the escape of gasolene vapor into a room where it could become mixed with a large quantity of air, because only a small quantity of gasolene vapor is needed to make an explosive mixture of the atmosphere in a good sized room.

### Tennesseans Organize for Road Reform.

Automobilists of Dyersburg, Tenn., have formed an automobile club and elected S. G. Latta treasurer. The organization will devote its efforts to securing road improvement in the territory.



## NO CLEAN SCORES AT MORRISTOWN

All of the 55 Starters Survived but None Escaped Penalty—Strenuous Travel Over Pennsylvania Mountains.

Had the starters in the Norristown (Pa.) Automobile Club's third annual endurance run of 327 miles to Scranton and return on the 18th and 19th inst. realized beforehand the road conditions which they would have to face, it is highly probable that the function would not have attracted a record entry of 55 nominations. Officials and contestants are agreed that it was a most strenuous test of both men and machines, and

technical end, and C. C. Fairlamb with a Klinekar accounted for class D. His score sheets carried an endorsement of 70 points. What, with its winning of the runabout class, was in the nature of a twin triumph for the Pullman was its capturing of the Gallagher trophy offered for the first car to reach Scranton with a perfect road score. Herbert Bittner drove the winner. Surprising as it may seem, all of the starters checked in at the finish, but did not take the technical examination, several being satisfied to withdraw upon the completion of the road tests.

On Wednesday morning, 18th, Halley's comet ceased to be the center of attraction in Norristown, temporarily, at least, and the start of the run occupied the center of

trols. Particularly bad was the going from Pottsville to Hazleton, and the Wilkes-Barre stretch was not much better. Considering the racking that the cars received, it is surprising that so many emerged from the technical ordeal with such a good showing.

There were two accidents during the day, one of which narrowly escaped having a fatal termination. Near Wilkes-Barre, while George Parker's Palmer-Singer was devouring a curve at high speed, a tire collapsed and the car lurched towards a bridge which spanned a deep ravine. It struck a concrete post with terrific force and all of the occupants were spilled out. Fortunately none were injured, and the car also escaped serious damage, but it was withdrawn from the run. The other mishap occurred near



MORE EVIDENCE OF STRENUOUS TRAVEL



ROUGH GOING IN THE MOUNTAINS

the wonder is not that there was not a single perfect score, but that the penalties were so few, in view of the adverse conditions which had to be overcome.

Scoring a most signal double victory in competition with a representative field, the Selden car made a most excellent showing and surprised the wisecracks. It was in the manufacturers' division, class A, that Henry Young drove a Selden to victory, incurring a total penalization of 38 points, as against 44 for his nearest competitor. The other laurel wreath which was corralled by "the father of them all" was plucked in the members' division, when Fred Dyer, at the wheel of the Rochester product, headed the list, and won his class by a big margin, with a penalization of only 2 points.

Not all of the spoils went to the Selden car, however, for Pennsylvania built cars were well represented in the apportionment of the remainder. In Class B, H. E. Walls and a Maxwell were the honor team, with an assessment of but 26 points, all of which were incurred in the technical examination, the car making a perfect road score. Its demerits also were the lowest of any class winner in the manufacturers' division. In the runabout division H. P. Hardesty piloted a Pullman to victory in class C, incurring total penalties of 49 points on the

stage. There was a large crowd on hand at the Hotel Montgomery to see the start at 7 a. m., the cars being dispatched at minute intervals. In the manufacturers' and agents' divisions there were 43 contestants, the remainder comprising the members' class. The distance to Scranton was 151 miles, and there were four checking stations on the way—at Reading, Pottsville, Hazleton and Wilkes-Barre, respectively. It was fortunate that the contestants got their hard going on the first day, while both men and cars were fresh and strong, otherwise the mathematical mortality undoubtedly would have been much greater. An innovation introduced by the club, and which well may be copied by others was the scattering through the countryside of printed circulars giving a detailed list of the competing and official cars and their numbers. This forethought enabled the local populace to identify the cars as they passed, and enlivened the interest in the event.

Heavy rains on the previous night converted the roads into quagmires, and tire trouble was the rule. The pull over the mountains which necessitated the frequent use of the intermediate and low gears, also told on the cars and was responsible for many overheated engines and tardiness at con-

West Scranton, when J. A. Kline in a Klinekar ran down a boy named Enoch James. At Scranton Kline was detained until he had deposited \$1,000 bail for his appearance later.

As previously told, Bittner in his Pullman, by a superb exhibition of driving was the first to check in at Scranton with a clean road score. Only seven others in the manufacturers' division had this proud distinction, as follows: John Burns, Franklin; R. L. Morton, Klinekar; H. E. Walls, Maxwell; Edward Wilkie, Buick; W. G. Dyer, Premier; H. P. Hardesty, Pullman, and J. A. Kline, Klinekar. None of the contestants in the members' division came through the first day with spotless tally sheets. Despite their strenuous day's work, the visitors made merry during the evening as guests of the Scranton Automobile Association.

Although the homeward run on the second day was longer—176 miles—the extra distance was amply compensated for by the excellent roads which were encountered. As on the previous day, there were four intermediate checking stations, which were located at Stroudsburg, Easton, Allentown and Philadelphia, the stretch between the last two cities being the longest. Weather and roads were ideal, and the tourists were

greeted by large crowds all along the route. Schools were dismissed and the children cheered the flying cars as they flashed by. As on the first day, Bitner and his Pullman again led the van at the final control, and had there been another prize for the homeward run he would have captured it. To what degree the roads surpassed those on the first day is amply indicated by the score of cars which completed the second leg with clean road records.

The sole accident of the second day was the spilling from the rear of Detwiler's Overland of Chris Meeh, one of the checkers, who was riding on the rear box. The mishap occurred while rounding a curve on the Germantown pike, but Meeh was not injured seriously. Following the arrival

J. A. Kline, Klinekar.....	0	59	59
W. C. Longstreth, Alco.....	0	72	72
W. G. Dyer, Premier.....	0	131	131
G. P. Parker, Palmer-Singer..	117	115	232
Ira L. Brown, Jackson.....	*	..	..
Frank Gamble, Knox.....	*	..	..

Class D—For runabouts listing at \$1,500 and under.

C. C. Fairlamb, Klinekar.....	13	57	70
D. McDermott, Overland.....	15	59	74
A. D. Rea, Maxwell.....	11	85	96
Robert A. Jackson, Mitchell..	12	116	128
John Leonard, Ford.....	49	93	142
Thos. Berger, Warren-Detroit	*	..	..
Louis C. Bloch, Ford.....	*	..	..
Donald Stroud, Parry.....	*	..	..
Chas. C. Blind, Black Crow...	*	..	..

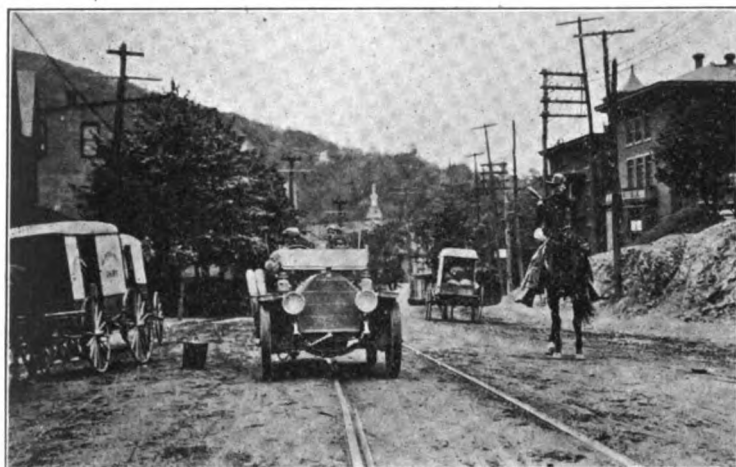
Members' Division No. 3.

		Road	
		Penalizations.	
Fred Dyer, Selden.....	2		

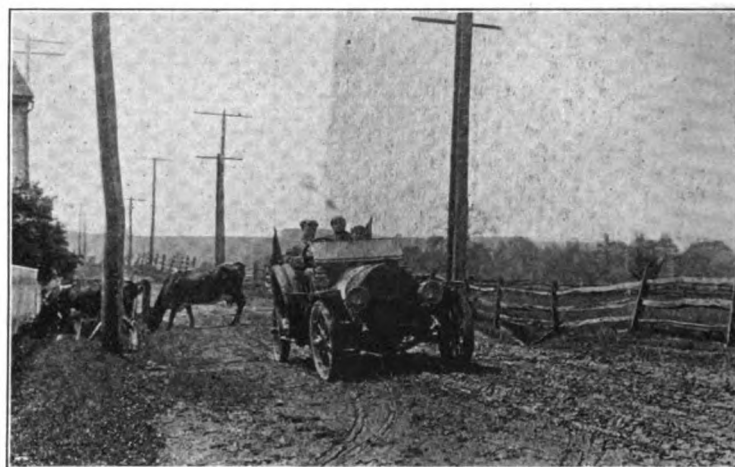
singular sounds by reason of his efforts in support of an amendment to the pending automobile bill in connection with the clause requiring the use of horns of the reed variety exclusively. The added clause carries the stipulation: "Provided, that no horn shall be sounded so as to produce an unreasonable or obnoxious noise." After this amendment had been added to the bill it was passed to be engrossed.

#### Entry Fees that Included Insurance.

Participants in the international reliability trials held in Germany from May 1st to May 5th, over the Berlin-Rothenburg course were insured against all possible accidents. The entry fee included premiums for insurance against death or damages



IN ONE OF THE MOUNTAIN TOWNS



THE VALE ROAD NEAR HAZLETON

of the cars at Norristown, they were placed under guard in garages to await the technical examination. Owing to the large number of cars and the fact that the several brake, gear and clutch tests were conducted in different parts of the city, the technical committee required two days to complete their work.

The results are given below:

Manufacturers' Division No. 1.

Class A—For touring cars listing at \$1,901 and over.

Driver and Car.	Penalizations.		
	Rd.	T'c'l.	T'l.
Charles Youngs, Selden.....	8	30	38
Robert F. Morton, Klinekar..	0	44	44
John Burns, Franklin .....	0	54	54
H. A. Bitner, Pullman.....	0	80	80
Norman Gallatin, Pullman....	0	99	99
Alvin Hall, Matheson.....	*	..	..

Class B—For touring cars listing at \$1,900 and under.

H. E. Walls, Maxwell .....	0	26	26
Edward Wilkie, Buick.....	0	60	60
W. W. Vandegrift, Inter-State	0	67	67
D. F. Templeton, Inter-State..	54	20	74
H. L. Brownback, Enger.....	11	104	115
T. M. Twining, Regal.....	*	..	..
Joseph Coulston, Regal.....	*	..	..
James A. Cherry, Ford.....	*	..	..

Manufacturers' Division No. 2.

Class C—For runabouts listing at \$1,501 and over.

H. P. Hardesty, Pullman.....	0	49	49
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P. V. Hoy, Pierce-Arrow.....	14
J. E. Lee, Cadillac.....	22
W. H. Detwiler, Overland.....	*
Clement Eckrode, Inter-State..	*
W. G. Miller, Chalmers.....	*

\*Withdrawn.

#### Moving on the Long Island Bonifaces.

Having paid his annual call on the New Jersey hotel-keepers, with a train of motorists under his wing, the Motor Contest Association now is preparing to round up another party which he will guide on the usual visit to the bonifaces on Long Island. The "association" has fixed June 14th and 15th as the dates for the visit, which, of course, he styles a reliability contest. The route will be from New York to Montauk Point and return. What is called a "pathfinder" will go over the road to effect the "usual arrangements."

#### Massachusetts Specifies Reed Horns.

For the benefit of those who have been unable to distinguish one variety of motor horn from another, Representative Isaac E. Willets, of the Massachusetts legislature, has thoughtfully provided a triple classification. Horns may be, he says, either plain "honk-honks," of the German band variety or regular "hell-raisers." Representative Willets was moved to this segregation of

caused by drivers of the competing cars, in amounts not exceeding 50,000 marks for the death or damage to a single person, and not exceeding 150,000 marks in case of a catastrophe in which more than one person lost their lives. This insurance started at the moment the car passed the starting line and ceased automatically the instant the finishing line was reached. Drivers could not collect any damages to themselves under this arrangement, but could insure themselves against accident at the starting line, for which purpose agents of the principal insurance companies were present when the cars were lined up. Superstitious persons ought to have dropped out of that race, for not only was the number of participating manufacturers exactly 13, but in each of the three sections there were thirteen starters.

#### Port Jefferson Climb Details.

Entry blanks are out for the first annual hill climb of the Automobile Club of Port Jefferson, L. I., which will be held on Saturday, June 25th, under A. A. A. rules and sanction. The program consists of 15 events and the festivities will begin at 10 a. m. The hill is 2,000 feet in length, with a maximum grade of 15 per cent. and an average of 10, and contesting cars will be allowed a take-off of 400 feet in tackling the incline.

## SPORT MINUS THE DOLLAR SIGN

It Proved Rather Picnicish but the Amateurs Cared Not—How the Long Islands Walloped the Crescents.

While there is no doubt that it fully met the anticipations of some of the participants, the challenge endurance contest between teams of 15 representing the Long Island Automobile Club and the Crescent Athletic Club of Brooklyn, N. Y., was not quite up to the standard which had been fixed by some of those who fancied it would mark

3	Joseph D. Rourk.....	Haynes
5	H. R. Bliss.....	Franklin
7	Alfred Wilmarth.....	Velie
9	Harry Grattan .....	Pope-Hartford
11	Guy Loomis .....	Fiat
13	A. C. Alderman.....	Knox
15	W. C. Colson.....	Stevens-Duryea
19	Charles Werner .....	Locomobile
21	Albert Bryant .....	Willys Six
23	A. W. Swanstrom.....	Chalmers
25	J. P. Disbrow .....	Rainier
27	C. H. Humphries .....	Maxwell
29	M. Spero .....	Pope-Hartford

Crescent A. C. Team.

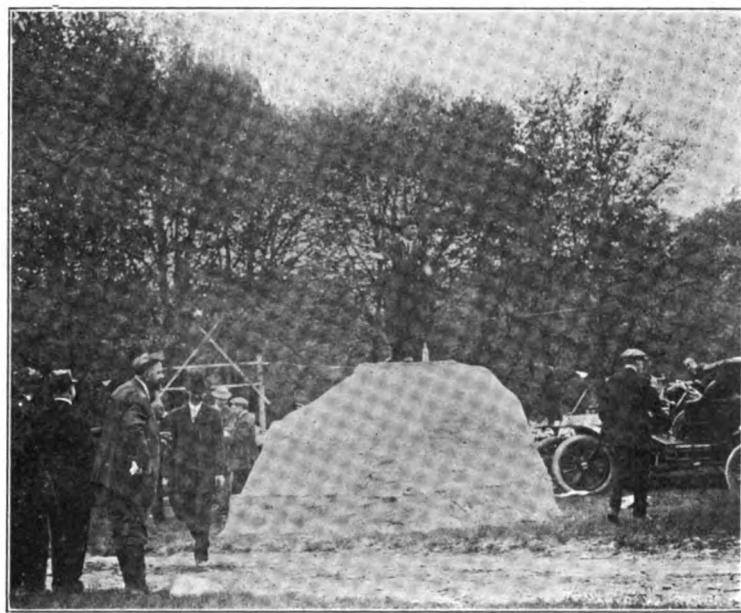
2	A. R. Pardington .....	Chalmers
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it was designed that the contest should not be made strenuous or be taken too seriously, and it was at Blue Point that the first elements of the "good time," which had been projected, entered into the affair. The spread was served under the trees, all being seated on planks supported by beer kegs. After the siphon process had been indulged in to a reasonable degree, two members of the committee mounted the curious concrete protuberance bearing Egyptian hieroglyphics in "Bill" Graham's front yard and attempted conversation, but were snuffed out by a chorus of horns.

The check-out on the noon control occurred at 1.30 p. m. Patchogue, Bellport,



THE LUNCHEON IN THE GROVE AT BLUE POINT



ONE OF THE EFFECTS OF THE LUNCHEON

a beginning of real amateurism and wholesome club rivalry in automobile sport in which the dollar sign would be obscured. The dollar sign happily remained out of sight, but the competitive features were more apparent than real.

The contest, which occurred on Saturday and Sunday last, 21st and 22d inst., was won by the Long Island club, which will retain the Pardington trophy until next year's affair; it must be won twice to insure permanent possession. With a fine regard for something or other or someone or other, it was officially announced that the Long Islands had earned the victory "by an average of 9 to 11½ points per-car," which works out at about 135 to 175 debits. As a number of cars are known to have finished with clean scores, the announced result makes plain that there were others which suffered heavy penalties.

The start was made from Prospect Park plaza in Brooklyn at 8:30 o'clock Saturday morning, the teams being composed as follows:

Long Island A. C. Team.

No.	Name.	Car.
1	F. H. Evans.....	Franklin

4	George E. Brower.....	Franklin
6	J. C. Grady .....	Cadillac
8	J. S. Masterman .....	Chalmers
10	T. N. Whitley .....	Locomobile
12	Foster Crampton .....	Peerless
14	J. J. Stephenson, Jr.....	Peerless
16	Thomas A. Buys.....	Oakland
18	A. W. Blanchard.....	Herreshoff
20	A. P. Palmer.....	Palmer-Singer
22	Chas. V. Bossert.....	Mercedes
24	H. C. Morton.....	Peerless
26	I. C. Kirkham .....	Columbia
28	W. C. Candee.....	Stoddard-Dayton
30	Kingsley Swan .....	Stearns

S. B. Stevens was referee and F. G. Webb, the A. A. A. representative, but it appeared to make no difference whether the contestants were registered in accordance with the A. A. A. rules or that at least seven of them are guilty of the horribly unsportsmanlike offence of being engaged in the automobile trade and therefore could be registered only as professionals. No questions were asked.

The first day's route was from Brooklyn to Riverhead, 140 miles, via Freeport and Babylon, etc., and with the luncheon stop at Blue Point. In snuffing the dollar sign,

Left, Right, Middle, Top, Bottom, Upper, Lower and other intermediate Moriches, Eastport, Speonk, Quogue, Westhampton, Bridgehampton, Easthampton, Southampton, Shinnecock Hills and all the rest were passed through in the rounabout journey to Riverhead, which was reached at 6 p. m. after an afternoon's run of 86.5 miles—a longer drive than Judge Horace Russell of New York could make with any one of his golf clubs, as the motorists informed him in crossing the Shinnecock links.

At Riverhead the opposing forces were quartered at different hotels and the committee in a third house, at the earnest request of the Universal Peace Society. There was another "good time" and a much longer one in the Auditorium, where a smoker was held. The programs were a combination chromo-valentine. There were soubrettes, musical mokes and other things, and "suds" were passed on a tray, and more than one bottle had its neck wrung. A. R. Pardington and "good old" John C. Wetmore, who were "among those present," ended the bill with a brother act, "The Piano movers." Wetmore's happiest thought was: "What's an amateurs schedule when



IN THE SHINNECOCK HILLS COUNTRY



NEARING PATCHOGUE ON FIRST DAY'S RUN

you want a drink?" while Pardington declared he hadn't played a part for nine years, he had been so busy "starting something" for others.

At 10 o'clock all the window shades in the Auditorium had to be lowered by native edict, lest the festivities interfere with the preparation for the Long Island Sabbath. Adjournment finally was taken to the weekly dance at the town hall which proved too small. More room was accordingly secured by pushing out a window; then all seemed happy until 4 a. m., when the oil in the lamps gave out.

Starting back from Riverhead at 9 a. m. Sunday, the party ran a 30-mile gauntlet of thrifty speed constables, who cut out morning church services in the expected interest of town treasuries. Their efforts stopped, though, at the point of expectations, for the tourists devised a wireless code of signals with each other. One contestant, by the way, fell over the back end of his car in gesticulating, and another literally was "soused," which is to say he fell into a stream. There was less distance but more surface the second day. Three hills near Wading River proved the chief tests of the trip, while two more at Port Jefferson were noteworthy. The noon control was at Smithtown, where the crowd had a lot of fun with the ram that Kingsley Swan had bought as a mascot from a nearby farmer. His ramship was speedily equipped with goggles, and those who undertook a job of carrying the "critter" 60 miles in a touring car knew they had performed a day's work.

The morning run of 50.7 miles brought plenty of tire trouble, involving no penalty, some of which caught competitors in soft ground where it was difficult to use a jack. Albert Bryant, in consequence, covered 29 miles in 40 minutes and turned a corner at St. James so quickly that he nearly ran down Mayor Gaynor and the latter's dog. Scenically, Smithtown was gorgeous with miles of yellow flowers that looked like scrambled eggs in blossom.

The afternoon journey was through Centerport, Huntington and Jericho to Krug's Corner—48 miles—making 99 miles for the day, against 140 miles on Saturday. Of course, several of the smaller cars had only a reasonable schedule to reach the controls, but the higher powered ones, instead of covering the 240 miles called for, did 30 to 40 miles extra to avoid standing with engines running.

The judges, L. T. Weiss, L. I. A. C., and W. T. Wintringham, C. A. C., lost no time in figuring the results, and in announcing it in such refreshingly novel fashion that anyone who desires to learn how each performer performed is free to make his own guess. There were several protests regarding the stalling of engines and the taking of short cuts, but the judges nevertheless completed their task before midnight. Everyone who started finished, and the contest abundantly proved at least two things, i. e., that the weather was fine and the roads of Long Island are all right, everything considered. Next year, perhaps, there will be observers who are able to

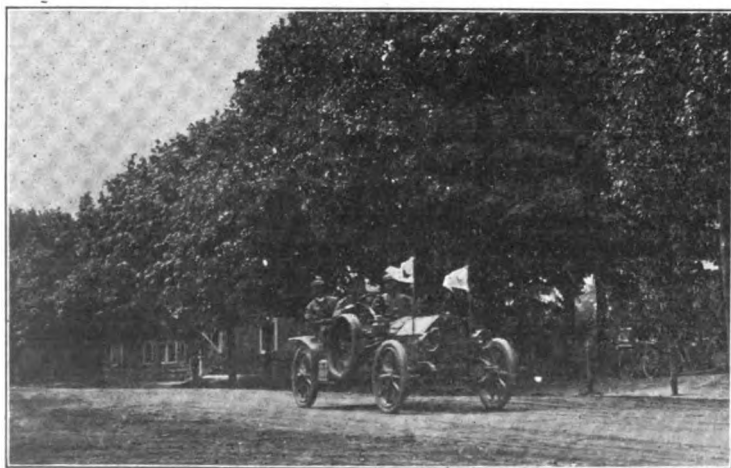
technically "observe"; for while "gentlemen's agreements" are not half-bad they do not fill the bill.

#### Asks Court to Stop Bridgeport Climb.

Fearing that the abnormal automobile traffic which will be directed through the town on that day will be detrimental to the excellent roads which he has constructed at his own expense, Frederick Sturges, a millionaire banker of Fairfield, Conn., has applied for an injunction against the Bridgeport Automobile Dealers' Association to prevent them holding their proposed hill-climb on Snake hill in that town on May 30. Although the contest will not be held on roads built by Sturges, it will be necessary to travel over part of the highways which he has constructed but which are public arteries of travel. His other objections are based on the noise and bustle which will accompany the event and the defacement of the town by the erection of posters advertising it. The dealers are going ahead with their plans.

#### Hundred Miles Added to Grand Prize.

Announcement was made late last week that at a meeting of the Motor Cups Holding Co., which will conduct the Grand Prize race on Long Island on October 15th, that had been decided to lengthen the distance of the race from 278.8 to 379.2 miles—a raise of an extra 100. By this change cars will be required to make 30 circuits of the course instead of 22 as originally scheduled.



ONE OF THE CRESCENTS FLYING FLAGS OF "DEFIANCE."



CLIMBING THE WADING RIVER HILL



## NEW YORK'S NEW LAW IS ENACTED

Much-Amended Callan Bill Finally is Passed  
and Governor Will Sign it—Full  
Text of Measure.

After several months of conference and retinkering, the New York legislature finally passed the Callan automobile bill on Monday last, and as, in its finally amended form, it previously had been submitted to Governor Hughes and he had let it be known that he would sign it when it reaches him, it is certain that on August 1st next it will replace the present generous law which has been in force so many years and which had resisted so many previous efforts to undo it.

The last hitch in the Callan measure, an interjected clause permitting any village to adopt its own traffic regulations, was smoothed out by the elimination of the objectionable requirement, and in general the law is as fair a one as automobilists may reasonably hope to obtain at this time. The fees imposed are unduly high, but the fines are less rigorous and some other stings of the existing act are either reduced or wholly removed.

For the present system of permanent registration, the law substitutes annual registration which must be renewed on the first day of August of each year. Fees are \$5 for 25 horsepower, or less; \$10 for more than 25 and less than 35 horsepower; \$15 for more than 35 and less than 50 horsepower; \$25 for more than 50 horsepower, A. L. A. M. ratings to govern. Vehicles to be used solely for commercial purposes, \$5. On pleasure cars which have paid the registration fee for four years the fees will be one-half of the specified sums. When an owner sells a car the sale must be reported to the secretary of state. On applications for registration filed after January 1st of this year, a reduction of one-half of the fees will be allowed. Fees will be considered in lieu of taxes, general or local, to which motor vehicles may be subject. Non-residents of only such states as exempt New Yorkers from the provisions of their laws, are exempted by the Callan measure, which means that New Jersey men hereafter must "pay up" and carry New York tags. Number plates, the color of which will be changed annually, must be displayed front and rear.

Manufacturers and dealers will pay \$15 a year for a general registration of all their cars, and \$1 additional for each registration plate affixed to such cars. Cars so marked shall not be operated for private use or for hire.

Cities of the first class—New York, Buffalo and Rochester—may fix their own speed regulations without stint, and while other cities and incorporated villages also

are permitted to make such regulations, they cannot require a speed of less than 15 miles per hour; a greater speed over a distance of one-eighth of a mile will be, however, presumptive evidence of careless driving. Elsewhere the speed must be "careful and prudent," but "a rate in excess of 30 miles an hour for a distance of one-fourth of a mile shall be presumptive evidence of driving at a rate of speed which is not careful and prudent." Cities and towns must erect signs showing where their speed limits begin and end..

The chauffeur's license fee is fixed at \$5 annually; his application must be accompanied by his photograph and must be sworn to before a notary public or justice of the peace; he will be provided with a distinctive badge to be worn openly when driving a car; loaning badge to another person, or wearing fictitious badge is punishable by fine of \$50. All chauffeurs must pass an examination and they may be restricted to the operation of a particular type of car.

The progressive or accumulative penalties of the existing law are wiped out by the Callan bill and speed offenses are made "a misdemeanor punishable by a fine not exceeding \$100." Imprisonment and indictment will be no longer possible for such offenses, but one of the late amendments to the law provides that conviction for any offense shall not constitute a bar to a prosecution for an assault or homicide committed by any person in operating a motor vehicle. Chauffeurs—who are defined as persons operating cars "as employees or for hire," which would seem to include salesmen and possibly branch managers as well as professional drivers—may, however, have their licenses revoked for third or subsequent offenses, and owners and chauffeurs alike will have their registrations and license certificates, respectively, revoked for intoxication or for not stopping in case of accident, the latter offense constituting a felony. But such suspension or revocation is conditional on the recommendation of the trial court, thus wisely giving the technical offender a chance for mercy.

The full text of the bill as finally passed is as follows:

Sec. 1. Chapter thirty of the laws of nineteen hundred and nine, entitled "An act relating to highways, constituting chapter twenty-five of the consolidated laws," is hereby amended by repealing article eleven thereof and by inserting therein a new article, to be article eleven thereof, to read as follows:

#### ARTICLE 11. MOTOR VEHICLES.

- Sec. 280. Application of article.  
281. Definitions.  
282. Registration of motor vehicles; age of operator; fees; renewals.  
283. Distinctive numbers; form of number plates.  
284. Registration by manufacturers and dealers; reregistration.  
285. Exemption of nonresident owners.  
286. Signaling and other devices; signals; rules of the road.  
287. Speed permitted.  
288. Local ordinances prohibited.  
289. Registration of chauffeurs; renewals.  
290. Punishment for violation; procedure.  
291. Disposition of registration fees; fines and penalties.

#### 292. Rates of toll on motor vehicles.

#### 293. Acts repealed.

Sec. 280. Application of article. Except as herein otherwise expressly provided, this article shall be exclusively controlling:

1. Upon the registration, numbering and regulation of motor vehicles, and the licensing and the regulation of chauffeurs;
2. On their use of the public highways, and
3. On the accessories used upon motor vehicles and their incidents and the speed of motor vehicles upon the public highways;
4. On the punishment for the violation of any of the provisions of this article.

Sec. 281. Definitions. The term "motor vehicle" as used in this article, except where otherwise expressly provided, shall include all vehicles propelled by any power other than muscular power, except motor bicycles, motor cycles, traction engines, road rollers, fire wagons and engines, police patrol wagons, ambulances and such vehicles as run only upon rails or tracks. The term "local authorities" shall include all officers of counties, cities, boroughs, towns or villages, as well as all boards, committees and other public officials of such counties, cities, boroughs, towns or villages. The term "chauffeur" shall mean any person operating or driving a motor vehicle as an employee or for hire. The term "state" as used in this article, except where otherwise expressly provided, shall also include the territories and the federal districts of the United States. The term "owner" shall also include any person, firm, association or corporation renting a motor vehicle or having the exclusive use thereof, under a lease or otherwise, for a period greater than thirty days. The term "public highway" shall include any highway, county road, state road, public street, avenue, alley, park, parkway or public place in any county, city, borough, town or village, except any speedway which may have been or may be expressly set apart by law for the exclusive use of horses and light carriages.

Sec. 282. Registration of motor vehicles; age of operator; fees; renewals. 1. Registration by owners. Every owner of a motor vehicle which shall be operated or driven upon the public highways of this state shall, except as herein otherwise expressly provided, cause to be filed, by mail or otherwise, in the office of the secretary of state a verified application for registration on a blank to be furnished by the secretary of state for that purpose, containing: (a) A brief description of the motor vehicle to be registered, including the name of the manufacturer and factory number of such vehicle, the character and amount of the motive power stated in figures of horse power in accordance with the rating established by the Association of Licensed Automobile Manufacturers; (b) the name, residence, including county and business address, of the owner of such motor vehicle; (c) provided that, if such motor vehicle is used or to be used solely for commercial purposes, the applicant shall so certify.

2. Age of operator. No person shall operate or drive a motor vehicle who is under eighteen years of age, unless such person is accompanied by a duly licensed chauffeur or the owner of the motor vehicle being operated.

3. Registration book. Upon the receipt of an application for registration of a motor vehicle, as provided in this article, the secretary of state shall file such application in his office and register such motor vehicle or vehicles, with the name, residence and business address of the owner, manufacturer or dealer as the case may be, together with the facts stated in such application, in a book or index to be kept for the purpose, under the distinctive number assigned to such motor vehicle by the secretary of state, which book or index shall be open to public inspection during reasonable business hours.

4. Certificate of registration. Upon the filing of such application and the payment of the fee herein-after provided, the secretary of state shall assign to such motor vehicle a distinctive number and, without expense to the applicant, issue and deliver to the owner a certificate of registration, in such form as the secretary of state shall prescribe, and two number plates. In the event of the loss, mutilation or destruction of any certificate of registration, number plate, license or badge, the owner of a registered motor vehicle or manufacturer, or dealer, or chauffeur, as the case may be, may obtain from the secretary of state a duplicate thereof upon filing in the office of the secretary of state an affidavit showing such fact and the payment of a fee of one dollar.

5. Times for registration and reregistration. Registration applied for on or before August first, nineteen hundred and ten, shall take effect on that date and certificates issued on such application or under any application made prior to January thirty-first, nineteen hundred and eleven, shall expire on the latter date. The fees for such registration shall be one-half of the annual fees provided herein. Registration thereafter shall be renewed annually in the same manner and upon payment of the same annual fee as provided in this section for registration, to take effect on the first day of February in each year beginning with such date in the year nineteen hundred and eleven; and the certificates of registration issued thereunder or issued between any such dates shall expire on the succeeding thirty-first day of January.

6. Registration fees. The following fees shall be paid to the secretary of state upon the registration or reregistration of a motor vehicle in accordance with the provisions of this article: Five dollars upon the registration of a motor vehicle having a rating of twenty-five horsepower or less; ten dollars upon the registration of a motor vehicle having a rating of more than twenty-five horsepower and less than thirty-five horsepower; fifteen dollars upon the regis-



tration of a motor vehicle having a rating of thirty-five horsepower and less than fifty horsepower; twenty-five dollars upon the registration of a motor vehicle having a rating of fifty horsepower or more; provided that if a motor vehicle other than one used solely for commercial purposes shall have been licensed for four separate years hereunder and for which there shall have been paid the annual registration fees herein provided during said period, the annual registration fees thereafter shall be one-half the amount; and further provided that for motor vehicles which are used or to be used solely for commercial purposes, the fee for such registration shall be five dollars.

7. Fees in lieu of taxes. The registration fees imposed by this article upon motor vehicles, other than those of manufacturers and dealers and those used solely for commercial purposes, shall be in lieu of all taxes, general or local, to which motor vehicles may be subject.

8. Sale and registration by vendee. Upon the sale or transfer of a motor vehicle registered in accordance with this section, the vendor shall immediately give notice thereof with the name and residence of the vendee to the secretary of state, and the vendee shall, within ten days after the date of such sale or transfer, notify the secretary of state thereof upon a blank furnished promptly by him for that purpose, stating the name and business address of the previous owner, if known, the number under which such motor vehicle is registered and the name, residence, including county and business address, of the vendee. Upon filing such statement duly verified such vendee shall pay to the secretary of state a fee of one dollar, and upon receipt of such statement and fee the secretary of state shall file such statement in his office and note upon the registration book or index such change in ownership.

9. Upon the sale of a motor vehicle by the manufacturer or dealer the vendee shall be allowed to operate the same upon the public highways for a period of fifteen days after taking possession thereof or until he shall have received his certificate of registration and number plates from the secretary of state, providing that during such period the motor vehicle shall have attached thereto, in accordance with the provisions hereof, a placard bearing the registration number of the dealer under which it might previously have been operated, and provided further, that application for registration shall be made by mail or otherwise before such vehicle shall be so used.

Sec. 283. Distinctive number; form of number plates. 1. Distinctive number must be carried on motor vehicles. No person shall operate or drive a motor vehicle on the public highways of this state after the first day of August, nineteen hundred and ten, unless such vehicle shall have a distinctive number assigned to it by the secretary of state and a number plate with a number corresponding to that of the certificate of registration conspicuously displayed, one on the front and one on the rear of such vehicle, each securely fastened so as to prevent the same from swinging.

2. Number plates to be changed annually. Such number plates shall be of a distinctly different color each year, and there shall be at all times a marked contrast between the color of the number plates and that of the numerals or letters thereon.

3. Form of number plate. Such number plate shall be of metal, at least six inches wide and not less than fifteen inches in length, on which there shall be the initials "N. Y.," and there shall be the distinctive number assigned to the vehicle set forth in numerals four inches long, each stroke of which shall be at least five-eighths of an inch in width; provided that in the case of a motor vehicle registered by a manufacturer or dealer there shall be on such plate in addition to the foregoing the letter "M," each stroke of such letter to be at least four inches long and five-eighths of an inch in width. No vehicle shall display the number plates of more than one state at any time.

Sec. 284. Registration by manufacturers and dealers; reregistration. 1. Registration by manufacturers and dealers. Every person, firm, association or corporation manufacturing or dealing in motor vehicles may, instead of registering each motor vehicle so manufactured or dealt in, make a verified application upon a blank to be furnished by the secretary of state for a general distinctive number for all the motor vehicles owned or controlled by such manufacturer or dealer, such application to contain: (a) A brief description of each style or type of motor vehicle manufactured or dealt in by such manufacturer or dealer, including the character of the motor power, the amount of such motor power stated in figures of horsepower in accordance with the rating established by the Association of Licensed Automobile Manufacturers; and (b) the name, residence, including county and business address, of such manufacturer or dealer. On the payment of the registration fee of fifteen dollars such application shall be filed and registered in the office of the secretary of state in the manner provided in section two hundred and eighty-two of this article. There shall thereupon be assigned and issued to such manufacturer or dealer a general distinctive number and without expense to the applicant issued and promptly delivered to such manufacturer or dealer a certificate of registration in such form as the secretary of state shall prescribe, and a number plate with a number corresponding to the number of such certificate of registration. Such number plate or a duplicate thereof shall be displayed by every motor vehicle of such manufacturer or dealer when the same is operated or driven on the public highways. Such manufacturer or dealer may obtain as many duplicates of

such number plates as may be desired upon payment to the secretary of state of one dollar for each duplicate. Nothing in this subdivision shall be construed to apply to a motor vehicle operated by a manufacturer or dealer for private use or for hire.

2. Reregistration annually. Such registration shall be renewed annually in the same manner and on the payment of the same fee as provided in this section for original registration, such renewal to take effect on the first day of February of each year. Provisions of subdivision four of section two hundred and eighty-two, relating to first registrations made under this article and duration of renewals, shall apply to registration under this section.

Sec. 285. Exemption of nonresident owners. The provisions of the foregoing sections relative to registration and display of registration numbers shall not apply to a motor vehicle owned by a nonresident of this state, other than a foreign corporation doing business in this state, provided that the owner thereof shall have complied with the provisions of the law of the foreign country, state, territory or federal district of his residence relative to registration of motor vehicles and the display of registration numbers thereon, and shall conspicuously display his registration numbers as required thereby. The provisions of this section, however, shall be operative as to a motor vehicle owned by a nonresident of this state only to the extent that under the laws of the foreign country, state, territory or federal district of his residence like exemptions and privileges are granted to motor vehicles duly registered under the laws of and owned by residents of this state.

Sec. 286. Signaling and other devices; signals; rules of the road. 1. Brakes, horns and lamps, signaling at crossings. Every motor vehicle, operated or driven upon the public highways of this state, shall be provided with adequate brakes in good working order and sufficient to control such vehicle at all times when the same is in use, and a suitable and adequate bell, horn or other device for signaling, and shall, during the period from one-half hour after sunset to one-half hour before sunrise, display at least two lighted lamps on the front and one on the rear of such vehicle, which shall also display a red light visible from the rear. The rays of such rear lamp shall shine upon the number plate carried on the rear of such vehicle in such manner as to render the numerals thereon visible for at least fifty feet in the direction from which the motor vehicle is proceeding. The light of the front lamps shall be visible at least two hundred feet in the direction in which the motor vehicle is proceeding. Every person operating or driving a motor vehicle on the public highways of this state shall also, when approaching a crossroad outside the limits of a city or incorporated village, slow down the speed of the same and shall sound his bell, horn or other device for signaling in such a manner as to give notice and warning of his approach.

2. Stopping on signal, and other regulations. A person operating or driving a motor vehicle shall, on signal by raising the hand, from a person riding, leading or driving a horse or horses or other draft animals, bring such motor vehicle immediately to a stop, and, if traveling in the opposite direction, remain stationary so long as may be reasonable to allow such horse or animal to pass, and, if traveling in the same direction, use reasonable caution in thereafter passing such horse or animal; provided that, in case such horse or animal appears badly frightened or the person operating such motor vehicle is so signaled to do, such person shall cause the motor of such vehicle to cease running so long as shall be reasonably necessary to prevent accident and insure the safety of others. In approaching or passing a car of a street railway which has been stopped to allow passengers to alight or embark, the operator of every motor vehicle shall slow down and if it be necessary for the safety of the public he shall bring said vehicle to a full stop. Upon approaching a pedestrian who is upon the traveled part of any highway and not upon a sidewalk, and upon approaching an intersecting highway or a curve or a corner in a highway where the operator's view is obstructed, every person operating a motor vehicle shall slow down and give a timely signal with his bell, horn or other device for signaling.

3. Rules of the road. Whenever a person operating a motor vehicle shall meet on a public highway any other person riding or driving a horse or horses or other draft animals or any other vehicle, the person so operating such motor vehicle shall seasonably turn the same to the right of the center of such highway so as to pass without interference. Any such person so operating a motor vehicle shall, on overtaking any such horse, draft animal or other vehicle, pass on the left side thereof, and the rider or driver of such horse, draft animal or other vehicle shall, as soon as practicable, turn to the right so as to allow free passage on the left. Any such person so operating a motor vehicle shall, at the intersection of public highways, keep to the right of the intersection of the centers of such highways when turning to the right and pass to the right of such intersection when turning to the left.

Sec. 287. Speed permitted. Every person operating a motor vehicle on the public highway of this state shall drive the same in a careful and prudent manner and at a rate of speed so as not to endanger the property of another or the life or limb of any person; provided, that a rate of speed in excess of thirty miles an hour for a distance of one-fourth of a mile shall be presumptive evidence of driving at a rate of speed which is not careful and prudent.

Sec. 288. Local ordinances prohibited. Except as herein otherwise provided, local authorities shall have no power to pass, enforce or maintain any ordi-

nance, rule or regulation requiring from any owner or chauffeur to whom this article is applicable any tax, fee, license or permit for the use of the public highways, or excluding any such owner or chauffeur from the free use of such public highways, excepting such driveway, speedway or road as has been or may be expressly set apart by law for the exclusive use of horses and light carriages or in any other way respecting motor vehicles or their speed upon or use of the public highways; and no ordinance, rule or regulation contrary to or in anywise inconsistent with the provisions of this article, now in force or hereafter enacted, shall have any effect; provided, however, that the power given to local authorities to regulate vehicles offered to the public for hire, and processions, assemblages or parades in the streets or public places, and all ordinances, rules and regulations which may have been or which may be enacted in pursuance of such powers shall remain in full force and effect; and provided, further, that local authorities may set aside for a given time a specified public highway for speed contests or races, to be conducted under proper restrictions for the safety of the public; and provided, further, that local authorities may exclude motor vehicles from any cemetery or grounds used for the burial of the dead, and may by general rule, ordinance or regulation exclude motor vehicles used solely for commercial purposes from any park or part of a park system where such general rule, ordinance or regulation is applicable equally and generally to all other vehicles used for the same purposes, and provided further that nothing in this article contained shall impair the validity or effect of any ordinances, regulating the speed of motor vehicles, or of any traffic regulations with regard to the operation of motor vehicles, heretofore or hereafter made, adopted or prescribed pursuant to law in any city of the first class; provided, further, that the local authorities of other cities and incorporated villages may limit by ordinance, rule or regulation the speed of motor vehicles on the public highways, such speed limitation not to be in any case less than one mile in four minutes, and the maintenance of a greater rate of speed for one-eighth of a mile shall be presumptive evidence of driving at a rate of speed which is not careful and prudent, and on further condition that each city or village shall have placed conspicuously on each main public highway where the city or village line crosses the same and on every main highway where the rate of speed changes, signs of sufficient size to be easily readable by a person using the highway, bearing the words, "City of \_\_\_\_\_" or "Incorporated village of \_\_\_\_\_," "Slow down to \_\_\_\_\_ miles" (the rate being inserted), and also an arrow pointing in the direction where the speed is to be reduced or changed, and also on further condition that such ordinance, rule or regulation shall fix the punishment for violation thereof, which punishment shall, during the existence of the ordinance, rule or regulation, supersede those specified in subdivision two of section two hundred and ninety of this chapter but, except in cities of the first class, shall not exceed the same. Official copies of all local ordinances passed under the provisions of this subdivision shall be filed with the secretary of state at least thirty days before they shall respectively take effect and all such local ordinances shall be printed in pamphlet form and issued at regular intervals by the secretary of state.

Sec. 289. License of chauffeurs; renewals. 1. License of chauffeurs. Application for license to operate motor vehicles, as a chauffeur, may be made, by mail or otherwise, to the secretary of state or his duly authorized agent upon blanks prepared under his authority. The secretary of state shall appoint examiners and cause examinations to be held at convenient points throughout the state as often as may be necessary. Such applications shall be accompanied by a photograph of the applicant in such numbers and forms as the secretary of state shall prescribe, said photograph to be taken within thirty days prior to the filing of said application and to be accompanied by the fee provided herein. Before such a license is granted the applicant shall pass such examination as to his qualifications as the secretary of state shall require, and no license shall be issued until the secretary of state or his authorized agent is satisfied that the applicant is a proper person to receive it. No chauffeur's license shall be issued to any person under eighteen years of age. To each person shall be assigned some distinguishing number or mark, and the license issued shall be in such form as the secretary of state shall determine; it may contain special restrictions and limitations concerning the type of motor power, horsepower, design and other features of the motor vehicles which the licensee may operate; it shall contain the distinguishing number or mark assigned to the licensee, his name, place of residence and address, a brief description of the licensee for the purpose of identification and the photograph of the licensee. Such distinctive number or mark shall be of a distinctly different color each year and in any year shall be of the same color as that of the number plates issued for that year. The secretary of state shall furnish to every chauffeur so licensed a suitable metal badge with the distinguishing number or mark assigned to him thereon without extra charge therefore. This badge shall thereafter be worn by such chauffeur pinned upon his clothing in a conspicuous place, at all times while he is operating or driving a motor vehicle upon the public highways. Said badge shall be valid only during the term of the license of the chauffeur to whom it is issued as aforesaid. Every person licensed to operate motor vehicles as aforesaid shall indorse his usual signature on the margin of the license, in the space pro-

vided for the purpose, immediately upon receipt of said license, and such license shall not be valid until so indorsed. Every application for license filed under the provisions of this section shall be sworn to and shall be accompanied by a fee of five dollars. The license hereunder granted on or before August first, nineteen hundred and ten, shall take effect on that date, and licenses issued prior to January thirty-first nineteen hundred and eleven, shall expire on that date. The fees for such license shall be one-half of the annual fees provided herein.

2. Chauffeurs' licensed registration book. Upon the receipt of such an application, the secretary of state shall thereupon file the same in his office, and register the applicant in a book or index which shall be kept in the same manner as the book or index for the registration of motor vehicles, and when the applicant shall have passed the examination provided for in the preceding section, the number or mark assigned to such applicant together with the fact that such applicant has passed such examination shall be noted in said book or index.

3. Unauthorized possession or use of license or badge. No chauffeur having been licensed as herein provided shall voluntarily permit any other person to possess or use his license or badge, nor shall any person while operating or driving a motor vehicle use or possess any license or badge belonging to another person, or a fictitious license or badge.

4. Unlicensed chauffeurs cannot drive motor vehicle. No person shall operate or drive a motor vehicle as a chauffeur upon a public highway of this state after the first day of August, nineteen hundred and ten, unless such person shall have complied in all respects with the requirements of this section; provided, however, that a nonresident chauffeur, who has registered under provisions of law of the foreign country, state, territory or federal district of his residence substantially equivalent to the provisions of this section, shall be exempt from license under this section; and provided, further, he shall wear the badge assigned to him in the foreign country, state, territory or federal district of his residence in the manner provided in this section.

5. Renewal. Such license shall be renewed annually upon the payment of the same fee as provided in this section for the original license, such renewal to take effect on the first day of February of each year.

Sec. 290. Punishment for violation; procedure. 1. The violation of any of the provisions of sections two hundred and eighty-two, two hundred and eighty-three and two hundred and eighty-four of this article shall constitute a misdemeanor punishable by a fine not exceeding fifty dollars.

2. The violation of any of the provisions of section two hundred and eighty-seven of this article shall constitute a misdemeanor punishable by a fine not exceeding one hundred dollars.

3. Punishment for operating motor vehicle while in an intoxicated condition; for going away without stopping after accident and making himself known. Whoever operates a motor vehicle while in an intoxicated condition shall be guilty of a misdemeanor. Any person operating a motor vehicle who, knowing that injury has been caused to a person or property, due to the culpability of the said operator, or to accident, leaves the place of said injury or accident, without stopping and giving his name, residence, including street and street number, and operator's license number to the injured party, or to a police officer, or in case no police officer is in the vicinity of the place of said injury or accident, then reporting the same to the nearest police station, or judicial officer, shall be guilty of a felony punishable by a fine of not more than five hundred dollars or by imprisonment for a term not exceeding two years, or by both such fine and imprisonment; and if any person be convicted a second time of either of the foregoing offenses, he shall be guilty of a felony punishable by imprisonment for a term of not less than one year and not more than five years. A conviction of a violation of this subdivision shall be reported forthwith by the trial court or the clerk thereof to the secretary of state, who shall upon recommendation of the trial court suspend the license of the person so convicted or if he be an owner the certificate of registration of his motor vehicle and, if no appeal therefrom be taken, or if an appeal duly taken be dismissed, or the judgment affirmed, and upon notice thereof by said clerk, the secretary of state shall revoke such license or in the case of an owner the certificate of registration of his motor vehicle, and shall order the license or certificate of registration delivered to the secretary of state, and shall not reissue to him said license or certificate of registration or any other license or certificate of registration unless the secretary of state in his discretion, after an investigation or upon a hearing, decides to reissue or issue such license or certificate.

4. Any chauffeur operating a motor vehicle while his license is suspended or revoked shall be guilty of a misdemeanor.

5. Any person who operates any motor vehicle while a certificate of registration of motor vehicle issued to him is suspended or revoked shall be guilty of a misdemeanor.

6. Upon a third or subsequent conviction of a chauffeur for a violation of the provisions of section two hundred and eighty-seven, or an ordinance, rule or regulation regulating speed of motor vehicles under section two hundred and eighty-eight, the secretary of state, upon the recommendation of the trial court, shall forthwith revoke the license of the person so convicted and no new license shall be issued to such person for at least six months after the date of such conviction nor thereafter except in

the discretion of the said secretary of state.

7. The violation of any of the provisions of section two hundred and eighty-nine of this article shall constitute a misdemeanor punishable by a fine not exceeding fifty dollars.

8. Any person making a false statement in the verified application for registration shall be guilty of a misdemeanor punishable by a fine of not exceeding fifty dollars.

9. Any person violating any of the provisions of any section of this article for which violation no punishment has been specified, shall be guilty of a misdemeanor punishable by a fine of not exceeding twenty-five dollars.

10. Certifying conviction to the secretary of state. Upon the conviction of any person for a violation of any of the provisions of this article the trial court or the clerk thereof shall immediately certify the facts of the case, including the name and address of the offender, the judgment of the court and the sentence imposed, to the secretary of state, who shall enter the same either in the book or index of registered motor vehicles or in the book or index of registered chauffeurs, as the case may be, opposite the name of the person so convicted, and in the case of any other person, in a book or index of offenders to be kept for such purpose. If any such conviction shall be reversed upon appeal therefrom, the person whose conviction has been so reversed may serve on the secretary of state a certified copy of the order of reversal, whereupon the secretary of state shall enter the same in the proper book or index in connection with the record of such conviction.

11. Release from custody, bail, etc. In case any person shall be taken into custody charged with a violation of any of the provisions of this article, he shall forthwith be taken before the nearest magistrate, captain, lieutenant, clerk of the court or acting lieutenant who shall have the power of a magistrate and be entitled to an immediate hearing or admission to bail, and if such hearing cannot then be had, he shall be released from custody on giving a bond or undertaking, executed by a fidelity or surety company authorized to do business in this state, or other bail in the form provided by section five hundred and sixty-eight of the code of criminal procedure, such bond or undertaking to be in an amount not exceeding one hundred dollars, if the charge be for a misdemeanor, for his appearance to answer for such violation at such time and place as shall then be indicated. In case a person is taken into custody charged with being guilty of a felony in violation of any of the provisions of this article, such bond or undertaking shall be in an amount not less than one thousand dollars. On giving his personal undertaking to appear to answer any such violation at such time and place as shall then be indicated, secured by the deposit of a sum of money equal to the amount of such bond or undertaking, or in lieu thereof, in case the person taken into custody is the owner, by leaving the motor vehicle, or in case such person taken into custody is not the owner, by leaving the motor vehicle as herein provided with a written consent given at the time by the owner who must be present, with such officer; or in case such person is taken into custody because of a violation of any of the provisions of this article other than on a charge of violating any of the provisions of subdivision three of section two hundred and ninety and such officer is not accessible, he shall forthwith released from custody on giving his name and address to the person making the arrest and depositing with such arresting officer the sum of one hundred dollars, or in lieu thereof, in case the person taken into custody is the owner, by leaving the motor vehicle, or, in case such person taken into custody is not the owner, by leaving the motor vehicle with a written consent at the time by the owner who must be present; provided that, in any such case, the officer making the arrest shall give a receipt in writing for such sum or vehicle deposited and notify such person to appear before the most accessible magistrate, describing him, and specifying the place and hour. In case such bond or undertaking shall not be given or deposit made by the owner or other person taken into custody, the provisions of law in reference to bail, in cases of misdemeanor, shall apply. Where the charge is a violation of subdivision three of section two hundred and ninety of this article, the provisions of law in reference to bail in cases of a misdemeanor or a felony as the case may be shall apply exclusively.

12. Holding defendant to answer where magistrate has no jurisdiction to try offender; admitting to bail. In case the magistrate before whom any person shall be taken, charged with the violation of any provision of this article, shall not have jurisdiction to try the defendant, but shall hold the defendant to answer as provided by section two hundred and eighty of the code of criminal procedure, he shall admit such defendant to bail upon his giving a surety company's bond or undertaking to appear to answer for such violation at such time and place as shall then be indicated, or upon his giving a written undertaking in the form provided in section five hundred and sixty-eight of the code of criminal procedure in a sum not exceeding one hundred dollars, except that in a case where the defendant is charged with a violation of any of the provisions of subdivision three of section two hundred and ninety of this article, the provisions of law in reference to bail in cases of a misdemeanor or a felony as the case may be shall apply exclusively.

13. Disposition and return of bail. Such bail as may be deposited as herein provided shall be held by the officer accepting the same or the clerk of the

court. Upon the person who has been taken into custody and given security or bail for his appearance surrendering himself for trial and upon the conclusion of such trial the court shall issue to the defendant an order upon the magistrate or clerk of the court or other officer authorized to accept bail to return or deliver back said security or bail as was given.

14. A conviction of violation of any provision of this article shall not be a bar to a prosecution for an assault or for a homicide committed by any person in operating a motor vehicle.

Sec. 291. Disposition of registration fees; fines and penalties. 1. The registration fees provided herein shall be paid by the secretary of state into the state treasury.

2. Disposition of fines and penalties. On the first day of each month or within ten days thereafter all fines, penalties or forfeitures collected for violations of any of the provisions of this article or of any act in relation to the use of the public highways by motor vehicles now in force or hereafter enacted, under the sentence or judgment of any court, judge, magistrate or other judicial officer having jurisdiction in the premises, shall be paid over by such court, judge, magistrate or other judicial officer to the treasurer of the state, with a statement accompanying the same, setting forth the action or proceeding in which such moneys were collected, the name and residence of the defendant, the nature of the offense, and the fine, penalty, sentence or judgment imposed. On the first day of each month or within ten days thereafter, every judge, magistrate or clerk of a court having jurisdiction of the violation of any of the provisions of this article, shall make and forward to the treasurer of the state, a verified report of all criminal actions or proceedings instituted or tried before him or it during the preceding calendar month for violation of any of the provisions of this article, which report shall set forth the name and address of the defendants, the nature of the offenses and the fines and penalties collected or imposed by such court, judge, magistrate or judicial officer, which report shall be open to inspection during reasonable business hours to any citizen of the state. On or before the first day of February of each year, the treasurer shall transmit to each branch of the legislature a statement showing the amount of the receipts under this article during the preceding fiscal year paid into the state treasury.

3. All moneys paid into the state treasury pursuant to this article shall be appropriated and used for the maintenance and repair of the improved roads of the state, under the direction of the state commission of highways.

Sec. 292. Rates of toll on motor vehicles. Where a different rate is not otherwise prescribed or permitted by law, any person or corporation maintaining a plankroad, turnpike or bridge and authorized, or which shall be hereafter authorized, to receive tolls for the passage of vehicles over the same, may charge and receive for each and every motor vehicle propelled by any power other than animal power, passing over the same, a toll rate not greater than the maximum rate allowed by law to be charged and received for the passage of a vehicle drawn over such road or bridge by two animals, provided that for such motor vehicles designed to carry only two persons the rate of toll charged or received shall not exceed the maximum rate allowed by law to be charged and received for the passage of a vehicle drawn over such road or bridge, without a load, by a single animal.

Sec. 293. Acts repealed. All acts or parts of acts inconsistent with this article or contrary thereto are hereby expressly repealed.

Sec. 2. This act shall take effect August first, nineteen hundred and ten, excepting that applications for registration may be made, examinations held and number plates, licenses and badges issued, at any time within ninety days prior to the time of the taking effect of this article.

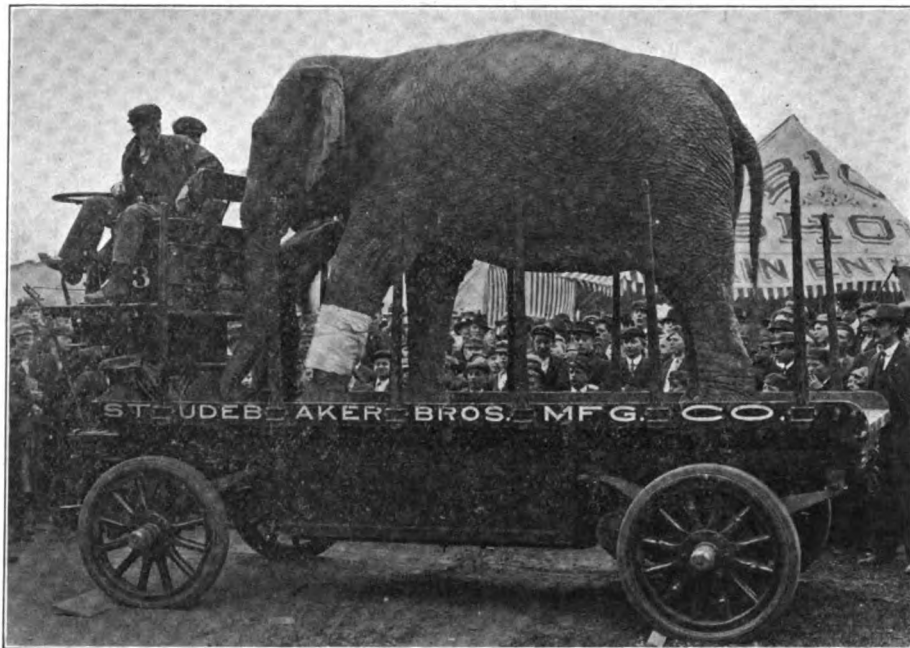
### Brooklyn Horse-Trot Bill Slips Through.

Although the automobilists managed to block the original sneak bill of the Brooklyn "horse-trotters" to have part of Coney Island boulevard set aside for their permanent use, they were not as successful when a second attempt was made. In some mysterious manner, the Cullen-Goodspeed bill was slipped through the committee without a public hearing of any sort, and, unbeknown to most of those who were opposed to it, passed by the legislature. An effort is to be made to defeat it, however, on the occasion of a hearing which shortly will be held before Mayor Gaynor in New York City, at which the automobile interests will be adequately represented, Alex. Schwalbach, a veteran campaigner, having taken up the matter and made arrangements for the proceedings.

## WHEN "TILLY" SPRAINED HER ANKLE

It Gave the Automobile Another Chance to Prove its Utility—And "Tilly" Was no Featherweight.

While motor ambulances for horses have been in use for some time in New York and other large cities, for obvious reasons there has never been any necessity for installing elephant ambulances. A Studebaker electric truck, therefore, has the distinction of being the only vehicle which ever has played



"TILLY" EN ROUTE TO THE VETERINARY

the part—that is, which has transported a four-ton elephant over ordinary streets. During a visit of the Robinson Bros.' circus to Ohio, a heavily loaded wagon got stuck in the mud, and "Tilly," a big elephant belonging to the show, was requisitioned to push the wagon out of the deep mud. She had the misfortune to strain a tendon in her left foot and required medical assistance. The nearest veterinary's hospital was at South Bend, Ind., the next stopping place of the circus, and a Studebaker truck was ordered to be at the station ready to convey the injured pachyderm to the veterinary's office. The accompanying photograph shows "Tilly" in the "ambulance" leaving the grounds for the veterinary's office.

### "Excursion Rates" on the Motor Parkway.

Saturday, May 28, will witness the opening of another section of the Long Island Motor Parkway. The portion which now is offered to the motoring public extends westward from the Meadow Brook Lodge to the Jericho turnpike, about one-half mile east of Krug's Corner. The new road surface is different from that used on the other portions of the parkway, being resil-

ient and lively. It has an asphaltic surface, mixed with clean screened sand and gravel. This mixture is laid on a concrete foundation four inches in thickness. Nearly all the curves on the old sections of the parkway also have been treated with this new covering. For the use of the parkway on Saturdays and Sundays a special excursion rate of \$1 has been established.

### Improved Ferry Service Inaugurated.

The automobile ferry service between Rye, N. Y., and Sea Cliff, L. I., across Long Island Sound, which proved so popular last

year, was inaugurated on May 15th for the 1910 season. The large ferryboat Hoboken, belonging to the Lackawanna railroad, will be operated over this route, and will provide room enough for fifty large cars per trip, thus assuring motorists against being left on the dock.

### When Exceeding Speed Limit is Excusable.

Although admitting that she was going faster than the law allowed, Miss Muriel Spencer, of New York City, was freed by Magistrate Barlow in the West Side court. Miss Spencer explained that she was taking a trained nurse to her mother, who suddenly had been taken ill, and that the road was clear of traffic. The court considered the excuse given satisfactory.

### The Most Populous Motor Town.

The town of Onida, S. D., claims the honor of owning a greater number of automobiles to the number of population than any other town in the country. The town has but a population of 250, women and children included, and yet there are 26 motor cars owned by its residents. The farmers in the remaining part of the county (Sully) own as many more.

## WOMAN BUYER WHO UNDOID THE BOSS

The Boss, He "Took it Out" on the Salesman—The Sad Story of the Loss of Seven Hundred Dollars.

At least one woman in New York City is \$700 to the good through buying a used car from the proprietor of the concern instead of from the salesman who originally showed it to her and got her positive order for it. The machine was of the large, expensive type, and on her first visit the woman was sufficiently impressed with it to order it set aside for her until she could come in with the money for it, the price which the salesman named having been entirely satisfactory. On her second visit she was met by the proprietor himself, who, in the absence of the salesman with whom she had dealt, undertook to close the bargain.

With true feminine intuition in bargaining, she again asked the price, without indicating that a figure had been named before. The proprietor, whose success in the second-hand field largely has been due to his quick turnovers, named a rockbottom price that gave him only a modest profit and was \$700 less than what she had agreed to give when negotiating with his salesman. She promptly paid over the cash and took possession of the machine.

When the situation subsequently became known to both the salesman and the proprietor, the latter did not accuse himself of a mistake or indicate that the salesman was better at getting a good price than himself. What he did was to give the salesman a warm "laying out" for not being "on the job" when the woman with the ready money arrived, in order that the \$700 might thereby have been saved to the firm.

### The Chauffeur and the Pedestrian.

That a chauffeur who comes near knocking down a pedestrian and is given a beating in consequence, has no claims for damages and cannot have the near-victim held for assault, is the ruling made by Magistrate O'Connor of New York. Charles H. Lund was the chauffeur who learned this lesson. He was arrested on the complaint of Benjamin Wells, a broker, on a charge of criminal carelessness. In court it developed that the chauffeur had grazed Mr. Wells and that the latter had struck him with an umbrella. The driver was fined \$3, and after paying the fine attempted to lodge a complaint against the broker for assault and battery. The magistrate refused to entertain the complaint, declaring, in substance, that a man being almost run over by an automobile has a perfect right to punch the chauffeur's head if he wants to go to the trouble.



## STUDY SPEEDOMETER ACTION

Columbia Experimenters Find that Temperature Changes May Cause Errors—  
Magnetic Type Under Fire.

Motorists who have been puzzled not a little over the apparent fact that their cars run considerably faster in winter than in summer and who have been dissatisfied with the hypothesis that it is due to the greater

tests recently completed at the laboratories of Columbia University, in which the effect of temperature variations upon speedometer indications has been very carefully observed.

The result of the experiments in question, which were conducted by Prof. George B. Pegram and Burton W. Kendall, shows that under such extreme differences in temperature as may exist between a hot summer day and a cold winter night, errors in the apparent speeds as shown by instruments

words, when the car is travelling at the actual rate of 60 miles per hour, there may be a discrepancy of as much as 10 miles in the instrument readings.

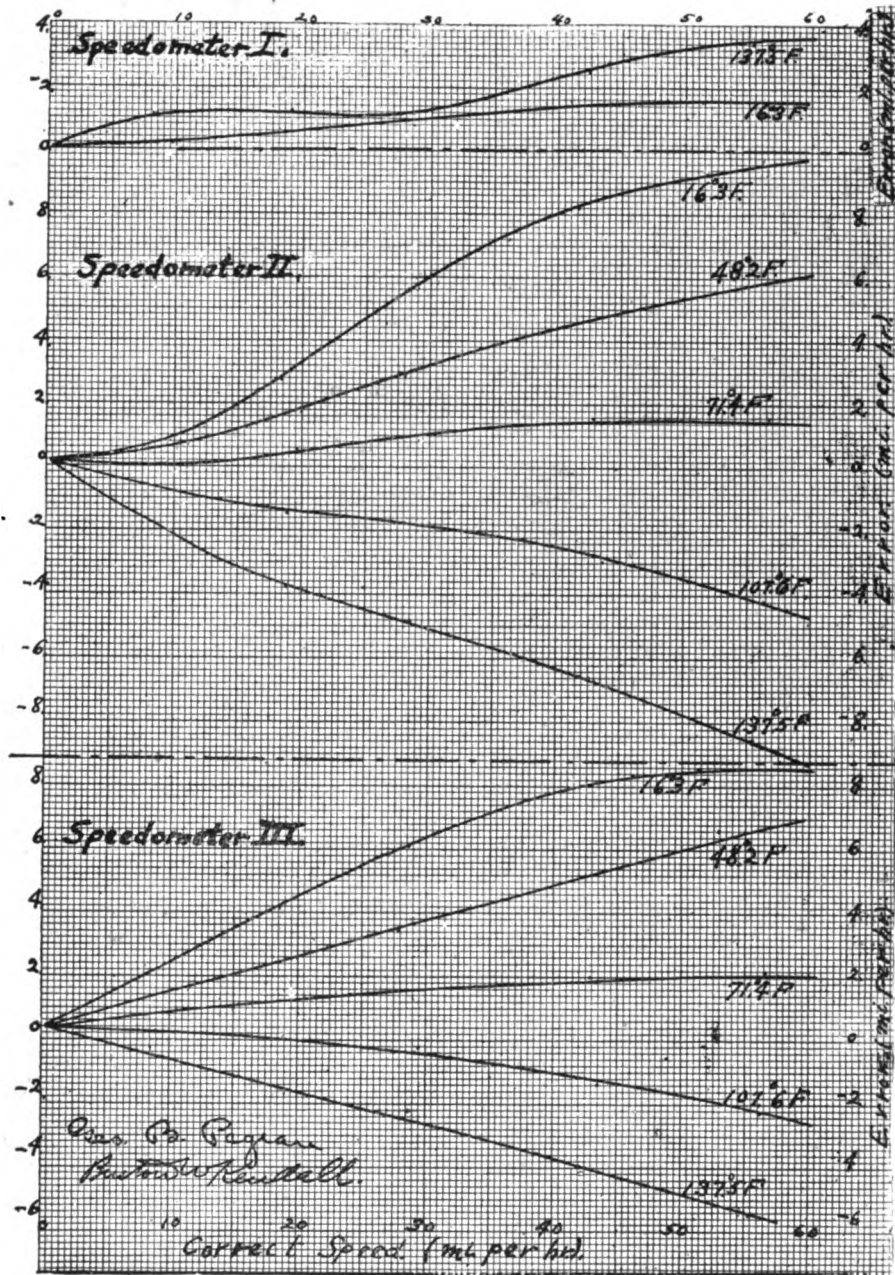
That errors of this sort are due to structural peculiarities is shown by the results obtained by submitting an instrument of the centrifugal type to a similar test, which showed it to give practically negligible errors, though appreciably affected by temperature and in amounts increasing with the speeds. In the official report of the tests, the reason for the discrepancies in the indications of the magnetic instruments is ascribed to variations in the electrical resistance of the aluminum disc, the induction of currents in which causes the displacement of the indicating needle. In explaining the method of conduct of the test on the three instruments, which are here designated as I, II, and III, the first being centrifugal in its action and the other two magnetic, the report says:

"The three speedometers were mounted on a wooden base, and then placed inside a tin box about 15x12x10 inches. This box was provided with a glass top and had a 1½-inch tube running out from one end at the bottom, through which tube the flexible shafts ran to the speedometers. The box was set inside a large cylindrical tank, with three inch-high wood blocks under the box.

"The temperature of the speedometers was varied from the temperature obtained by surrounding the box with a mixture of ice and salt, to a temperature attained by filling the tank with water up to the top of the speedometer box and heating as much as desired by a gas stove underneath the tank. The temperatures were read by two thermometers in the speedometer box, with bulbs right against the metal cases of the speedometers. The readings of the thermometers never differed from each other more than a degree, and as the rate of change of temperature was slow, not more than 10 degrees per hour during the measurements, it is evident that the temperature within the box was sensibly uniform for the purposes of these tests.

"The flexible shafts of the speedometers were geared to a shaft run by an electric motor, with suitable arrangements for varying its speed. The mean actual speed during any one set was measured by timing the revolution counter on the end of the motor shaft and computing the speed that the instruments should properly show on the basis that 2,560 revolutions per minute of the motor shaft corresponded to a 60-mile per hour speed for the speedometers. This factor 2,560 was obtained by comparing the mileage run off on the speedometers with the number of revolutions as given by the revolution counter on the shaft. . . .

"In taking readings of the instruments at a certain speed and temperature the motor was adjusted to run at about the speed desired, the temperature read, the speedometers read in succession until four read-



CURVES SHOWING EFFECT OF TEMPERATURE ON SPEED INDICATORS

density of the air at low temperatures, may solace themselves with a new and somewhat novel explanation of the phenomenon, if it happens that their speed measurements are made by means of an instrument of the magnetic type. At least, such is a conclusion which may be drawn from a series of

of the class mentioned may become important, especially if very high speeds are made. The amount of such variations from the true reading of the instrument, as shown by the tests, amounts to something over two-tenths of one per cent. for every degree of difference in temperature. In other

ings each had been recorded by one observer, while the other timed the number of revolutions of the shaft, from the hundred nearest the beginning to the hundred nearest the end of the series of readings of the speedometers; finally the temperature was read again. In the accompanying tables each of the speedometer readings is then the mean of four readings taken during the observation at that speed and temperature. The readings of any one speedometer during one set of readings did not vary more than  $1\frac{1}{2}$  miles per hour, and in most of the sets were constant so far as could be observed."

The results obtained are indicated by the accompanying diagrams, which show the errors at various rates of speed with sustained temperatures ranging from 16.3 degrees Fahr. to 137.5 degrees. The following table affords particulars as to the mean temperature conditions under which the tests were made and the exact speeds of the different runs, from which the errors were observed:

Reading	TEMPERATURE			NO. OF REV. DURING TRIP	TIME (seconds)	SPEED, in mi. per hr. (2000 rev. per min.—50 mi. per hr.)
	Ind.	Cent.	MEAN, Fahr.			
- 8.5	- 9.0	- 6.75	+16.3"	800	118.0	9.6
				1400	107.8	18.3
				2100	151.3	26.8
				4000	126.2	41.4
				2600	98.4	51.5
+ 8.0	+10.1	+ 9.0	+8.5"	1000	126.0	11.3
				1100	77.4	20.0
				1800	90.8	37.9
				2600	111.8	44.1
				3400	90.0	58.1
21.5	22.3	21.9	71.4"	800	84.3	10.9
				1200	86.8	18.4
				1500	72.0	29.3
				2000	96.0	43.0
				2800	69.3	57.9
41.5	42.4	42.0	107.6"	800	126.7	10.1
				1000	74.6	18.3
				1200	86.0	29.3
				2200	74.3	43.8
				2800	82.2	56.5
60.5	67.9	64.2	137.5"	400	97.5	8.3
				800	86.3	19.0
				1800	78.3	26.7
				2700	89.0	49.5
				4000	101.0	66.7

With regard to the performance of instrument I, the text of the report continues:

"It was hardly to be expected that within the range of temperature variation used in these experiments the changes in the dimensions of the parts and in the elasticity of the springs would have much effect on the readings of the instrument. Running 60 miles per hour this speedometer reads 2 miles per hour higher when at 137.5 degrees than when at 16.3 degrees Fahrenheit. The difference in reading is approximately proportional to the difference in temperature, and to the actual speed. We may express this by saying that the difference in reading per degree difference of temperature is .00028 of the speed. For a temperature difference of 60 degrees Fahr. the temperature error would hardly be detectable at moderate speeds, and small even at 60 miles per hour."

The first of the magnetic instruments, which is designated on the diagram as

Speedometer II, is discussed as follows:

"In this instrument the poles of a magnet rotating under an aluminum disc generate currents in the disc. The reaction of these currents on the magnetic field supply a torque to the disc, which is nicely pivoted and restrained by a hair-spring. The torque is proportional to the strength of the induced currents in the disc and these to the rate of rotation of the magnet. The disc is therefore pulled around against the reaction of the hair-spring through an angle proportional to the speed of the rotating magnet, which angle is indicated by a pointer on the mile per hour scale.

"This speedometer shows a marked and fairly regular variation in its readings with variations in temperature. At low temperature, 16 degrees Fahr., it reads too high throughout the scale by about  $16\frac{2}{3}$  per cent. At high temperature, 137.5 degrees Fahr., it reads too low by about 15 per cent. It would read correctly throughout the scale when at a temperature of about 83 degrees Fahr.

"The variation in the reading per degree changes of temperature is 0.27 per cent. When used in a car the variation in the temperature of the speedometer between summer and winter is likely to be as much as 62 degrees Fahr., which would mean a discrepancy of 10 miles per hour between summer and winter readings when actually going 30 miles per hour. According to this speedometer a car would show much better speed in winter than in summer.

"Since the reading of this instrument is proportional to the induced currents in the disc, and these are inversely proportional to the resistance of the disc, the variation of the resistance with temperature must affect the speedometer readings. The temperature coefficient of the electrical resistance of aluminum is .0021 per degree Fahr. This will account for only part of the variation per degree—namely, .0027—in the speedometer readings. The rest is doubtless to be accounted for by the decrease in the strength of the magnet as the temperature increases. With properly made magnets this change is very small, but as the torque on the disc depends on the square of the magnetic field intensity, the variation in the strength of the magnet means double the variation in the speedometer reading."

The second magnetic instrument yielded better results. Says the report:

"The construction and behavior of this instrument are essentially the same, though the effect of the temperature is not so large as in the case of the —, (the first magnetic instrument tested). The variation in the reading per degree change of temperature is .0022. This can be almost wholly accounted for by the temperature coefficient of the electrical resistance of the aluminum disc."

While at first sight the effect of such errors as are here shown to exist might be taken to indicate the general unfitness

of instruments of the magnetic type for use, further consideration tends to show that for all ordinary purposes the effect in question may be held to be of no material consequence. In the first place, it is only at speeds considerably above the average that the erroneous readings become sufficiently inexact to cause serious inconvenience to the user. Save as impairing the contrast of speed performances made at different seasons of the year, a reading of one or two miles an hour above or below the true speed is not likely to be considered a serious discrepancy.

A still more significant point, however, is that variations in tire inflation pressures, the use of tires having different classes of tread surface, or even the wear on tread surfaces has a certain influence on speedometer readings which renders absolute accuracy impossible. Experiments conducted on the Brooklands track, in England, late last year showed that with extreme variations in inflation pressures a total discrepancy amounting to as much as 5 per cent. of the nominal diameter might be introduced, ranging from 1 per cent. large down to 4 per cent. small, with the tire partially deflated. Obviously, the possibility of such errors as may be introduced in this way, constitutes a tolerance, within which the inaccuracies which the investigators charge to the magnetic instruments would seem to lie except in cases where very high speeds and extreme differences in temperature are involved.

For instance, if a car equipped with such a speed indicating instrument were to be driven at an indicated rate of a mile a minute over the snow in Alaska, and later at an indicated rate of a mile a minute in the Canal Zone, it is evident that the actual speeds would be below and above the apparent rate in both instances. By the results of the tests, however, it is made to appear that under more ordinary conditions the discrepancies introduced would not be of a very great moment in the face of other and ineradicable errors.

#### Vegetable Fibers for Tire Treads.

A tire structure in which the rubber is filled with minute threads of a vegetable fiber which permeate it in all directions, is the invention of a member of a London tire company, according to Consul-General John L. Griffiths. The theory is that by combining pure rubber with the vegetable fibers certain defects will be avoided which are produced by incorporating with the rubber such mineral substances as magnesia, chalk, oxide of zinc and sulphur, such as frequently are used in compounding. By enabling the fibers and rubber to form a mutual support, much in the same way that the silk threads strengthen the substance of American paper money, it is said that a compound is produced which is remarkably tough and retractile, and equally useful in other respects.



## CARHARTT'S CHARACTERISTICS

One of Detroit's Newest Cars Discloses Attractive Designing and Standard Construction—Carburettor a Feature.

One of the most remarkable features of the automobile industry in its present stage is the way in which the influx of newcomers continues. Rapidly succeeding the announcements of new organizations which are about to enter the field, announcements of their products appear. One of the most recent of these, heralded as "first in the field for 1911," is the Carhartt, which is the brand new product of the newly formed

gle cam shaft. The cam shaft and engine auxiliary gears are housed in an integrally cast extension to the crank case, and are thoroughly lubricated in common with the remainder of the engine.

The water circulation is maintained by means of a centrifugal pump; a commendable feature of the system being a strainer which is combined with the pump mechanism and which is so constructed that it can be removed for cleaning without necessitating the breaking of any of the water connections. Induced draught through the radiator is maintained by means of a belt driven fan. Ignition is by the Bosch dual method, with dashboard mounted lock switch and coil combination. In connection with the construction of the carburettor,

## CARING FOR THE STEERING GEAR

Why that Important Essential Requires Attention—Strains Involved and the Parts that Wear First.

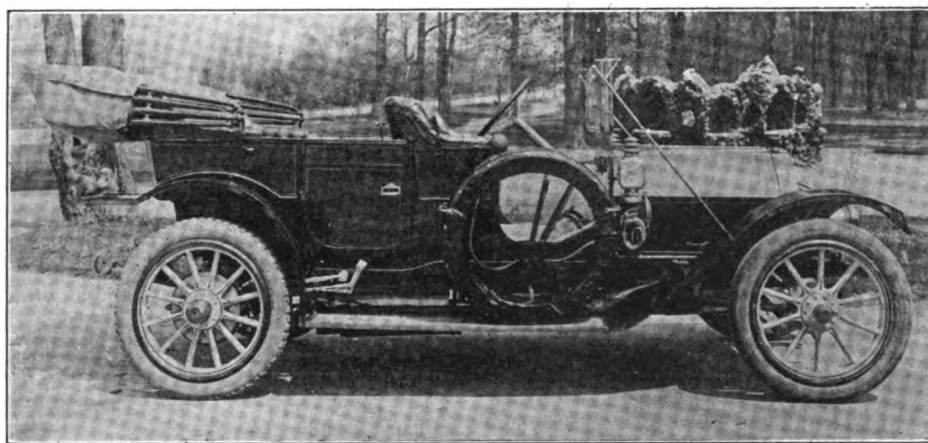
Defective steering gears probably are responsible for more accidents than are generally attributed to it, and it is part of the careful motorist's duty to give much of his attention and care to this part of his car's anatomy. Speaking of the subject of care and maintenance of steering gear, a Briton analyzes the construction of the steering pillar, the worm and the quadrant, and comes to the conclusion that although the principle may work fairly well on small cars, it cannot be said to comprise a perfect mechanical design, as the wheels run on arms of "L" pattern which, owing to the strains set up, should be closely looked after from time to time.

With regard to the steering bar forming a connecting link between the two front wheels, the most general practice in modern car design is to place the tie rod behind the axle, as being less liable to get damaged in that position.

"Some motorists place little importance on this precaution," says the man who holds this view. "At the same time, makers must be pardoned for taking every possible care in this direction when it is remembered that the slightest deflection from the original alignment affects the traveling wheels and throws them out of being perfectly parallel to each other. When such is the case, the steering is very materially affected, and, for the same reason, after the sensation of an abnormal contact with any possible object that could have only barely touched the steering gear, an examination should be made.

"Any sudden shock to the wheels has a tendency to force them backwards; this movement is in turn conveyed to the rod in question, and felt by the steering wheel. Fortunately, such strains are not compressional ones; if they were, the rod would not withstand such sudden calls from its normal state. The writer, in a previous article upon another subject, mentioned that metals would stand tensional rather than compressional stresses. To the uninitiated the following example will make this contention quite clear: An ordinary walking-stick secured to a hook will support the weight of two or three men hanging on to it. If the same stick be taken down, it will double up under the pressure of one hand. The former pressure is tensional, the latter compressional.

"The first parts of a steering gear to wear are the swivel joints and pins; when such has taken place considerable play exists, and has a similar effect to that of backlash of the steering wheel. Many drivers



NEW 35 HORSEPOWER CARHARTT CAR FROM DETROIT

Carhartt Automobile Corporation, of Detroit.

As the picture shows, the Carhartt is an essentially modern and neatly drawn machine of medium power, built as close to the road as long, flat suspension and double dropped frame will allow it to go. The standard pattern is that illustrated, which mounts a five passenger body regularly equipped with gas headlights, combination oil and electric side and tail lamps, gas tank and tire irons. It has 34 by 4 inch quick detachable tires, front and rear, 118 inch wheel base and 56-inch tread. In addition to the standard touring pattern, the car is made up in closed coupe, limousine, landaulet and torpedo body styles and also in runabout form. In the latter shape, the driver's seat is set further back on the frame than on the touring car, the entire seat is lower and is divided, the steering column is tilted to a smaller angle, and the gasoline tank is mounted behind the seat, the carburettor being fed by gravity flow.

The motor is of standard four cylinder construction, water cooled and rated at 35 horsepower with a normal speed of 1,000 revolutions per minute. Its cylinder dimensions are  $4\frac{1}{4}$  by  $4\frac{1}{2}$  inches, bore and stroke. The cylinders are cast in pairs, with water jackets integral. The valves, which are interchangeable, are mounted on the same side of the motor and operated from a sin-

distinction is claimed for the interchangeable features of the auxiliary air valve, which is so constructed that air can be drawn from either top or bottom; for the roller cam device for regulating the fuel flow and for the method of waterjacketing the mixing chamber to promote rapid vaporizing of the fuel.

Transmission is carried out by means of an enclosed multiple disc clutch, selective type three-speed change gearset and straight line propeller shaft to the full floating rear axle. The gear box is internally ribbed for strength, and is so constructed as to enclose all moving mechanism, including that which is used in making the changes. The third forward speed affords the direct drive arrangement, which is practically universal in all makes of car at the present time. The propeller shaft is equipped with two universal joints, while adequate means are provided for taking care of the torsional and driving stresses.

The spring system comprises 38-inch semi-elliptical front and 48-inch three-quarter elliptical rear members. External-internal brakes are provided on the rear wheels. The steering gear is of the worm and segment type, the steering rod is carried above the axle and, like the spring shackles, all the articulations of the guiding mechanism are provided with compression grease cups.

The Carhartt lists at \$2,250.

profess to have a partiality for the latter; this is, however, wrong in practice, and may be compared to driving a horse with a loose rein down a hill; the slack has to be hauled in before the horse's mouth is felt. If the link ends are worn they should be closed in, and if necessary the holes opened out and new pins inserted. With a worn worm little can be done, a new one is the only satisfactory solution. Road wheels that are not parallel are the best friend of tire makers, and many a tire bill has been increased from this cause. In addition, bad steering control means sudden jerks to the car and extra strain thrown on all parts."

#### Mounting of the Dash Lamps.

In mounting dash lamps not all manufacturers are as careful as they should be to see that the lights are so placed as to throw their full rays on the road. Where very high front wings are employed, together with a low, scuttle type of dash, such as many runabouts and roadster models now carry, it sometimes happens that practically the only result of lighting the dash lamps is to secure a glaring and highly colored illumination of the fenders. Obviously, this is an extremely bad arrangement, as it not only deprives the car of the signal effect of the lamps, but also tends to blind the driver.

#### Concerning Repairs to Rear Axles.

In making repairs or adjustments to a rear axle of the shaft driven type extreme care should be taken to preserve the alignment of all the parts. Even such an apparently inconsequential thing as the bending of a radius rod or the stretching or shortening of a distance rod, a break in which has been repaired by welding, may have the effect of throwing the axle sufficiently out of line to cause the spring action to be cramped, if not to throw serious strains on the universal joints of the driving gear.

#### Windage Dangerous to Wind Shields.

When applying a new wind shield to a car great care should be taken to ensure its proper installation. The great amount of pressure which the shield is called upon to bear in consequence of the "windage" of the car is not generally appreciated. At high speeds it amounts to many pounds, and unless its attachment has been made carefully, there is some danger that it may "go adrift" with more or less disastrous consequences to the driver.

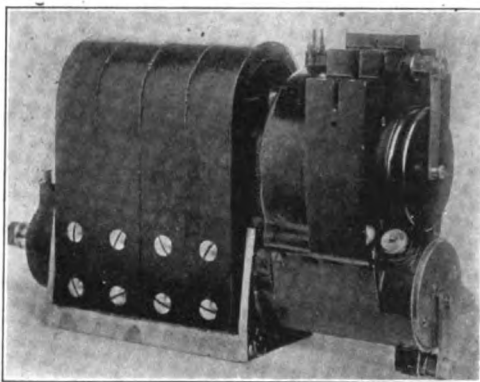
#### Lubrication for Shock Absorber Joints.

It should be seen to that the non-frictional joints of shock absorbers are in good condition, free from rust and not binding in consequence of disalignment of the parts. Otherwise there is some chance that they may become "set" in the course of time, thus causing one of the arms to break and putting the device out of action.

## NEW MAGNETO MAKES TWIN SPARKS

**U. & H. Twin Armature Construction Introduced for Racing Service—How Absolute Synchronism is Ensured.**

For the purpose of ensuring absolute synchronism in the timing of engines fired by multi-point ignition, a new and altogether radical type of magneto just has been brought out by the German firm of Unterberg & Helmle, which is represented in this country by J. S. Bretz Co., New York City. As the chief application of this method of ignition thus far has been in the service of racing cars, the magneto in question is designed specifically for racing purposes, and therefore is somewhat



U. & H. MULTI-POINT IGNITION MAGNETO

radical in its application as well as novel in construction. Briefly it consists of a pair of standard armatures revolving within a common armature tunnel inside a single, large compound magnet. The action of the two sets of windings generates two entirely independent electro-motive forces, thus rendering the twin ignition systems entirely independent of one another insofar as the isolation of their circuits is concerned. At the same time, the method of construction permits the interruptions of the primary circuits to be made with absolute synchronism.

As is well known, the theory of the multi-point ignition system is that by igniting the charges within the engine cylinders at two or more points at the same instant the rate of inflammation of the charge is considerably accelerated; this effect results in a more rapid rise in pressure, increasing the main effective force of the working stroke, and also, by ensuring the completion of combustion before the release of the exhaust gases, effects better economy than otherwise would be accomplished. Although a number of other methods of applying the multi-point ignition principle have been proposed, the only one to receive at all general use is that in which two sets of spark plugs of ordinary construction are used.

In applying this system to foreign racing machines, two magnetos were employed

at first, arrangements being made to cause them to break circuit simultaneously. With this arrangement, however, some difficulty was experienced in securing the absolute synchronism in the two sparks which was desired; defects in the driving mechanism and wear in the interruptor cams tending in this direction. Of course, loss of synchronism entirely does away with the advantage gained from the dual sparking arrangement. If the second spark lags behind the first, even by a very small fraction of a second, its flame becomes practically superfluous, save in the case of a weak leading spark or a very slow burning mixture. The new U & H magneto is intended to obviate the difficulty thus explained.

As shown by the accompanying illustration, it is not unlike the standard magneto in outward form. The two armature windings, which, as before stated, are entirely independent both as to primary and secondary turns, are connected through the outer ends of the primaries to a common interruptor. The result of this is that the current interruptions are made coincidentally, thus ensuring absolute synchronism in the sparks. The two secondary currents are handled by means of a compound distributor, which preserves their isolation. Two safety spark gaps are employed to safeguard the windings in the event of a break in the secondary leads. The use of the non-adjustable interrupter, which is a characteristic feature of all U&H magneto products, tends to promote reliability because of its lack of small and delicate moving parts.

#### Automobiles to Carry Mails in Mexico.

Details of a contract between the Mexican government and the new automobile line between Iguala and Chilpancingo for the carrying of mail by that route are in course of completion, and at the general post office it is considered as final that an automobile mail service will be in operation over that line within a few weeks.

Six large passenger automobiles have already been placed in commission by the new company, according to the terms of the concession taken out by Pedro Armendaris, of Mexico City. Besides the passenger transportation, there will be an express and light freight service, with possibly later on a heavy freight service by means of big automobile trucks.

The transportation section of the Mexican post office is also considering a proposition from an American company for the carrying of mails from Jalisco, in the state of Chiapas on the Pan-American railway, to Tuxtla Gutierrez, in the same state, by automobiles, the same being a direct outcome of the report of Consul Brickwood, which was sent to the state department recently and published in the last issue of the Motor World. The service is to be similar to the one inaugurated between Iguala and Chilpancingo.

## MAGNET GOVERNOR FOR GENERATOR

New Electric Current System for Cars Has Ingenious Automatic Features—Two Sets of Accumulators Used.

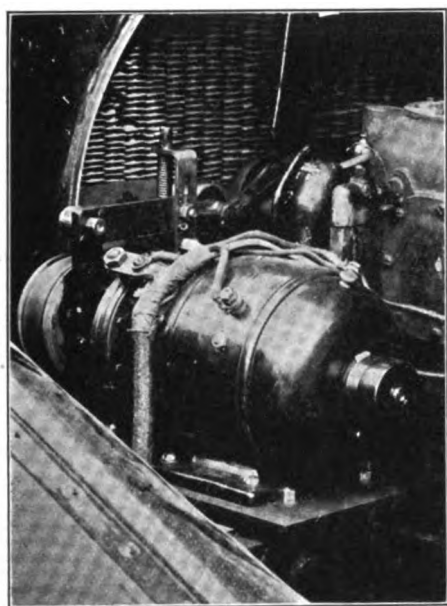
Increased use of the electric light for automobile illumination has caused a revival of interest in systems which provide for the generation of current on the car and also interpose the very necessary automatic control which is required by the variations in speed to which the engine is subjected. A recent addition to the several new systems which the movement has brought forth is the invention of H. Ward

To prevent serious consequences resulting from excessive current generation at high engine speeds, an automatic governor is introduced into the system, which takes the form of a magnetic clutch on the armature shaft. When the dynamo speed reaches its safe maximum, the clutch opens, thus releasing the armature from the belt pulley, which is driven from the fan belt, or from some other convenient source. When the armature speed dies down to its normal again, the clutch picks up the pulley and the drive continues. In this way provision is made for the continuous charging of the batteries whenever the car speeds exceed ten miles per hour, the system being calculated to keep both sets of cells fully charged at all times.

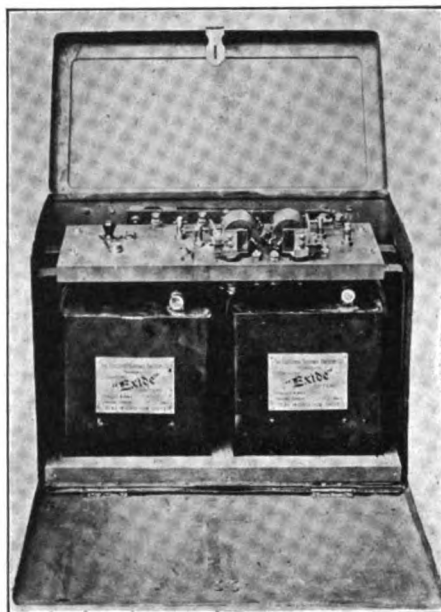
## REVIVING THE REVOLVING MOTOR

Success of the Type in Aviation Renews Interest in Its Motor Car Application—Needs Modifications.

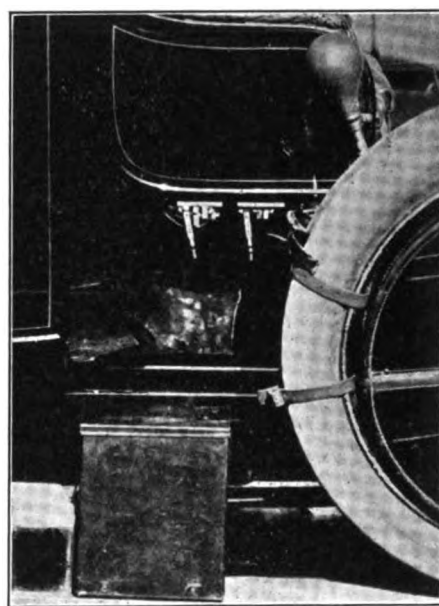
It would appear that at last a permanent application had been found for the rotary-reciprocating type of gas engine, which long has struggled for recognition in the automobile field. By a somewhat surprising deviation from current and successful practice in internal combustion engine construction, aeroplane builders have embraced that type. Despite the handicap of employing a newly developed form of engine, start-



WARD LEONARD DYNAMO MOUNTING



BATTERY BOX AND SWITCH ARRANGEMENT



BATTERY AND AUTOMATIC CONTROL

Leonard, of the Ward Leonard Electric Co., of Bronxville, N. Y. Combining a generator and a pair of accumulators, in addition to the automatic controlling devices, it provides for the entire operation of the electrical system of the car, including such use of current for jump spark ignition as may be required.

The means of regulating the armature speed of the generator, and the automatic cutout arrangement, naturally are the original and most essential elements of the system. In operation, the lighting of the machine, as well as the ignition, is by the batteries alone up to car speeds of 10 miles an hour. From this it follows also that the batteries automatically furnish any current which may be consumed if the lights are switched on while the car is standing still. As soon as car speeds upwards of ten miles an hour are reached the automatic switch closes, throwing the generator into service. At such times the current generated takes care of both charging and lighting, the dynamo being floated on the line, while the second battery remains idle.

In arranging the wiring, it is thought undesirable to "ground" one side of the lighting system, since an accidental ground from the insulated side might disable both lighting and ignition systems. For this reason the two are kept entirely separate and, as explained, the charging action is applied only to the lighting circuit. By means of throw-over switches, furthermore, it is possible to cut either battery into the ignition system, so that the arrangement really is in the nature of a safeguard.

As the illustrations show, the generator is mounted under the bonnet in the engine space and driven by any convenient means. The batteries are carried in a metallic case on the running board, in which the automatic cut-outs also are enclosed. Two throw-over switches, placed within convenient reach of the driver, as shown in one of the pictures, permit him to apply either battery to ignition or lighting service, and so to ensure the maintenance of both in a condition of continuous full charge. The system at present is being demonstrated at Broadway and 68th street, New York City.

ling results have been achieved, and there can be no doubt that the engines employed are destined to share in the prestige which the rapidly succeeding record exploits of the heavier-than-air machines are winning. Whence the question arises, Is it possible that, following its adaptation to flying machines, the rotary reciprocating engine again will be exploited as suitable for automobile use?

Already the subject has been broached abroad, with the result that at least one exponent of the automobile trade has expressed itself as favorably inclined toward it. And as time goes on and the light motor, expressly built for flying machine work, continues to improve, it is probable that the impression will grow that it has been a mistake not to do more with it in the automobile line. Therefore, it is worth while considering its peculiarities with a view to determining its real fitness for the work and especially with regard to what the future may disclose insofar as at present is possible to determine.

Speaking of the rotary-reciprocating form

of engine, it should be borne in mind that its development as a special type for aeroplane use by no means is the first application to which it has been lent with apparent success. Throughout the entire history of the automobile industry, the rotary engine has been an ever present potentiality. Many different forms have been produced in which the cylinders, in one way or another, rotated about a stationary crank shaft. In some, the cylinders were arranged parallel to the shaft, while in others they were radially mounted, as in the type which latterly has come into prominence in aeronautic performances. In one notable instance, the principle was developed very thoroughly and for a number of years has been produced in stock form and mounted in a car. This particular engine, it may be added, introduces a number of peculiar advantages which are not obtainable in the same way in any other form of construction, while in operation, efficiency and flexibility it has set an enviable standard for its class.

In its more common form the rotary engine differs from the standard automobile type mainly in that its crank shaft is stationary, while the cylinders revolve around it; this, and that the cylinders, instead of being arranged parallel to each other, are mounted radially around the shaft. In addition to reducing the overall length of the entire motor to that which would be necessary if but a single cylinder were used, this arrangement has the advantage of doing away with the flywheel; the cylinders themselves furnishing the necessary inertia effect which is obtained ordinarily by means of the balance wheel.

Counterbalancing these most obvious advantages, it is noteworthy that the rotary engine must induct its live gas and expel the waste through some form of sliding port and valve construction, or by means of valves of ordinary construction which are served through a rotary distributor valve common to all the cylinders. This, and the necessity of arranging adequate means of distributing electric current for ignition purposes, are difficulties which by no means are to be minimized. It should be added that the rotary form of motor lends itself particularly well to the purposes of air cooling, and that, as produced especially for aeroplane work, it has been reduced in weight to an extraordinary degree.

As indicating to what extent this form of engine already has been developed for the special work of the flying machine, it may be noted that the Gnome engine, which has become prominent through the flights of some of its users, weighs but 170 pounds, though said to develop no less than 50 horsepower on the brake. The cylinder dimensions are 4.3 by 4.7, it has seven cylinders, and makes its rated output at a normal speed of 1,000 revolutions per minute.

As indicating the true significance of

the weight ratio of 3.4 pounds per horsepower, a comparison with current types of American automobile engine may be interesting though not particularly important, since in aeroplane work the whole effort is to reduce weight with the design little affected by considerations of bulk; while in automobile construction, weight is rather an immaterial consideration as compared with the importance of economizing space. In the flying machine motor, also, muffling is not a vital consideration, and, indeed, in the Gnome engine the waste gases are exhausted directly to the atmosphere.

With present types of automobile motor of standard water cooled form, weights per horsepower actually developed on the bench range from 10 to 14 pounds in a majority of cases. Weights as low as 7 to 9 pounds per horsepower are exceptionally low, though a number of well known constructors are building motors as light as this; while several makers produce engines of unquestioned merit which weigh somewhere around 15 pounds to the horsepower.

The particular advantage which would follow the general introduction of the rotary form of engine to automobile use naturally would be in the way of space economy. The rotary motor is not unlike an enlarged flywheel; indeed, one new type which was exhibited during the recent show season, when assembled in its casing, much resembled the flywheel of a large engine of standard form housed in such a structure as often is produced in unit power plant construction. If air-cooled, its adoption would mean the elimination of the radiator and hence a further reduction in the necessary volume of engine space on the car. The result would be either a considerable lengthening of the body or else a corresponding reduction in the wheel base.

Here enters a very material consideration. The aeroplane engine in its present form is not developed with an eye to flexibility. In fact, the majority of its work is done with a perfectly uniform load under normal resistance. Nor has the rotary motor, save in the single instance noted, ever been brought even to a moderate plane of flexibility. To do so would require probably as much work as has been done in the same direction with the standard vertical engine. Possibly it would require as much time as has elapsed since speed governors were dispensed with in common practice and a genuine effort made to render the engine uniformly effective throughout as wide a range of speeds as possible.

In other words, while the successful application of the rotary engine to flight raises a very natural suggestion as to its applicability for automobile work, and a question as to whether it may not be transferred from the newer class of work to the older, it is evident that such a transfer could not be accomplished merely by the mechanical

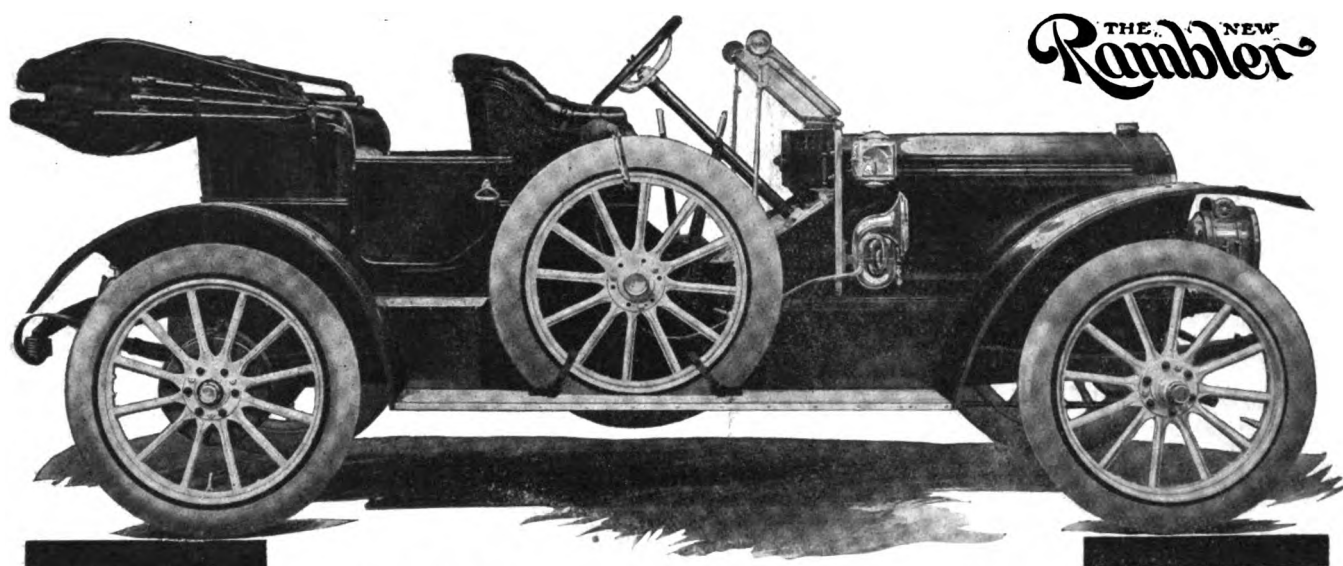
method of adapting the chassis to receive the unusual form of engine.

Just as the growth of the automobile industry itself has been measured in large degree by the development of a motor especially suited to its needs, so the development of the heavier-than-air flying machine is destined to follow a similar course. Just as the forms of internal combustion engine which are suited to stationary and marine purposes are unsuitable for automobile work, and as automobile engines are unsuited for aeronautic work, so the aeroplane engine is unsuited for automobile use. The point is that each of the classes of duty mentioned requires specific attributes in its prime movers, which are different in certain important respects from those which the other classes demand.

The true merit of the rotary-reciprocating engine as regards automobile service is entirely another matter. That it is possible to construct a special form of engine for this use which will fulfil all the running requirements of automobile work, has been demonstrated successfully by more than one engineer. So radically different is the type from that of the standard form of engine, however, that serious difficulties stand in the way when it comes to a question of marketing such a product.

Were attention to be concentrated on the development of such an engine and a market for it studiously cultivated in a broad and far-reaching way, it is not at all unlikely that a better engine might be produced than at present is in use on the average machine. There is no question that the present standard of engine construction calls for an amount of engine space, and a weight to power ratio, which are higher than circumstances really call for. It is equally true that many cars are overpowered as far as the requirements of the average operator are concerned. But it is equally true that the market for such cars is so strong that the makers frequently are at a loss to keep up with it, and that the engineers engaged in their production are so far absorbed in keeping pace with the routine of development as to have no leisure for excursions far afield in the realm of the unconventional.

It is by no means impossible that the rotary engine at some future time may come into greater prominence in the automobile field than it as yet has attained. It is regarded by many engineers as a stepping stone to the gas turbine, which is the recognized goal toward which many eyes are turned, and its features in many respects are strikingly alluring. Yet it would seem that those who jump to the conclusion that its present popularity in another field augurs its early adoption in this one are doing so inadvisedly. In order even to compete with the present automobile motor, any other type must excel it; in every respect its advantages must be conspicuous.



Rambler Fifty-Four, Close-Coupled, 45 H. P., 117-inch  
Wheel Base, \$2,475 as shown

**T**HE New Rambler Fifty-Four Close-Coupled model is a light and handy car of snappy appearance, suitable for touring or roadster purposes. Also furnished with three inches additional room between the dash and front seat and with 123-inch wheel base. Prompt delivery.

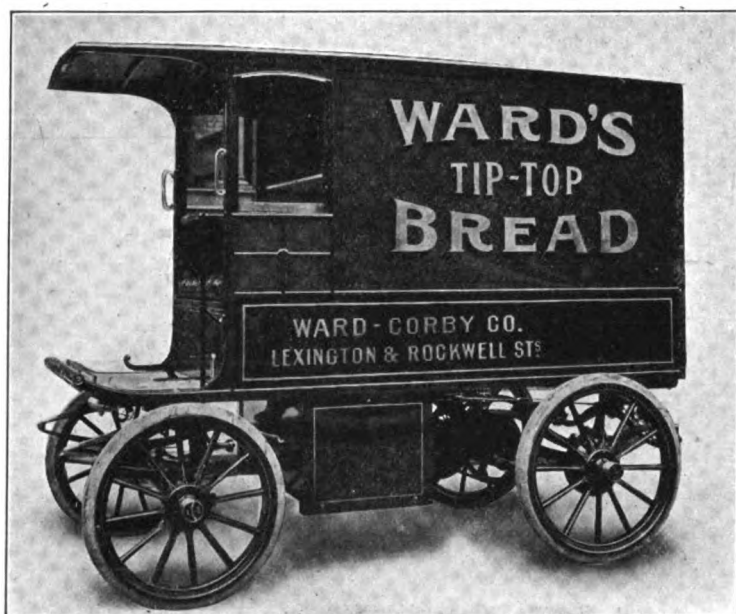
**Thomas B. Jeffery & Company**

Main Office and Factory, Kenosha, Wisconsin

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## VARIED TYPES OF LIGHT DELIVERY WAGON FOR DIVERS USES



PITTSBURGH BAKER'S ELECTRIC DELIVERY WAGON



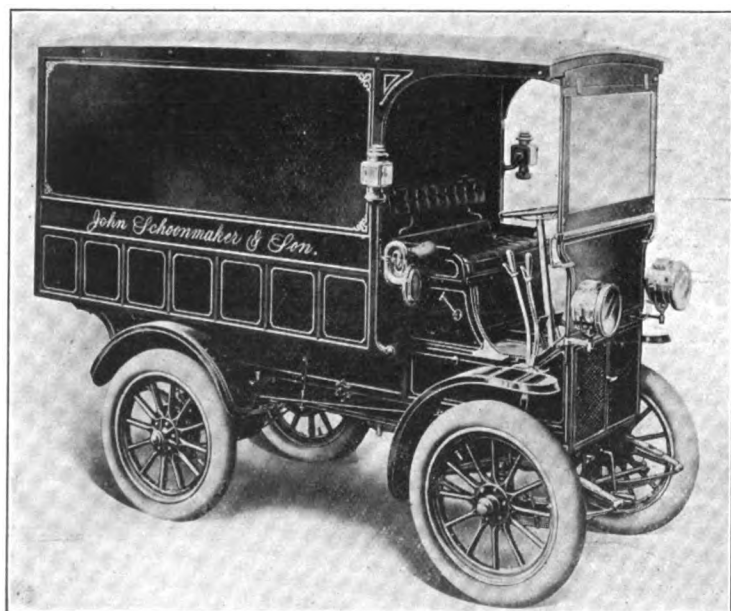
PITTSBURGH LIGHT. ELECTRIC DELIVERY CAR



CHASE LIGHT DELIVERY WAGON WITH SCREEN TOP



CHASE LIGHT CAR FOR SHOE DRUMMER'S USE



FRANKLIN DELIVERY WITH WORM TRANSMISSION



JOHNSON SERVICE CAR FOR DRY GOODS DELIVERY

## WHAT TO DO IN CASE OF ACCIDENT

### More About Fractures and the Art of Bandaging Described—Concluding Exposition of First Aid Treatment.

Fractures of the lower jaw, spinal column, ribs, collar-bone and shoulder-blade, as described in last week's *Motor World*, are by no means the only breaks that are likely to come within the ken of the automobilist, and, while the knowledge necessary to recognize and treat any sort of fracture may entail some little study and memorizing, it is valuable learning. Particularly is this true of the art of bandaging, in which few persons are properly versed but knowledge of which usually is essential in first aid treatment of the right sort.

Fracture of the humerus (upper arm-bone) may be the result of direct or indirect violence, or of muscular contraction. The signs and symptoms are usually well marked, and there is considerable shortening. If the seat of the fracture is at the surgical neck, a bony prominence may be found in the axillary space, or armpit. When reduction is to be made, the forearm and elbow should be pulled downward (extension), the shoulder acting as the counter-extension. If the fracture is about in the middle of the bone, an internal and an external splint should be applied. Great care should be exercised when placing the internal splint so as not to cause a pressure upon the important nerves and blood-vessels, by shoving the splints too far up into armpit. If the fracture is in the upper part of the bone, through the surgical neck, a soft pad may be placed in the armpit and held there by a figure-of-8 bandage, or spica, around the shoulder. The hand and wrist only should be suspended in a sling, thus allowing the elbow to drop, thereby diminishing the tendency to shorten the arm.

Fracture of the forearm generally occurs at the lower end of the radius, about two inches or less from the joint, and is known as the Colles's, or "silver fork," fracture. It receives the latter name from the peculiar appearance about the wrist, which has a fancied resemblance of a silver fork. Colles's fracture is almost as frequent as fracture of the clavicle, and is generally impacted. The arm should be placed at right angles, the thumb pointing toward the chin. An internal splint, extending from the upper part of the forearm to the wrist, and an external splint extending to the tips of the fingers, should be applied. Care should be taken that the internal splint does not press upon the vessel at the bend of the elbow. Reduction may be accomplished as follows: Should the fracture be on the right side, for instance, the attendant should grasp the right hand of the patient with the corre-

sponding one of his own, and extension be carefully made, counter-extension being performed with the left hand, which grasps the forearm above the seat of fracture.

Fracture of the middle of the forearm may be the result of direct violence. One or both of the bones may be broken. When either the radius or the ulner is broken the companion bone acts as a splint, and the deformity and other signs are not so marked. In a fracture of the shaft of the radius, which is uncommon, the usual symptoms of fracture are not noted, and, in addition, the loss to a greater or less degree of pronation and supination, or turning the hand inward and outward. Fracture of the ulner sometimes follows an attempt to ward off a blow, and is not uncommon among pugilists. Fracture at the middle of the forearm should be treated in the same manner as Colles's fracture—internal and external splints applied while the arm is bent at right angles, with the thumb turned toward the chin. The injured limb then should be supported by a sling.

Fracture of the metacarpal bones commonly is caused by direct violence, as a fall upon the hand, or striking a blow with the fist. A common swelling on the dorsum or back of the hand usually follows, and the knuckle corresponding to the broken metacarpal bone is sunken and appears to be effaced. A roller bandage, wad of cotton, oakum, or any small object of a similar nature, as a lemon, tennis ball, potato, etc., should be placed in the palm, the hand closed and retained in this position by a bandage.

Fractures of the phalanges are generally detected without much difficulty, the common signs of fracture being well marked. After reduction has been accomplished splints should be applied to the palmar and dorsal sides of the broken finger. A piece of cigar box may be used for this purpose, although a piece of tin or sheet zinc, entirely covered with adhesive plaster, would be preferable; or, after the fracture is reduced, the finger may be bound to a companion finger or covered with a narrow roller bandage, and stiffened (after being applied) with flour and white of egg, which makes a very good temporary dressing.

Fracture of the femur is one of the common fractures of the body. The great size of the bone—it being the longest bone in the body—and the fact that more or less limping, due to the shortening of the affected limb, may follow this injury (particularly in the adult), makes the treatment a matter of great importance to the surgeon. The femur may be broken at the neck, extremities or middle, the most frequent situation being about the middle of the bone. The fracture is more commonly caused by indirect violence, as falling, etc., and is oblique (in adults), which principally accounts for the shortening that follows. The signs and symptoms usually are well marked. The foot and leg are turned out-

ward, particularly if the shaft of the bone is broken. Fracture of the neck of the femur occurs in old persons and is in a great measure due to the composition of bone at this period of life, which is more dense than at any other time, and also the change of angle of the neck of the bone, and may, in the aged, follow a most trivial cause, as tripping, etc. A long external splint, extending from the axillary space, or armpit, to a short distance below the foot, is sufficient for a temporary dressing. A fence board, which is usually about six inches wide, makes an excellent splint. Before applying the splint, the thigh should be surrounded by a coat properly folded, or a shawl, etc. A bandage should then be carried around the waist, two around the thigh—one above the fracture and one below—and one around the leg and foot each, the bandage being tied on the outside of the splint. If no better support can be devised, the affected limb may be bandaged to the one on the opposite side.

Fracture of the leg usually affects both bones, although the tibia or fibula may alone be fractured, the fibula probably more often than the tibia. The fibula is generally broken nearer its lower extremity, and is known as Pott's fracture. More or less injury to the ankle-joints accompanies the latter. In fracture of both bones, which commonly occurs about the middle, the signs are generally well marked—more so than when either the tibia or fibula only is broken. Pott's fracture is attended with aversion, or turning outward, of the foot, producing a characteristic deformity. Fracture of the tibia, as the result of its superficial situation, is very often compound, the wound communicating with the fracture being frequently caused by efforts of the patient to walk immediately after the injury. The limb should be handled very carefully, and an internal and external splint applied. A pillow placed under the leg, folded over the sides, and properly retained is particularly adapted as a temporary support for this fracture. If the lower end of the fibula is broken, and the foot is turned outward, a splint, well padded, should be placed along the inner side of the leg, extending from above the knee to beyond the foot, and the leg and foot bound to it, thereby overlooking the tendency to aversion.

Fracture of the patella (knee cap) may be the result of direct violence or muscular contraction. The more common signs of the injury are inability to straighten the leg; the patient is able to walk backward, however. An examination shows a transverse separation of the knee cap, with an interval varying in width between the pieces. The knee is swollen, tense, and there is great pain. At the moment of the injury the patient often hears a sudden snap. As a temporary measure, a long posterior splint may be applied, carefully bound above and below the knee. The skill of the surgeon is

directed toward keeping the pieces in close contact until union takes place. The treatment of fracture of the metatarsal bones and the phalanges of the toes consists in binding the affected toe to the one alongside of it, or by supporting the fragments with compresses or light splints. When the foot is seriously injured by crushing, amputation is often inevitable.

#### Bandages.

Bandages are used to retain dressings in position, arrest hemorrhage and support and render immovable different portions of the body. For general use they are divided into two classes, roller and Esmarch, or triangular. The materials used for bandages include linen, flannel, calico and muslin. For ordinary purposes, unbleached muslin of a medium texture is the best fabric that can be employed. Bandages should not contain starch nor should they be pieced, as either condition produces considerable irritation of the skin, and also prevents their proper application. Roller bandages usually are made from three to four yards long, and from one to six inches wide, depending upon the part of the body to which they are to be applied—one inch for the fingers, three inches for the upper extremity, and four inches for the lower extremity, and five or six inches for the chest or abdomen. Bandages should always be torn from the piece, unless the material from which they are constructed is very thin. The selva along the edge of the fabric should always be removed before the bandages are rolled.

The application of a bandage should always be begun by laying the outer surface against the skin. When used to retain a dressing, it may be commenced at any part of an extremity, the soft dressing underneath preventing any undue interference with the circulation. When the bandage is applied for support or pressure, however, it must be started at the extreme end of the limb and bandaged toward the body, otherwise the constriction, particularly if the bandage is drawn tightly, may be followed by strangulation, and gangrene of the tissues below the bandage may result. A bandage should be closely applied to a limb, but not be made tight, and the degree of pressure should be uniform. Should any evidence of strangulation manifest itself by swelling and discoloration, and also a reduction in temperature of the limb below the bandage, the dressing must be at once removed. It is partly for this reason that the toes and fingers are left uncovered in bandaging an extremity—that they may serve as an index to the general circulation of the arm or the leg. A bandage applied dry and wetted afterward is followed by considerable shrinking, and sometimes strangulation of the tissues. A bandage should not be applied to a limb until the latter is in the position in which it is to remain.

The four-tailed bandage is made of a strip of muslin about one yard and a half long

and four inches wide, folded and torn from the ends to within two inches of the center of the bandage. One of the tails is usually made wider than the other. One of the purposes of this bandage is to support the lower jaw after a fracture or dislocation. It is to be applied by placing the center of the bandage against the chin, with the wide tails below, when the latter are turned upward and tied on the top of the head; the upper or narrow tails are carried backward and tie at the nape of the neck. Two handkerchiefs, each folded in the form of a cravat, may be used for this purpose. A four-tailed bandage, for the protection and retaining of dressings about the head, can be made of a piece of muslin, about one yard and a half long and one foot or more in width, folded and then torn from the ends to within six inches of the center. The bandage is placed on the head, the posterior tails being carried forward and tied under the chin, while the anterior are carried backward and tied or pinned at the nape of the neck.

The figure eight bandage is used about joints or where an abrupt enlargement occurs. The hip and shoulder spica are varieties of this bandage. The manner in which the layers cross each other give it the appearance of a figure of 8; hence the name. The operator places himself in front of the limb to be bandaged, which is somewhat elevated, the patient being seated or lying down. The operator, holding the bandage in his right hand, unrolls about six inches of it, the outer side of which is laid obliquely across the dorsum or top of the foot from within outward, and continued around the lower part of the ankle to the inner side, and then again over the dorsum of the foot, crossing the first portion applied, and carried downward to the base of the toes on the outer side. From this point two or three turns are made around the foot, extending upward, and thence again to the ankle, where the circular form is employed.

An inexpensive emergency case of first aid dressings for the automobilist can be procured at any pharmacy, and can be carried with little or no inconvenience. The kit should contain rolls of 1-inch, 2-inches and 3-inches cotton gauze bandage, a roll of 1-inch adhesive plaster, small amount of absorbent cotton, small bottle of aromatic spirits of ammonia, and a small quantity of powdered boric acid. The entire cost is only about 50 cents.

#### Russia Keeps Track of Private Automobiles.

Russia has started to inaugurate a new policy in connection with the automobiles owned or operated by Russian subjects within the empire. Hereafter every motor car must be registered at the nearest office of the military authorities, and in case of a declaration of war, be turned over to them immediately. It is the intention of the government to use these cars in special

motor car brigades. This new policy of Russia practically is the same as that pursued by the other European nations in connection with their steamers and railroads, both of which are at the disposal of the government the moment war is declared.

#### Taxicabs Now Are Legally Vehicles.

Governor Draper of Massachusetts has signed the law which will make it possible for motor cab operators to take legal measures in collecting fares for the use of their vehicles. The measure, which was passed without serious opposition, relieves the taxicab people from considerable embarrassment which resulted from the Supreme Court's decision that their machines were not "vehicles" within the meaning of the old law relating to public carriages and that therefore passengers did not have to pay fares unless they felt like doing so.

#### Four Clubs Elect Officers.

Automobile owners of Palatka, Fla., have formed the Putnam County Automobile Club and elected the following officers for the ensuing year: H. A. Davis, president; Dr. G. E. Welch, vice-president; W. T. Hamm, secretary; F. H. Wilson, treasurer; board of governors, the officers and H. M. Fearnside, F. W. Kells, T. J. Barnett. Fourteen names are on the charter list.

At the annual meeting of the Iowa Automobile Club of Des Moines, officers for the ensuing year were elected, as follows: John Gibson, president; W. W. Sears, first vice-president; Harold Wells, second vice-president; W. W. Reynolds, secretary; Frank Youngerman, treasurer; board of trustees, W. E. Moyer, C. R. Prouty, A. R. Rockwell, E. T. Meredith, C. C. DePew. The club has a hillclimb and a reliability contest "in the works."

Officers for the ensuing year have been elected by the Shamokin (Pa.) Motor Club as follows: C. Q. McWilliams, president; T. J. Mullen, first vice-president; G. W. Robertson, second vice-president; George W. John, secretary; Frank Llewellyn, treasurer. Arrangements have been completed for the club to join the Pennsylvania Motor Federation, membership in which carries with it affiliation with the American Automobile Association.

Reorganization of the Jacksonville (Fla.) Automobile Club has been effected and the following officers elected for the ensuing term: Dr. W. M. Stimson, president; Hobart C. Hare, vice-president; Marcus Conant, secretary; Herbert Race, treasurer. The club will incorporate, and plans are under way for the erection of a clubhouse near Ortega. An invitation from the Savannah (Ga.) Automobile Club to make a run to that city and be its guests was accepted, and June 6 was decided on as the date for the visit.

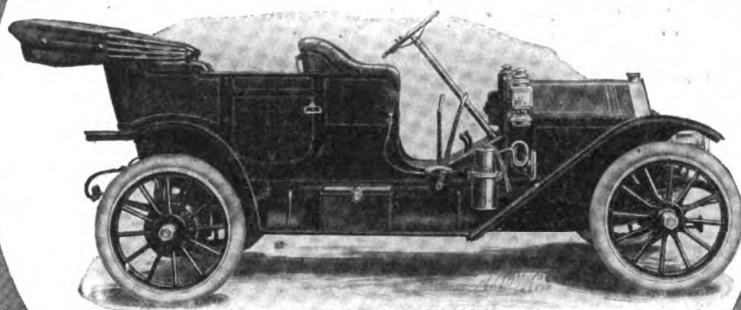
## "Great Western" <sup>Stock Car</sup> THE WINNER

On May 1st the "Great Western" driven by H. A. Stone won the 45 mile road race at Coalinga, Calif., making a 15 mile lap in 16 minutes and 59 seconds—59  $\frac{4}{5}$  seconds better than its nearest competitor. Experts concede this to be a World's Record over a course of this kind—the roughest upon which a road race was ever run. The Great Western 30 at \$1600 is an innovation. There is style, class, speed and reliability shown in these cars, which mark a new era in the automobile history.

A proven dependable 5 passenger touring car that has stood every test ever demanded of an automobile. The specifications prove the standardization, but you cannot know the exclusive features, the improvements and the refinements until you have seen the car and had an actual demonstration. The Great Western 30 is a big, noiseless, easy riding, comfortable, aristocratic car. The power plant is unexcelled by that of any car at any price. The low cost of up-keep

of the Great Western 30 is a feature that challenges comparison. Write today for open territory. It is limited. Prompt action is necessary.

# Great Western



## \$1600

### HORSEPOWER

—30, four cylinder, four cycle, water cooled, five bearing crank shaft of ample proportions,  $\frac{4}{4}$  inch bore, 5 inch stroke. TRANSMISSION—Sliding gear selective type, three speeds forward and reverse, locking device. Timken bearings. SHAFT DRIVE—Enclosed in tubular housing. CLUTCH—Cone type. Underneath a composition face that insures smoothness and efficiency. REAR AXLE—Semi-floating, with bevel gear and pinion drive. FRONT AXLE—Drop forged I-beam section, special steel in a single piece, with spring seats forged integral. DROP FRAME—Pressed steel with sub-frame, narrower in front to permit of short turns. WHEELBASE—112 inches. TREAD—56 inches or 60 inches. WHEELS—34 inches, artillery type, large spokes, quick detachable rims. FRONT SPRINGS—38 inches, semi-elliptic. REAR SPRINGS—42 inches, three-quarter scroll elliptic.

### BRAKES

—Two separate—one internal expanding, the other external contracting, operating on pressed steel drum, large and efficient. BODY—Five-passenger, with plenty of room in the tonneau; divided front seats. COLOR—Deep coach blue, elegantly finished and upholstered. GASOLINE CAPACITY—17 gallons. LUBRICATION—Gear-driven oil pump, integral with crank case. Nothing to adjust—very economical. COOLING—Radiator with gear driven centrifugal pump, ball bearing, detachable fan. CONTROL—Spark and Throttle levers on top of steering wheel—foot accelerator. EQUIPMENT—Magneto, five lamps, generator, tool box, robe rail, horn, full set of tools and tire repair kit.

**GREAT WESTERN AUTOMOBILE CO.**

Peru, Indiana



## RECENT PATENTS.

955,353. Carburetter. William R. Park, Taunton, Mass., assignor to the United Injector Co., New York, N. Y., a corporation of New York. Filed July 31, 1909. Serial No. 510,563.

In a carburetter the combination of casing having a vertical straightway gas passage, a fuel inlet pipe surmounted by a spray nozzle centrally located in the gas passage, a throttle valve above the fuel inlet, the gas passage provided with air ports at its bottom, a tubular sliding gravity valve of weight to correspond with desired manometric pressure at the delivery end of the fuel nozzle and controlling the air ports, parallel rods slidably mounted in the casing, adjustably connected outside the casing, one resting on and actuated by the air valve, the other provided with a needle valve controlling the fuel inlet, to increase and decrease the fuel inlet opening as the air-opening increases and decreases.

955,602. Motor Vehicle. Francis A. Messler and Maurice Bollstrom, Battle Creek, Mich. Filed Dec. 12, 1908. Serial No. 467,222.

1. The combination with an axle; wheels; spindles therefor pivoted on said axle, said spindles being provided with upwardly projecting arms; a driving shaft; a driven shaft made up of sections; compensating gear driving connections for said driving shaft and said driven shaft sections; bearings for said driven shaft sections arranged on said axle; gears; bearings therefor arranged on said upwardly projecting arms on said spindles; universal joint driving connections for said driven shaft sections and said gears; and internal and external gears on said wheels arranged to mesh with said gears on said spindles.

955,624. Fender for Automobiles. Dante J. Welton, Columbus, Ohio. Filed Dec. 8, 1909. Serial No. 531,922.

1. In a fender, the combination of a resilient impact member, a seat for the same, and the supporting bar 9 having its ends bent to form S-shaped springs and means for connecting said seat with said springs, substantially as described.

955,634. Anti-Skidding Tire. John Corwin, Chicago, Ill. Filed Feb. 13, 1909. Serial No. 477,581.

The combination with a tire body of a plurality of tread plates arranged diagonally across the tread surface thereof and lying closely together, each of said plates having a rib extending the full length of each lateral margin, and a centrally disposed tread portion extending parallel with said ribs and of a greater height, said ribs and tread portion providing a pair of parallel channels in the plate which open from the ends of the plate.

955,692. Pneumatic Spring Suspension for Vehicles. George A. Rhoads, Uhrichsville, O. Filed May 25, 1909. Serial No. 498,157.

1. A cushioning support for motor vehicle bodies comprising a U-shaped casting, said casting embodying vertical end portions cored to form cylinders and an intermediate base bar connecting with the lower ends of said cylinders, said bar being provided with a longitudinal bore forming an equalizing passage communicating with the chambers of the cylinders, pistons operating in said cylinders, a bar pivotally connecting said pistons, and a brace depending from the bar into the space be-

tween the pistons and providing means of attachment to the body supporting part of a vehicle.

955,709. Speed Indicator. Charles Spratt, New Cross, and Francis J. Shenton, Thornton Heath, England. Filed March 8, 1909. Serial No. 482,100.

1. In a speed indicator, the combination with a casing having a pointer rotatably mounted at one side thereof, of a shaft arranged within the casing and provided with a ball-carrying receptacle and means for communicating motion to the pointer from the balls within said receptacle upon the rotation of the shaft.

955,717. Reversing Gearing. Wilhelm Struck, Berlin, Germany. Filed Feb. 10, 1909. Serial No. 477,193.

1. In combination a driving shaft, a clutch member fast thereon, a driven shaft, a second clutch member movable longitudinally thereof, a casing connected with the fast clutch member and inclosing the movable clutch member, a movable pressure disk within the casing, yielding means for transmitting the movement of said disk to the moving clutch member, arms pivoted to the casing and bearing on the pressure disk, and means for moving said arms into positions perpendicular to the disk to move and lock said disk in clutch engaging position, substantially as described.

955,747. Electric Terminal Clip. William Barcy, Detroit, Mich., assignor to Barcy-Nicholson Co., Detroit, Mich., a corporation. Filed Nov. 8, 1909. Serial No. 526,762.

1. An electric terminal clip, comprising a plurality of correspondingly indented parts, through the flanged central portion of one of which the stem of a spark plug is adapted to pass, and the other of which is adapted to removably engage about the flanged central portion of the first named member, and to resiliently interlock with the correspondingly indented portions thereof, substantially as described.

955,831. Armor for Tires. Charles E. Titus, Springfield, Mass. Filed Aug. 28, 1907. Serial No. 390,501.

1. An armor for pneumatic tires comprising a plurality of abutting tread elements each provided with protuberances, and a plurality of arresters interposed between a plurality of adjacent tread elements.

955,845. Ignition Timer. Herman I. Broedling, Dayton, O. Filed June 11, 1909. Serial No. 501,487.

1. In an ignition timing device, the combination with an outer casing having an electrical terminal mounted thereon, of an inner rocking head having a contact mounted thereon, a leaf spring brush forming an electrical connection between the terminal on said casing and the contact member on the rocking head, and a rotating shaft having a contact member thereon adapted to engage said rocking head contact during the rotation of said shaft.

955,848. Roller Bearing. George A. Carter, Nephi, Utah. Filed May 14, 1909. Serial No. 496,054.

1. A bearing of the class described comprising a casing, having removable ends, a peripheral shoulder disposed centrally within said casing, a shaft extending therethrough, rollers in frictional engagement with said shaft and said shoulder having reduced ends, and channeled rings comprising two hinged sections provided with a plu-

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Lightest in Weight  
Easiest to Operate  
Absolutely Secure  
No Lugs  
nor Security Bolts**

**MICHELIN TIRE CO.  
Milltown, New Jersey**



rality of openings and supported upon the reduced ends of said rollers, the inner flange of said rings being split.

955,858. Gearing. Norman P. Fraser, Carsonville, Mich. Filed June 29, 1909. Serial No. 505,005.

1. The combination with a worm, of a gear in a mesh therewith, said gear comprising spaced toothed plates in mesh with the worm, and a yielding toothed plate mounted between said plates and in mesh with the worm.

955,888. Roller Bearing with Combined Thrust and Bearing Rolls. Charles S. Lockwood, Newark, N. J., assignor to Hyatt Roller Bearing Co., Harrison, N. J., a corporation of New Jersey. Filed March 26, 1909, Serial No. 485,972. Renewed March 12, 1910. Serial No. 549,009.

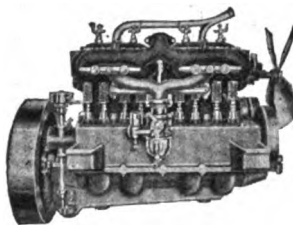
1. In a roller bearing, the combination, with a hub having a groove at the middle of its length with roll-seats at opposite sides of the groove, of two sets of rolls fitted to the roll-seats with their ends in contact over the groove and flanges upon the contiguous ends of the rolls fitted to revolve in the said groove.

956,061. Automobile Wagon. Martin V. B. Ethridge, New York, N. Y. Filed July 10, 1907. Serial No. 382,973.

1. A vehicle, a transverse shaft extending across the same and interrupted by an equalizing gearing, a sleeve external to the shaft and normally at rest and connected to the equalizing gearing whereby power transmitted to the sleeve at any point is conducted to the shaft at all points, a motor shaft, a worm actuated thereby, a worm gear loosely mounted on the sleeve and meshing with the worm, a sprocket wheel loosely mounted on the transverse shaft, an operating connection between the motor shaft and the sprocket wheel, a clutch slidably mounted on the sleeve and adapted to be thrown into engagement with the worm gear, to move the transverse shaft at slow speed forward and to be thrown into engagement with the sprocket wheel to move the transverse shaft at high speed forward at the will of the operator.

**The Acme**  
THE ACME MOTOR CAR CO.  
Reading, Pa.

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Continental Type R

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Because they run better, wear better, and are better in every respect.

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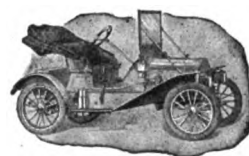
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Anything sharp starts the hole—then sand, dirt and water work in, rot the fabric and the tire is gone.

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### ALLEN-KINGSTON GETS DAMAGES

**Sues Bankers for Alleged Fraud and Recovers \$26,919.58—Gave Contract to a Bankrupt Concern.**

After a trial lasting six days, a verdict for the Allen-Kingston Motor Car Co., of New York, for \$26,919.58 was returned by a jury in the Supreme Court on the 25th ult., before Justice Rogers, sitting in New York City. The defendants in the Allen-Kingston company's suit for alleged fraud and against whom the verdict operates are William O. Allison, president of the National Reserve Bank, formerly the Consolidated National Bank of New York; Elverton R. Chapman, president of the Hudson Trust Co., and Thomas J. Lewis, cashier of the National Reserve Bank.

The defendants were charged with having represented falsely to the Allen-Kingston company that the New York Car & Truck Co. was "a solvent going concern in sound financial condition" when they knew otherwise. Relying on these representations, the Allen-Kingston company permitted an assignment of its contract with the Kingston Motor Car Co. to the New York Car & Truck Co., the latter assuming the task of making motor cars for the Allen-Kingston company. A \$25,000 deposit by the latter company was involved, part of which was paid to the Kingston Motor Car Co. and the balance to the New York Car company. Like the Kingston Motor Car Co., the New York Car & Truck Co. failed to deliver the automobiles according to contract, and was put into bankruptcy by the defendants, who had vouched for its solvency.

### Gray Loses and Gains a Partner.

Although the firm name will remain unchanged, William Gray, of Gray & Davis, Amesbury, Mass., has lost a partner and gained one. The partner whom he lost is

Lambert Hollander; the one whom he gained is S. Preston Moses, a Boston shoe wholesaler, who also is Gray's close personal friend. Mr. Moses purchased Mr. Hollander's interest, the latter gentleman having decided that he is old enough to retire from active business and who will sail for Europe about July 1st. The manufacture of Gray & Davis lamps will be continued, of course, exactly as heretofore.

### Johnston to Manage White Branch.

R. H. Johnston has been appointed manager of the New York City branch of the White Co., of Cleveland, succeeding George W. Bennett, who resigned to become general sales manager of the Willys-Overland Co., of Toledo, O. As publicity and advertising manager, Johnston has been identified with the White Co. since 1903. F. A. Barker, whom Bennett succeeded in the Willys-Overland establishment, is to devote himself to the recently formed Great Northern Life Insurance Co., of Toledo, of which he is president.

### Mysterious Association Chooses Officers.

By circuitous channels it has leaked out that the mysterious and secretive Association of Motor Car Manufacturers, at its recent meeting in the office of a Detroit attorney, really elected officers. Its president is Manager Dalton, who represents the Flint Wagon Works, of Flint, Mich., while J. G. Bayerlein, general manager of the Warren-Detroit Motor Car Co., Detroit, Mich., is secretary, and John B. Chaddock, an attorney, is treasurer.

### Two More Selden Licenses are Granted.

After a period of idleness, the Licensed mill was started in motion again for a short time yesterday afternoon (Wednesday), when at the meeting of the executive committee of the Association of Licensed Automobile Manufacturers it ground out two more Selden licenses. The two additions to the list of licensees are the Interstate Automobile Co., of Muncie, Ind., and the Kissel Motor Car Co., of Hartford, Wis.

### WILLYS EFFECTS A COMPROMISE

**Buys Out Forbes and Campbell, Who Will Withdraw Suits—Partial Reorganization is Planned.**

Peace has been restored between John N. Willys, president of the Willys-Overland Co., of Toledo, O., on the one hand, and Thomas P. C. Forbes, Jr., and Henry F. Campbell, on the other, with the result that the suits which Forbes and Campbell brought against Willys and the American Motor Car Sales Co. in the courts at Indianapolis for an accounting, an injunction and damages, are to be withdrawn. A compromise arrangement has been effected for the settlement of the difficulties, Willys having bought out the complaining interests. This move is to be followed by a partial reorganization of the companies over which he has control.

Indicating that Forbes and Campbell have been hampering his operations for some time, Willys declares that two months ago they made him a proposition to buy them out for \$2,000,000. In turn he offered to sell out to them at the same rate, but they refused to be diverted from their offer.

"This proposition I flatly refused," says Willys. "Their actual investment with me was \$40,000 and I told them I would not stand to be held up. I offered them \$450,000 for their stock in the sales company, but they declined to accept and then I told them to go ahead and sue.

"There was absolutely no ground for the sensational charges they made in their petitions, but I suppose they inserted these charges to embarrass and frighten me and make me come to their terms. I finally compromised rather than engage in prolonged litigation with its consequent notoriety, and now the decks are cleared for action. I have bought them out and I now own all but 243 shares of the 20,200 shares of the different companies. These 243

shares are in the possession of the men who are working with me in the company in Toledo.

"I am going to reorganize all the companies into the Willys-Overland Co., of Toledo. The capital of this company is now \$2,000,000, of which \$1,200,000 has been issued. The other \$800,000 is to be issued to the Overland Automobile Co. of Indianapolis, and when that is done the latter concern will be turned over to the Toledo company, making but one corporation with a capital of \$2,000,000 with \$100 as the par value of each share.

"I am not sorry the Indianapolis stockholders of the American Motor Car Sales Co. filed the suits against me, for it brought things to a show-down and placed me in a position to get rid of them and reorganize the company along the proper lines with one big concern to handle the Overland business."

#### More Tires Coming from Pennsylvania.

For the manufacture of automobile tires the J. Ellwood Lee Co., an old-established rubber concern of Conshohocken, Pa., is building a two-story concrete factory on a site recently purchased about a mile outside of Philadelphia. The plant is to have a capacity of 500 casings and 1,000 tubes per day. For some time the company has been making white, single cure, wrapped tread tires, known as the Jelco, the production being about 20 a day; but upon the completion of the new factory the concern will add what it styles the Paynter non-skid tire, having grooves and suction cups in the tread.

#### Texas Makers to Enlarge Operations.

The Southern Motor Car Co., of Houston, Tex., has effected a reorganization and elected a new set of officers, following the additional subscription of \$40,000 worth of the original \$60,000 capital stock. The company was formed in July, 1907, and has been making the Dixie car. With the additional capital now available it will enlarge its manufacturing facilities considerably. The new officers are Will G. Brown, president; E. M. Pavey, vice-president and general manager; S. Fred Thompson, second vice-president and sales manager; E. E. Parson, secretary and treasurer.

#### Germans Seeking the Homo Rights.

Reversing the somewhat too familiar process of "borrowing" foreign ideas for American consumption, it is noteworthy that the manufacturers of the Benz car for some little time has been using the "Homo" mixing device on the carburettors of its racing cars in various contests abroad. So successful has been the result, it is said, that the concern has made application to the Gasolene Motor Efficiency Co., of Jersey City, N. J., manufacturers of the Homo, for the selling rights covering the entire European territory.

## BRANCH FACTORY IN SOUTHWEST

### Fort Worth is Told that Overland Will Establish One There—Cash Bonus and Factory Site.

Significant in indicating that the "Great Southwest" is regarded as a coming automobile market, in line with the remarkable demand already evinced this year, a branch factory for Overland cars is to be established in Fort Worth, Tex., by the Willys-Overland Co., of Toledo, O., according to the announced plan of John N. Willys, its president.

As previously told in the Motor World, Willys was in Texas a few weeks ago, with an eye to locating a branch factory in that State, and Fort Worth among other cities was favorably regarded. Since that time the Fort Worth boomers themselves have taken the initiative and have raised \$100,000 in cash and found a free factory site as an inducement to the Willys-Overland Co. to select their town rather than Houston, Dallas, New Orleans or other Southwestern rivals.

Following a visit by a delegation of these Fort Worth "boosters," headed by Mayor W. D. Davis and H. T. Edgar, of the Fort Worth Board of Trade, a second trip to Fort Worth was made by Willys, and at a banquet given to him before his departure, he declared the Board of Trade's offer of cash and land entirely satisfactory.

"The Southern assembling plant of the Overland will be located in Fort Worth," Willys told the local men. "Fort Worth's offer will without doubt be accepted, although a definite answer cannot be delivered for a couple of weeks because of some matters pending in the East. If everything works out as it is planned, the plant will be in operation long before the first of the year and will employ not less than 400 men in the beginning."

#### Huge Addition to Firestone Plant.

Work has commenced on the erection of a \$500,000 plant in South Akron for the Firestone Tire & Rubber Co., of Akron, O. The main building will be 360x265 feet and five stories high, while the power house will be a separate building, 150x100 feet. The specifications with the contractor provide that the building must be ready by the first of January.

#### Findlay Sees Fourth Factory Coming.

Prospects of a fourth automobile factory in Findlay, O., are elating the citizens of that place, as another company has been organized in addition to the Adams Brothers Motor Truck Co. and the Findlay Motor Car & Carriage Co., which already are actively producing, and the Findlay Motor Car Co., recently organized by L. E. Ewing,

of Cleveland, and which has taken the Findlay Axe & Tool Co. plant. The newest enterprise is to be known as the Findlay Automobile Co., and has been incorporated with \$10,000 capital by Merle N. Poe, Lewis D. Firmin, F. E. Hurley, C. L. Fleming and G. E. McCullough, all young business men of Findlay. The company plans to make commercial vehicles for both light and heavy service.

#### Demotcar Runs Short of Cash.

Creditors of the Demotcar Co., of Detroit, Mich., have been called into conference to consider whether it is best to close it out or to let it continue. A committee of three has been appointed to make a thorough investigation of the concern's affairs. The liabilities are placed at \$174,000, but the officers maintain that the assets exceed this amount and that the company's difficulties are due chiefly to a lack of cash capital. The company makes a low-priced car and also had a lot of stock certificates for sale.

#### Garage Owners Choose Directors.

Charles D. Case has been appointed manager of the newly formed Garage Owners' Association of New York, to which only garage concerns in New York City and its vicinity are eligible. The directors chosen for the coming year are G. Edward Shaw, Columbus Garage; D. L. Dean, Uptown Garage; W. D. Carleton, Co-Operative Garage; I. D. Siegel, Taxicab Auto Co.; C. S. Bader, Imperial Garage; W. S. Horner, Harlem Automobile Co., and Austin P. Palmer, Knickerbocker Garage.

#### New Head for Anhut Company.

The Anhut Motor Car Co., of Detroit, Mich., has been reorganized, John Anhut having been placed in charge of the sales department and being succeeded as president by William Walker, of Walker Bros., caterers. Charles E. Hinkle has been made secretary.

#### Velie to Build its Own Motors.

The Velie Motor Vehicle Co., of Moline, Ill., has made arrangements for the building of shops for the manufacture of gasolene motors for its cars. The company heretofore has obtained its engines from outside sources.

#### Pennsylvania Opens Branch in Detroit.

The Pennsylvania Rubber Co. has established a branch house in Detroit at 882 Woodward avenue. It is in charge of George E. Goble, who previously represented the company in the Middle West.

#### Sands to Manufacture Self-Starters.

The Sands Specialty Co. has been organized in Cleveland, O., to manufacture the Sackman self-starter for motor cars. W. H. and C. M. Sackman are the moving spirits in the enterprise.

## APRIL PROVES BIG EXPORT MONTH

Rapid Swelling of Foreign Trade Continues  
—Canadians Buy Heavily—Gains in  
Most of the Divisions.

The high record in the export of automobiles from the United States, established in March, 1910, was broken in April, when the shipments attained a value of \$1,213,044, compared with \$720,423 during April, 1909. The total number of cars was 687, as against 478. The average value of exported cars increased from \$1,418 in April, 1909, to \$1,523 in the same month of 1910.

The heaviest buyer of American-made cars, as for some time past, was British North America, which accounted for \$547,646 worth, compared with \$199,798 in April, 1909, showing an increase of 175 per cent. On the other hand, a slight falling off was registered in the trade with France, which took \$106,689 worth, as compared with \$121,773 in the same month of last year, and Other Europe, which accounted for \$62,433, as against \$75,044. Small losses were shown by Mexico, British Australasia and Other Countries, but their aggregate amount was but \$24,294. Great Britain once more increased its purchases of American cars, buying \$206,976 worth as compared with \$163,101 in April, 1909. Germany, also, after a period of light buying, invested more heavily, taking \$36,988 worth, as against \$8,487 in the same period of 1909. Italy, too, increased its imports from \$25,700 to \$71,891.

During the ten months ending April, 1910, every one of the fourteen geographical divisions took more than in the corresponding period of the last year. British North America leads, with \$3,057,456, as against \$1,123,273 for the same months of 1909, and is far ahead of the United Kingdom itself, the next largest customer.

The total for the ten months of the fiscal year was \$7,595,315, as against \$3,999,459 for the previous corresponding period, while the cars numbered 4,867, as against 2,008. The record in detail follows:

	April		Ten months ending April		
	1909	1910	1908	1909	1910
Automobiles and parts of—					
Automobiles .....	\$677,965	\$1,046,424	\$3,619,237	\$3,523,715	\$6,418,882
Parts of .....	42,458	166,620	488,831	475,744	1,176,433
Exported to—					
United Kingdom .....	163,101	206,976	1,370,943	1,094,635	1,551,576
France .....	121,773	106,689	487,293	337,729	482,855
Germany .....	8,487	36,988	104,494	69,945	154,793
Italy .....	25,700	71,891	231,296	189,036	289,818
Other Europe .....	75,044	62,433	116,617	234,797	247,087
British North America .....	199,798	547,646	715,770	1,123,273	3,057,456
Mexico .....	57,624	49,087	339,218	337,363	455,957
West Indies and Bermuda .....	10,807	21,808	234,478	228,400	394,387
South America .....	14,488	43,286	192,199	120,435	275,120
British East Indies .....	6,364	9,025	26,947	23,373	36,170
British Australasia .....	20,815	10,011	147,812	101,123	307,312
Other Asia and Oceania .....	6,383	30,266	112,651	88,530	209,573
Africa .....	3,540	15,376	7,161	32,990	91,339
Other countries .....	6,499	1,562	21,189	17,830	41,872
Totals .....	\$720,423	\$1,213,044	\$4,108,068	\$3,999,459	\$7,595,315

## Changes Effectuated in Pennsylvania Rubber.

The Pennsylvania Rubber Co., Jeannette, Pa., has increased its capital stock from \$1,500,000 to \$2,000,000 and is making ready to enlarge its plant. Incidentally, Herbert DuPuy, president of the Crucible Steel Company and for years one of the most widely known men in the steel industry, has assumed the presidency of the Pennsylvania company. Seneca G. Lewis, who recently joined the company as sales manager, has been made general manager, and C. M. DuPuy, formerly sales manager, has been made general manager, and C. M. DuPuy, formerly sales manager, has become vice-president. H. W. DuPuy retains the office of treasurer. These changes are expected to achieve results that will cause them to be felt in many places.

## Owen Organizing His Sales Staff.

J. B. Hulett has been appointed Western sales manager for the Owen Motor Car Co., of Detroit, Mich. He resigns as sales manager of the Robertson Motor Car Co., of Minneapolis, Minn., to accept the new position. The Owen company also has engaged C. E. Wheeler, formerly with H. H. Franklin & Co., as a traveler in the territory east of Buffalo, and E. O. Durfee to take care of Southern territory.

## Lewis and Bate Back from Europe.

William Mitchell Lewis, president of the Mitchell-Lewis Motor Co., of Racine, Wis., and John W. Bate, the designer for the company, have returned from their European sojourn. While abroad Bate visited a number of Italian and French automobile factories for the purposes of observing the most recent developments in European design and manufacturing practice.

## To Enlarge Wisconsin Radiator Plant.

After manufacturing radiators for some time in a small way, the Wisconsin Automobile Radiator Co., of North Milwaukee, Wis., has been incorporated with \$55,000 capital, by Gerhard Aussem, S. S. Lendt and Arthur Zancig, all of North Milwaukee, and will considerably enlarge its operation. A large factory is to be erected at once.

## SECRETS OF TIRE PRICE CUTTING

They Are Revealed to Remove a Visitor's  
Doubts as to "Bargains"—Why  
Casings Are Nameless.

Alluring in a degree, the advertisements of a number of cut-price tire houses, who sell nothing but tires, are so apparently remarkable in their offerings that a Motor World man paid a visit to one of the colony which holds forth in the Thoroughfare building, at Broadway and 58th street, near Columbus Circle, in order that he might get information as to the often-asked question of "How can they do it?" What he saw and his interview with the salesman may help throw light on the nature of the tire offerings on which concerns of this kind find it possible to quote such tempting figures.

In the Thoroughfare building there are about half a dozen cut-price companies selling tires, each company operating under a different name and in competition with the others, but it is more or less an open secret in Automobile Row that most of them have a common inspiration and, dependency on one man, named Max Zeigler, whose relatives and connections form the respective crews for the different enterprises. The Crescent Tire Co., Inc., on the ground floor, was the place visited, as being in a degree representative of them all.

"What price can you make on a Goodrich 34x4 quick detachable?" the Motor World man asked the brisk salesman, who looked as though he might be a Zeigler. The regular consumer's price for such a tire is \$43.65, so that price comparisons easily could be made.

"Just step this way," said the salesman, leading the path through the cramped quarters of the place back to the tire racks. Reaching into the racks, he pulled down a casing and said: "Now there is what you want and our price is \$20."

Surely here was a bargain indeed; so the investigator stepped closer to examine it. The casing was fairly bathed in talc powder, so that superficially it looked quite white, but at those points where the talc was rubbed off, and on the inside it reminded the investigator of ebony or teakwood, which it also seemed to resemble in the qualities of soft, fresh resiliency. Close inspection failed to reveal the Goodrich name, there being no lettering on the tire except a "34x4" size mark in large figures.

"I don't see the Goodrich name on the tire," the visitor declared.

"Ah!" exclaimed the salesman, who was evidently prepared for such an objection. "You see, they would not let us sell the tire at that price if the name was on it. We have to take the name off before we can sell the tire at this low figure. They



got overstocked on this size (34x4), just like any other factory will get overstocked on a size, and so we are helping them to get rid of the surplus in this way. But they don't want their name on them."

It was news that any factory should become overstocked on the one size that above all others is most in demand among tire users, but the Motor World man did not comment on it.

"Now here is an Ennis tire at the same price," said the tire man. The tire was a very close match for the first one, except that it had the Ennis name on it, indicating that it had been made by the Ennis Rubber Co., which at last accounts was in the hands of a receiver. Dismissing the Ennis proposition, the visitor reverted to the first tire.

"How do I know that this is a Goodrich?" was asked.

"We guarantee it to be a Goodrich," was the reply, but nothing more was forthcoming as to the terms or backing of the guarantee.

"Well, is this tire a second?" the inquirer continued.

"It is part of the Goodrich factory overstock, like I told you," explained the salesman; "but if you want to call it a second, why, I'll sell it to you as a second. Yes, I'll sell it to you as a second, but it is just the same as a first only it hasn't got the name on it, because we are selling it at a low price. If you want one with the name on it I can get it for you just as it comes from the Goodrich company, with serial number, and guaranteed, and everything like that, for \$40. But what good is a guarantee to you? You can get two tires like I showed you for the price of a guaranteed tire, so it's worth taking a chance on, isn't it?"

#### Will Distribute Commercial Cars.

The Car Makers Selling Co. of New York has been organized in New York City, to act as Eastern distributors for Dart and other commercial vehicles. The company has a working arrangement with the Car Makers Selling Co. of Chicago, Ill., which controls the output of several factories. Its officers are George L. Derr, president; J. A. Clark, vice-president, and D. McL. Miller, secretary and treasurer. Offices have been taken in the Goodrich building, 1780 Broadway.

#### Sproehle to Locate in Frackville.

The Sproehle Mfg. Co., of Philadelphia, Pa., which has been making automobile parts and which controls a number of patents relating to gears, radiators and a rotary engine invented by F. J. Sproehle, is negotiating with Frackville, Pa., for the erection of an automobile plant. The local board of trade has donated a factory site and the Sproehle company, which is raising its capitalization to \$2,000,000, has promised to accept.

#### The Week's Incorporations.

Detroit, Mich.—Rotary Valve Motor Co., under Michigan laws, with \$100,000 capital.

Bridgeton, N. J.—Hann Automobile Co., under New Jersey laws, with \$50,000 capital; to manufacture automobiles, etc. Corporators—H. L. Howell, C. D. Stowell, Charles A. Hann.

Springfield, Mass.—Automobile Lighting Co., under Massachusetts laws, with \$30,000 capital; to manufacture automobile apparatus. Corporators—H. W. Field, Matthew N. Ryan, C. P. Lyman.

Wellesley, Mass.—Wellesley Auto Transit Co., under Massachusetts laws, with \$25,000 capital; general automobile business. Corporators—W. H. Pfeffer, South Natick; C. N. Taylor, Wellesley.

Chicago, Ill.—International Automobile League of America, under Illinois laws, with \$2,500 capital; automobile owners' legal defence. Corporators—S. W. Newman, Hyman Soboroff, I. J. Bliss.

Chicago, Ill.—Hayes Avenue Garage Co., under Illinois laws, with \$5,000 capital; to do general automobile business. Corporators—Charles Kleinfelder, Alfred R. Pearson, Charles B. Obermeyer.

Detroit, Mich.—Hale Motor & Machine Co., under Michigan laws, with \$125,000 capital; to manufacture automobiles and parts. Corporators—S. E. Hale, Chas. Ritter, J. L. Hudson and others.

Northampton, Burlington County, N. J.—Mt. Holly Garage, under New Jersey laws, with \$100,000 capital; to operate a garage. Corporators—Walter T. Stewart, Ellis H. Parker, W. Roland Warrick.

Buffalo, N. Y.—Dixon Motor Car Co., under New York laws, with \$15,000 capital; general automobile business. Corporators—John C. Dixon, Robert A. Meyers, Arthur L. Dixon, all of Buffalo, N. Y.

Lynchburg, Va.—Automobile Sales Co., under Virginia laws, with maximum capital \$15,000, minimum \$1,000; general automobile business. Corporators—S. Leftwich, G. T. Tomkins, J. M. Gerow.

Auburn, N. Y.—Auburn Ignition Co., under New York laws, with \$25,000 capital; to manufacture and deal in automobile appliances. Corporators—E. A. Raves, William Franke, Charles A. Franke.

Portland, Me.—Portland Motor Mart & Amusement Co., under Maine laws, with \$50,000 capital; to deal in automobiles and appliances. Corporators—R. T. Whitehouse, W. E. Whipple, B. T. Whitehouse.

Greensburg, Ind.—Hamilton Motor Car Co., under Indiana laws, with \$50,000 capital; to manufacture and deal in automobiles. Corporators—H. W. Hamilton, C. P. Corbett, W. W. Bonner, H. T. Woodfill, D. A. Myers.

Boston, Mass.—Waite-Robbins Motor Co., under Massachusetts laws, with \$25,000 capital; general automobile business.

Corporators—F. R. Robbins, Brookline, Mass., and others.

Chicago, Ill.—Charles H. King & Co., under Illinois laws, with \$5,000 capital; automobile garage, storage and repair business. Corporators—Charles H. King, A. L. Dustin and M. Nelson.

Racine, Wis.—The Case Co., under Wisconsin laws, with \$100,000 capital; to manufacture engines, automobiles, etc. Corporators—F. K. Bull, R. T. Robinson, F. Lee Norton, William F. Sawyer.

Minneapolis, Minn.—Girling Motor Co., under Minneapolis laws, with \$25,000 capital; to operate an automobile passenger service between Minneapolis and Anoka. Corporators—Thomas H. Girling and others.

Lynn, Mass.—R. H. Messer Co., under Massachusetts laws, with \$7,500 capital; general automobile business. Corporators—Charles H. Morrill, Robert H. Messer, Stephen H. Tierney; Santry & Santry, attorneys.

New York City, N. Y.—Harper Engineering Co., under New York laws, with \$50,000 capital; to manufacture and deal in engines, automobiles, motor boats. Corporators—E. F. Berkeley, W. Harper, Jr., A. J. Clayton.

New York City, N. Y.—Eastern Auto Distributing Co., under New York laws, with \$1,200 capital; to manufacture and deal in automobiles, carriages, etc. Corporators—Leonard K. Clark, Albert C. Baldwin, Stephen C. Piero.

Dayton, Ohio—Mead Engine Co., under Ohio laws, with \$1,000,000 capital; to manufacture newly invented automobile engine. Corporators—Cyrus G. Mead, Adam Schanze, Edward G. Pease, R. B. Dutch and Carroll Sprigg.

New York, N. Y.—New York Rotary Engineering & Accessories Mfg. Co., under New York laws, with \$50,000 capital; to manufacture motors, engines, taximeters, etc. Corporators—D. Davis, H. Katz, C. M. Lackland, Jr., all of New York City.

Harrisburg, Pa.—Wright Motor Car Co., under Pennsylvania laws, with \$5,000 capital; to manufacture and sell automobiles and motorcycles. Corporators—George H. Reiff, George F. Bobb, Samuel Prowell, E. M. Brennan, Thomas F. Rogers, John J. Rogers.

#### Increases and Decreases of Capital.

Chicago, Ill.—Ranger Automobile Co. increased capital from \$25,000 to \$50,000.

Milwaukee, Wis.—Monarch Motor Co. decreased capital from \$20,000 to \$10,000.

Monroe, Wis.—The E-Z Auto Go-Cart Co. decreased capital from \$50,000 to \$25,000.

North Milwaukee, Wis.—Wisconsin Motor Mfg. Co. increased capital from \$100,000 to \$200,000.

## IN THE RETAIL WORLD.

D. M. Huntington will open a garage in Grand Rapids, Mich.

Guthrie, Okla., is to have a new garage on Noble street. The Williams Bros. are building it.

Schuylkill Haven, Pa., is to have its first modern garage. H. R. Heim is building it on South Main street.

F. C. Wiswell, of Elkhorn, Wis., has opened a garage and repair shop in that town. E-M-F. cars will be featured.

J. C. Hebbe, Fort Atkinson, Mich., has entered the automobile field. His garage is in the Langholf building, 301 South Main street.

Saires & Perrine is the style of a new firm in St. Louis, Mo. They will do general repair work at 523 North Vandeventer avenue.

L. J. Hemington and R. H. Lee will erect a two-story brick garage opposite the court house in Fond du Lac, Wis. It will cost about \$4,000.

The Moore & King Co. is the style of a new firm which has established a garage in Pecos, Tex. The structure is 40x100 feet and built of cement.

F. H. Bloome is building a garage at 1114-1116 Race street, Cincinnati, O. The building is to be two stories high, of concrete, and will cost \$20,000.

George L. Babcock will open a new garage in Plainfield, N. J., next month. The building is of brick, steam heated and will cost, when completed, \$15,000.

The Empire Auto Repair Co. has taken possession of a new garage at 1317-1319 Second avenue, Spokane, Wash. Palmer-Singer and Rambler cars are displayed.

H. T. Lykes, of Tampa, Fla., is building a two story garage at the corner of Jackson street and Florida avenue. It will be 70x95 feet and will cost about \$12,500.

D. M. Wilson, H. Wilson and Waples Burton are building a "daylight" garage at State and King streets, Dover, Del. It will be 100x28 feet, of concrete and plate glass.

Frank J. Briquet, formerly with the Green Bay Motor Car Co., has opened a garage and repair shop at 215 Stuart street, Green Bay, Wis. He will handle the Kline Kar.

Charles M. Larsen has engaged in the automobile business in Waukesha, Wis., under the style of the Auto Supply Co. He will do repair work and rent cars as a side line.

Southworth Bros., automobile dealers and repairers, at Biddeford, Me., are building a three-story concrete garage on Preble street. It will be 150x100 feet and cost \$40,000.

The new salesrooms and garage of the Eureka Motor Car Co., at 257 Central avenue, Albany, N. Y., were opened last week.

Whiting, Cutting and "The Only" cars will be exhibited.

The Rehkopf Bros., wagon repairers, have entered the automobile field and installed a line of supplies and accessories. They are located at 207 West Sixth street, Wichita, Kan.

Clyde O. Maddox has resigned his position as manager of the New Home Telephone Co., Jacksonville, Ind., to enter the automobile business. He is building a garage in Linton, Ind.

Harvey Parker, a well known professional wrestler, has entered the automobile business in Worcester, Mass. As a side line he expects to stage some big wrestling bouts in New England.

M. Falk and Leo Stuts are completing the arrangements for the erection of a garage at the corner of Eden Glen and Lancaster streets, Leominster, Mass. The building will be of brick, 63x83 feet.

Joseph Curt, who some time ago formed the Anthracite Motor Car Co., in Scranton, Pa., has bought out his partners and is now sole owner of the business. He handles the Overland and Corbin cars.

Schmidt & Herres, of the New London (Wis.) Iron Works, have engaged in the automobile business and added a garage to their machine shop. Besides doing general repair work, they will handle the Overland car.

Fire destroyed the garage and machine shop of the Hood River Mfg. & Eng. Co., at Hood River, Ore., on May 18th. No automobiles were burned, although the loss of the machinery is said to have been considerable.

Jesse C. Bradley, president of the Excelsior Motor Car Co., of Milwaukee, Wis., has filed a voluntary petition in bankruptcy. He gives his liabilities as \$204,213 and his total assets as \$21,990, of which \$11,240 is exempt.

The Williams Automobile Co. has removed from Main and Washington streets to a new garage at Twelfth and Main streets, Los Angeles, Cal. Petrels, Brushes and Schacht delivery cars form its "stock in trade."

The American Automobile Co. of Boston, Mass., has established a service department on Green street, Cambridge, Mass., near the old Charles River Park bicycle track. Jack Andrews has been placed in charge.

The old Colonial garage at 214-216 North Jefferson street, Springfield, O., has been rebuilt and enlarged, and is now open for business. W. E. Childs, until recently connected with the Western Motor Co., is the new owner and manager.

Ollinger & Hollinger, automobile dealers in Salina, Kan., have purchased the natatorium and skating rink opposite the National hotel, and will erect there a modern

garage. The style of the firm formerly was the Ollinger Motor Car Co.

W. C. McNabb has sold his interest in the McNabb Iron Works, Atlanta, Ga., and purchased the National garage at 38-40 Auburn avenue, in that city. He will handle the Parry and De Tangle cars, in partnership with T. Stacey Capers.

What has been known recently as the Ripon Auto Co., Ripon, Wis., formerly styled the E. A. Butzke Carriage Works, has again changed hands. H. S. Hart has purchased the estate's interest in the firm and will continue to do general repair work.

The Standard Auto Co., of Houston, Tex., has moved into its new garage at 701-705 Rusk avenue, where it has a floor space of 20,000 square feet. The company has installed a complete day and night service, employing thirteen mechanics in the repair department.

V. W. Shuler, an oil speculator in the Illinois oil fields, has entered the automobile business and opened a garage at Sixth and Walnut streets, Oklahoma City, Okla. He calls it the Standard Auto Garage, and has acquired the agency of the "Standard Six" and Halliday cars.

J. T. Sweeney, who until recently was purchasing agent of the Times Square Automobile Co., of New York City, N. Y., has organized in Philadelphia the Sweeney Auto Co., with offices and garage at 208 North Broad street. He expects to do chiefly a business in used cars.

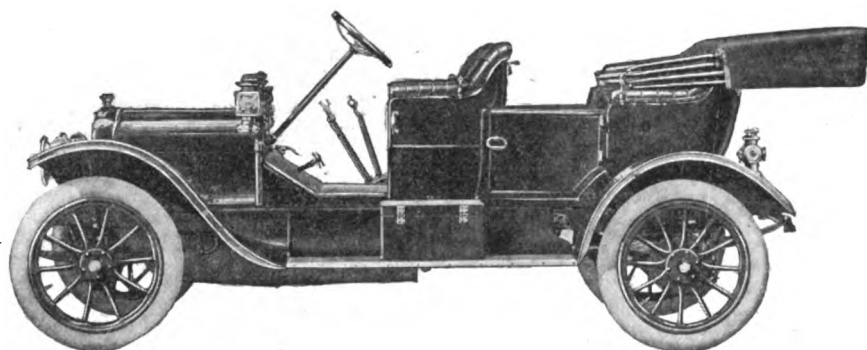
The Wheelock Auto Co., Fargo, N. D., has purchased the Gate City Auto Co. and taken over the latter's garage on N. P. avenue. Overlands, Hupmobiles and Knox cars, as well as accessories and supplies will be dealt in. The Wheelock company still retains its garage and store room on Front street, where most of the repair work will be done.

J. W. Scheuber, a wholesale cigar dealer of Fort Worth, Tex., has bought a controlling interest in the Vernon Motor Car Co., of that city. This company is a merger of the old Vernon company and the E. F. Simmons Co., and has the state agency for the Stevens-Duryea and the Everitt "Thirty," as well as sub-agencies for the Hupmobile, Oakland and Oldsmobile. Mr. Scheuber will direct the office end of the business.

Under the name of The Carl H. Page Associates, several of the officers and employees of the Carl H. Page Co., of New York City, have formed a separate company to represent Chalmers cars in Hartford, Tolland and Windham counties, Connecticut, with working headquarters in the city of Hartford. The company, which will obtain its cars from the Carl H. Page Co., includes Harry Unwin, Joseph Bell, Jr., Philip Baer, Joseph W. Ball, Dean Rankin, Vance Shearer and James J. McKenna.

# WHITE GASOLINE CARS

## for 1911



**SIZE AND POWER**—moderate, therefore, most economical to maintain.

**PRICE**—moderate, therefore, easy to buy.

**DESIGN**—includes many advanced features not found in any other American car.

**QUALITY**—The only moderate sized car wherein every part is just as well built as in the highest-price, high-powered cars.

**DELIVERY**—Very few open dates. First come, first served.

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Write for descriptive matter

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Licensed under Selden patent.

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San Francisco, Market St. at Van Ness Ave.

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**CLEVELAND, OHIO**

Chicago, 240 Michigan Ave.  
Pittsburg, 138-148 Beatty St.  
Atlanta, 120-122 Marietta St.  
Toronto, 170 King St., West.



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### The Duties of Trade Journals.

If there be any ethics in automobile trade paper publishing, the Motor and Accessory Manufacturers, Inc., is taking a step which is calculated to throw at least one phase of them into bold relief. In a diplomatic way the association is "putting it up" to the publishers of automobile papers as to the propriety of publishing the advertising of "shysters" and cut-price houses and particularly those that advertise cut prices in actual figures.

It is good that the matter is to be made an issue, as it will serve to emphasize where some of the automobile publications stand in relation to cut-price houses and whether they recognize any duty to the legitimate trade. If they do recognize any duty which might imperil their income from cut-price houses, they in most cases ignore it, as their advertising pages testify in bearing cut-price announcements and exaggerated and clearly misleading statements.

It is somewhat remarkable that the issue has not been raised earlier, as the harm done by the appearance of such ads in trade papers is wide and mischievous in its extent. Printed in the great dailies the damage is limited to a restricted area; published in trade journals which reach into all parts of the country, the entire trade structure is affected and disturbed. All class journals are avowedly published in the interests of the particular classes or trades they represent, and yet there are not a few of them whose real policy practically is to let not a single dollar escape—to refuse no advertisement that is obtainable and to say nothing that will scare away a cent.

The failure of the legitimate trade to recognize the fact and to act accordingly is one of the things that really makes more difficult the way of the trade journal, such as the Motor World, which recognizes its whole duty and which seeks to fulfil it. In doing so, it must refuse the advertising of cut-price houses and decline to extend credit or advertising space to "shysters" whose ratings and records prove them unworthy of credit and support; it must expose the crooks, speculators, grafters and bubble-blowers, and generally turn light into dark corners and fight abuses of the trade whose interests it faithfully represents.

The performance of the duty entails the loss of thousands of dollars, and when the publisher of such a journal sees the legitimate trade, which respects itself and pays its bills, lending its patronage and giving its money to competitive don't-scare-away-a-dollar publications, he scarcely can be blamed for occasionally harboring what's-the-use thoughts. Generally speaking, the legitimate trade seems not to care nor to appreciate the difference between the true and the false. As the action of the Motor and Accessories Manufacturers is the first evidence to the contrary it cannot but be hailed with delight by all publishers who see their duty and do not fear the cost of performing it.

The Motor World sincerely hopes there will be no let-up in the M. A. M. campaign. It will quicken the consciences of publishers who have the dollar sign always before them and assure a higher order of trade journalism and more real service to the varied interests for which that term stands. Since its foundation, the Motor World has not only closed its columns to cut-price advertisements, but it has exposed the

crooks and grafters and speculators and "second-story men" who have infested the trade and who cast a blighting influence wherever they operate. The policy has enmeshed The Motor World in libel suits for sums as high as \$100,000, but neither suits nor threats of suits or vengeance have served to turn us from our conception of duty; nor will they serve to do so.

### The Lowering of Gear Ratios.

Although it is now some little time since the private motorist has taken a very active interest in the question of gear ratios, evidence is not lacking that the manufacturer has continued to study it with profit. One outcome has been that in a number of instances gear ratios have been lowered within a relatively short time, while it is the understanding that several other forthcoming new models will be lower geared than their immediate predecessors. Several reasons may be urged in favor of moderate gearing, all of them arguing improved running economy and prolonged life of the car. And it is a noteworthy point that, even though lowering the ratio of the final drive reasonably may be expected to lower the maximum possible speed of the machine, few complaints have resulted from the user in consequence of the change and the cars which have been altered in this way have lost no prestige, but rather have gained in certain other respects.

In a general way the movement is merely an incidental expression of the manufacturers' efforts to produce the utmost satisfaction in the mind of the user under average running conditions. Normal running is not done at high speed, but at what, according to modern definition, must be considered very moderate speeds. Despite the great amount of high speed running which is done on open roads, most of a car's mileage is made at rates well within reason and, all things considered, extremely uniform. Such being the case, it behooves the maker so to construct the machine that within the limited range which normal use prescribes, it will develop its best and most economical performance in every respect.

This, in a word, is the reason for reducing the gear ratio. It enables the motor to work to better advantage on high gear, affords a wider range of working conditions on the direct drive, improves its hill-climbing power, permits the engine to turn more rapidly at car speeds below that cor-

responding to the normal rate of engine revolution, and also caters to the present humor of the public, in permitting very low car speeds to be made in the direct drive.

For most purposes the only sacrifice made is that of high speed. But when it is considered that several of the more far-seeing and successful manufacturers have adopted the policy without sacrifice to their business, it is apparent that the movement is doubly significant; that it indicates not only the determination of the manufacturers to afford their products the most advantageous working conditions which it is possible to provide, but also that it reveals on the part of the average motorist of the better class a disposition to outgrow the craze for extreme high speed, which at one time threatened gross injustice and injury to the industry, and to be content with such speeds as, in the words of the law, are "careful and prudent."

One error into which owners of commercial vehicles are apt to fall is that of trusting too much to the judgment of the operator in matters connected with the upkeep and repair of the vehicles. Particularly if the owner has had experience with the trained chauffeur, of the type which has been developed in the pleasure car field, he may be apt to rely unduly on the man who is hired to run his business wagon. He should remember, however, that the latter generally is recruited from the ranks of the teamsters, and that he is not expected to have developed sound judgment or more than a nominal amount of wisdom in handling machinery. One of the aims of the commercial vehicle manufacturer is to reduce the utility vehicle to a point where it will give good service in untrained hands. The owner who places too much confidence in the ability of such a driver, however, is pretty apt to find his operating costs higher than should be expected, and that a considerable amount of time is lost on account of necessary repairs.

Among other things that seem to be overdone badly is the "pathfinding" stunt, preliminary to short tours or contests in well mapped and well known touring districts. If those who do it find it successful for their purposes, either in obtaining publicity for the cars used or in securing even more direct and tangible benefits, there can be no criticism of their wisdom, but it

## COMING EVENTS

June 3-4, Buffalo, N. Y.—Automobile races at Fort Erie.

June 4, St. Louis, Mo.—Automobile Club of St. Louis reliability contest.

June 4, Portland, Me.—Portland "Telegram" hillclimb on Morrison hill, West Cumberland.

June 4, Worcester, Mass.—Automobile Club of Worcester's annual hillclimb on Dead Horse hill.

June 4, Philadelphia, Pa.—Quaker City Motor Club's race meet at Point Breeze track.

June 6, Atlanta, Ga.—Start of second annual New York-Atlanta Good Roads Tour, ending in New York June 14.

June 6-9, Richmond, Va.—Richmond "Times-Dispatch" endurance run to Raleigh, N. C., and return; 420 miles.

June 7, West Haven, Conn.—Yale Automobile Club's third annual hillclimb on Shingle hill.

June 11, Newark, N. J.—New Jersey Automobile and Motor Club's 280 miles reliability run.

June 11, Wilkes-Barre, Pa.—Wilkes-Barre Automobile Club's annual hillclimb on Giant's Despair.

June 14-15, New York City—Motor Contest Association's biennial "Around Long Island" reliability run.

June 14-30.—American Automobile Association's seventh annual national touring and reliability contest for the Glidden trophy, starting from Cincinnati and finishing at Chicago.

June 16-22, Albany, N. Y.—Albany Automobile Club's sixth annual tour to Atlantic City, N. J., and return.

June 25, Port Jefferson, N. Y.—Automobile Club of Port Jefferson's hillclimb on East Broadway hill.

June 28-30, St. Louis, Mo.—St. Louis Manufacturers' and Dealers' Association's endurance run for "Star" trophy.

July 1, 2 and 4, Indianapolis, Ind.—Grand Circuit meeting on Motor Speedway.

July 2, Wildwood, N. J.—North Wildwood Automobile Club's roadability run from Philadelphia to Wildwood.

July 4, Wildwood, N. J.—North Wild-

wood Automobile Club's annual beach race meet on Ocean Drive.

July 4, Indianapolis, Ind.—Chicago Automobile Club's second annual race for the Cobe trophy on Motor Speedway.

June 11, Baltimore, Md.—Automobile Club of Maryland's hillclimb.

July 13, Winnipeg, Man.—Winnipeg Automobile Club-Winnipeg Motor Trades Association joint racemeet.

July 18-22, Milwaukee, Wis.—Wisconsin Automobile Association's first annual endurance test for "Milwaukee Sentinel" trophy.

July 30, Wildwood, N. J.—North Wildwood Automobile Club's race meet on Wildwood Speedway.

August 3-5, Galveston, Tex.—Galveston Automobile Club's beach races.

August 6, Philadelphia, Pa.—Quaker City Motor Club's race met at Point Breeze track.

August 6, Wildwood, N. J.—North Wildwood Automobile Club's beach race meet on Ocean drive.

August 12-13, Indianapolis, Ind.—First 24 hours race on Indianapolis Motor Speedway.

August 15, Washington, D. C.—Start of second annual Frank A. Munsey reliability contest.

September 5, Wildwood, N. J.—North Wildwood Automobile Club's beach race meet on Ocean drive.

September 10, San Francisco, Cal.—Automobile Club of California's road race in Golden Gate Park.

September 10, San Francisco, Cal.—Automobile Club of California's Portola road race in Golden Gate Park.

September 17, Syracuse, N. Y.—Automobile Club of Syracuse-Syracuse Automobile Dealers' Association joint racemeet at Fair Grounds track.

September 18, Los Angeles, Cal.—Annual road race up Mount Baldy.

October 1, Mineola, L. I.—Sixth annual Vanderbilt Cup race on Long Island Motor Parkway, under the auspices of the Motor Cups Holding Co.

October 8, Philadelphia, Pa.—Quaker City Motor Club's road race in Fairmount Park.

October 15, Mineola, L. I.—Motor Cups Holding Co., 278 miles international road race on Motor Parkway, for the Grand Prize of the Automobile Club of America.

is time that those who are brought into contact with the alleged "pathfinders" and their plans should keep their eyes open as to the real character of some expeditions of the sort. Just why "pathfinding" should be necessary for trips over roads that are almost as well known as those in Central Park may not be apparent to the average

motorist, but light begins to dawn when it is pointed out that in some cases the "pathfinding" is chiefly for the purpose of arranging a "rake-off" from hotel proprietors along the route. To style such journeys as "pathfinding" or "blazing the trail" is an unwarranted euphemism for non-adventurous and sordid business trips.



## GREAT GOING AT INDIANAPOLIS

First Championship Meeting Supplies Fine Sport and 24 New Records—Aitken Wins Two Title Events—Enormous Crowds Attend.

That the  $2\frac{1}{2}$  miles brick-surfaced Indianapolis Motor Speedway, just outside the Indiana city of that name, is one of the fastest race courses in the world, there can

was proved by the Indianapolis meet. Records fell as chaff before a northern gale, and it is not exaggerating to state that never before in the history of automobile racing have so many records been wiped from the slate at a single meet. Not only were previous marks eclipsed, but in several instances new records were placed on the books one day only to be supplanted by better performances the following day.

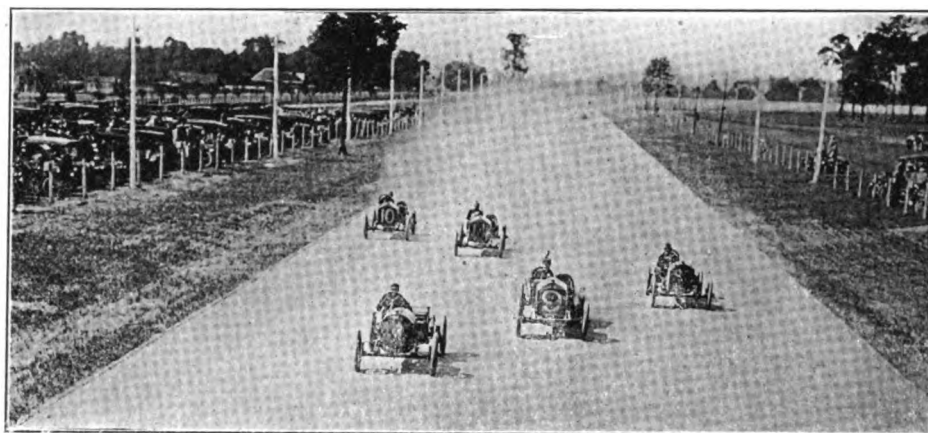
Insofar as record-breaking was con-

On Friday, the first day of the meeting, the attendance was 15,000, which ensemble was increased to 25,000 on Saturday. As Monday was a general holiday, it was to be expected that the attendance would reach top notch calculations, but even the box office experts did not expect 60,000 persons to pass through the gates. Of this number, at least 2,500 came to the course in automobiles. Everyone seemed satisfied with the racing, which was peppery and full of thrills, in contradistinction to the runaways that have characterized other meetings.

For the first time in the history of American automobile racing a strict interpretation of the rules as regards stock models was insisted upon, and the microscopic search of the technical committee of the American Automobile Association caused some hard feelings among a few of the proposed entrants. Their rulings, though apparently exacting to those affected, were no more than just to those manufacturers who had complied with the rules. The technical gentlemen passed upon the entries the day before the meeting and declared the Buick models 16A, 16B and 100, the Jackson model 30, the Westcott model F, the Cutting model 50, the American Speedster, the Fuller 1911 Roadster, and the Empire 1911 model C, had not been produced in sufficient quantities to entitle them to be regarded as stock models. These cars accordingly were barred from the events in which they had been entered.

First Day—May 27th.

To win an event and not know it was



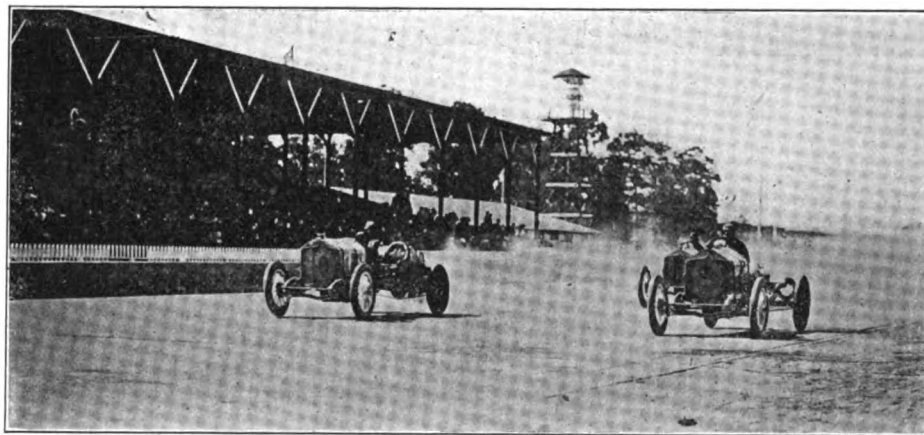
HOW THEY LOOKED COMING DOWN THE STRETCH

be no doubt. The three days' meeting there on Friday, Saturday and Monday last, May 27, 28 and 30, proved the claim beyond possible argument, and incidentally the three days' meeting will be inscribed in the pages of automobile race history as one of the most successful meetings ever held in America if not in the world. Not only were a great many American speedway records broken and further annihilated, but the combined attendance of the three days far surpassed any similar occasion in America. In addition to the records established for speed and attendance, the occasion was, incidentally, the first automobile championship meet ever held in America and six titular events were decided, with five different drivers figuring in them.

John Aitken, who pilots a National as well if not better than any other driver could do, was the only knight of the steering wheel to pluck two championships; he captured both the 5 and 10 miles titles for cars between 301 and 450 cubic inches piston displacement. Aitken was not the only champion that was created at the meet, however, as Harroun and Dawson, both reliable Marmon cracks, won the 10 and 5 miles title races for cars within the 231-300 cubic inches class, and Chevrolet, the erratic Frenchman, succeeded in capturing the 10 miles championship for cars in the 161-230 cubic inches class. The only championship event for cars in the 451-600 cubic inches class was at the 10 miles distance and the Knox car, with Oldfield up, annexed the honor.

That the manufacturers have not been idle during the past few months certainly

cerned the honors were not one-sided. It is true that Marmon cars set up 15 of the 24 new marks, but they were divided between two drivers—Harroun and Dawson—while the National cars, ably piloted by Kincaid and Aitken, also succeeded in obtaining their share of records. The Knox, too, figured in the discomfiture of Father



CLOSE FINISH IN 10 MILES EVENT, AITKEN WINNING

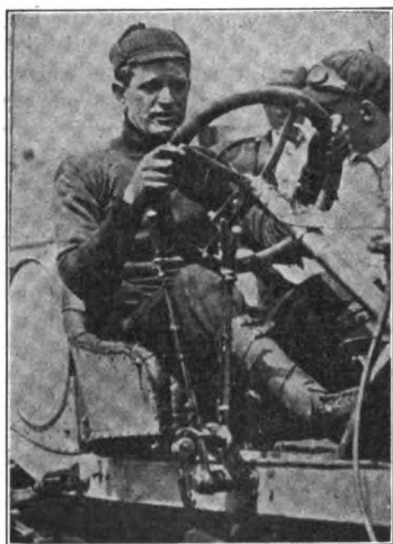
Time. The old gentleman was sadly battered.

As regards attendance the gate receipts surpassed even the expectations of the promoters. The Indianapolis Motor Speedway has cost the builders an immense outlay of money, but if the three days' meeting last week is to be a criterion of future gatherings, the financial backers have excellent reason to chuckle to themselves and not feel discouraged as the result of last season's two meetings.

the unusual experience of Tom Kincaid, the National pilot, on Friday, the opening day of the meet. Kincaid won the 100 miles event for the Prest-O-Lite trophy, but the race had developed into such a kaleidoscopic whirligig long before the finish that Kincaid could not be made believe that he had annexed the stellar honors of the first day's program.

The big race was the feature of the afternoon and many new records for cars within the 301-450 cubic inches piston displace-

ment category were recorded as the result of the event. Seven drivers lined up for the start, as follows: Kincaid in the National, Lynch in a Jackson, Dawson in a Marmon, Harroun in a Marmon, Aitken in a National, and Fox at the wheel of a Pope-Hartford. Aitken set the pace for the first 19 miles, when Harroun went to the front and hung up new records for 20 and 30 miles. At this juncture Harroun had trouble and relinquished the lead to his teammate, Dawson, who slashed the records for 40, 50, 60, 70 and 80 miles. In the 85th mile, when he was leading by two laps, or five miles, Dawson was compelled to stop for a few minutes, and this slip-up sufficed to give the lead to Kincaid who was nosing along in second position like a bloodhound on the scent of a renegade. Kincaid stepped to the front and refused to be dislodged, hanging up a new record



JOHN AITKEN

for 90 and 100 miles, and winning the valuable trophy. When he was flagged and drew up alongside the pits Kincaid refused to believe that he had won the race, and it was some minutes before he could be convinced that the informants were not "stringing" him. When he learned that it actually was a fact, Kincaid hugged his mechanic in true Gaelic fashion.

The mile time trials which opened the meet were not spectacular, Bragg's Fiat scoring the fastest time, in 39½ seconds. Marmons, guided by Harroun and Dawson, ran one and two in the 10 miles for cars between 231 and 300 cubic inches, and Kincaid copped the 5 miles for cars in the 301-450 category, but was defeated by Aitken, his stable mate, in the race for larger machines. Greiner in a National won the 5 miles free-for-all and also nosed the way to the tape in the amateur race. The summaries:

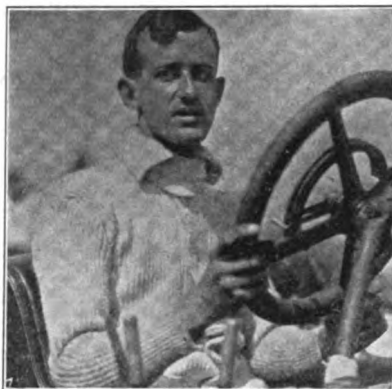
One mile time trials—Lytle, American, 0:46.05; Kincaid, National, 0:46.55; Aitken, National, 0:43.3; Bragg, Fiat, 0:39.5; Har-

roun, Marmon, 0:41.05; Kerscher, Darracq, 0:43.4.

Five miles, 161-230 cubic inches—Won by Chevrolet, Buick; second, Endicott, Cole; third, Frayer, Firestone-Columbus. Time, 4:41.77.

Ten miles, 231-300 cubic inches—Won by Harroun, Marmon; second, Dawson, Marmon; third, Fox, Pope-Hartford. Time, 8:16.8.

Five miles, 301-450 cubic inches—Won by Kincaid, National; second, Dawson, Marmon; third, Harroun, Marmon. Time, 4:05.76.



CALEB BRAGG, THE "AMATEUR"

Ten miles, 451-600 cubic inches—Won by Aitken, National; second, Kincaid, Na-

#### Records Established at Indianapolis.

##### 161-230 Cubic Inches.

Miles.	Driver and Car.	Time.
5	Chevrolet, Buick	4:41.77
10	Burman, Buick	9:03.6

##### 231-300 Cubic Inches.

5	Dawson, Marmon	4:04.13
10	Harroun, Marmon	8:16.8
25	Harroun, Marmon	21:48.9
30	Harroun, Marmon	26:06.11
40	Harroun, Marmon	34:25.4
50	Harroun, Marmon	42:41.33

##### 301-450 Cubic Inches.

5	Kincaid, National	4:05.76
10	Aitken, National	7:57.1
20	Harroun, Marmon	15:57.63
30	Harroun, Marmon	24:18.15
40	Dawson, Marmon	32:30.37
50	Dawson, Marmon	40:28.1
60	Dawson, Marmon	48:21.74
70	Dawson, Marmon	56:17.4
80	Dawson, Marmon	1:04:18.7
90	Kincaid, National	1:15:51.3
100	Kincaid, National	1:23:43.12

##### 451-600 Cubic Inches.

5	Oldfield, Knox	4:01.3
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##### Regardless of Class.

150	Harroun, Marmon	2:02:16.0
200	Harroun, Marmon	2:46:31.0
1 kilo,	Oldfield, Benz	0:21.45
1 mile,	Oldfield, Benz	0:35.6

tional; third, Wilcox, National. Time, 8:25.94.

Five miles free-for-all handicap—Won by Greiner, National; second, Tousey, Na-

tional; third, Reed, Stoddard-Dayton. Time, 3:44.9.

Five miles amateur—Won by Greiner, National; second, Tousey, National. Time, 4:09.3.

Five miles free-for-all scratch—Won by Burman, Buick; second, Bragg, Fiat; third, Harroun, Marmon. Time, 3:37.24.

One hundred miles for the Prest-O-Lite trophy, 301-450 cubic inches—Kincaid, National; second, Merz, National; third, Lynch, Jackson. Time, 1:23:43.12.

#### Second Day—May 28th.

With nearly twice as many spectators in the grandstand and bleachers as on Friday afternoon, Saturday's racing was auspicious. The 200 miles race for the Wheeler & Schebler \$10,000 trophy was the magnet for all the crack drivers; the ultimate capture of it by Ray Harroun and his Marmon



THOMAS KINCAID

practically justified his claim to honors as a non-stop performer. Harroun stopped only once in his long flight that dealt the record table a staggering blow, and that once was not because of mechanical trouble, but for the purpose of replenishing fuel.

There were several spectacular finishes and two accidents, and these were gingery enough to satisfy the spectators even if they were not heartily endorsed by the principals. One accident occurred in the 10 miles handicap and Herbert Lytle, whose numerous escapades have earned for him the doubtful honor of being regarded as the "hard luck driver," was the victim. Lytle's accident was as spectacular as it was unusual. Both rear tires blew out within 30 feet of each other and before he could shut off the power the car had swerved into the soft infield and upset. Lytle was sent to the emergency hospital with a broken left leg, while William Clifton, his helper, escaped with a sprained right shoulder.

The other accident occurred during the running of the famous Wheeler & Schebler trophy race. Dawson's car slipped a tire on the backstretch and skidded into the soft dirt inside the edge of the oval. After turning a complete somersault with Dawson still clinging to the wheel, the car stopped, with all the wheels stripped to the hubs. No more spectacular accident ever happened with so little consequence, Dawson not suffering so much as a scratch.

one of the remaining events. The summaries:

One mile time trials—Motsinger, Empire, 1:07.1; Lytle, American, 0:44.14; Aitken, National, 0:46.3; Bragg, Fiat, 0:41.3; Harroun, Marmon, 0:42.33; Kerscher, Darracq, 0:41.83.

Ten miles, 301-450 cubic inches—Won by Aitken, National; second, Harroun, Marmon; third, Merz, National. Time, 8:08.3.

Five miles, 451-600 cubic inches—Won by

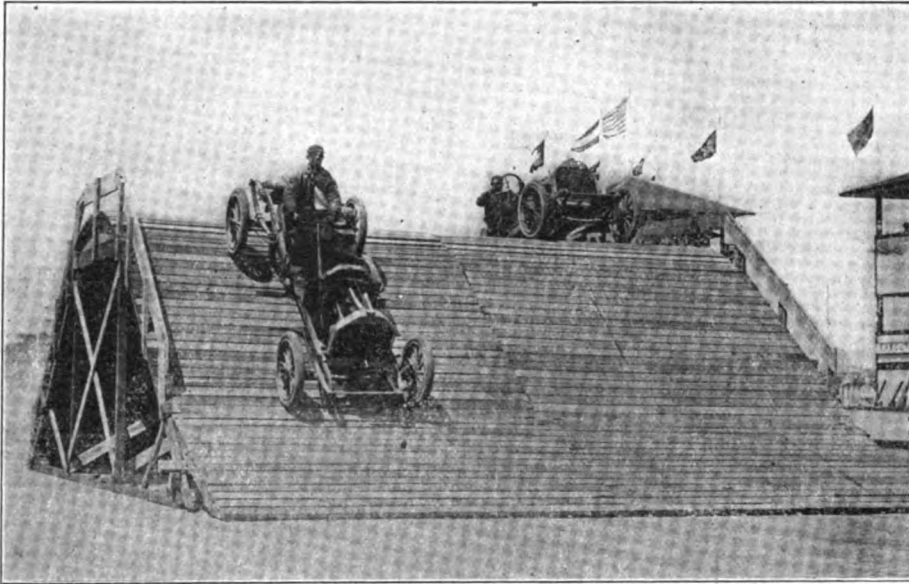
second, Lynch, Jackson; third, Aitken, National. Time, 2:46:31.

Third Day—May 30th.

Six national championships and the 50 miles race for the Remy Brassard were the features of the closing afternoon's program to a most successful meeting. The two preceding days had been so successful that 60,000 people attended the final instalment, and they were not short-changed in excitement, either.

Ray Harroun is indeed a much-blessed man. He combines his fund of technical knowledge with a natural gift of fearless driving, and this dual capacity came in handy on Monday. Not only did Harroun ascend to the honor of one of the national championships, but he won the Remy Brassard, a continuation of the old bicycle idea, the terms of which gift stipulate that Harroun shall draw a weekly stipend of \$50 until some other driver wins the arm circlet from him. As the next meeting will not take place until July Harroun at least is assured of gasoline money until then.

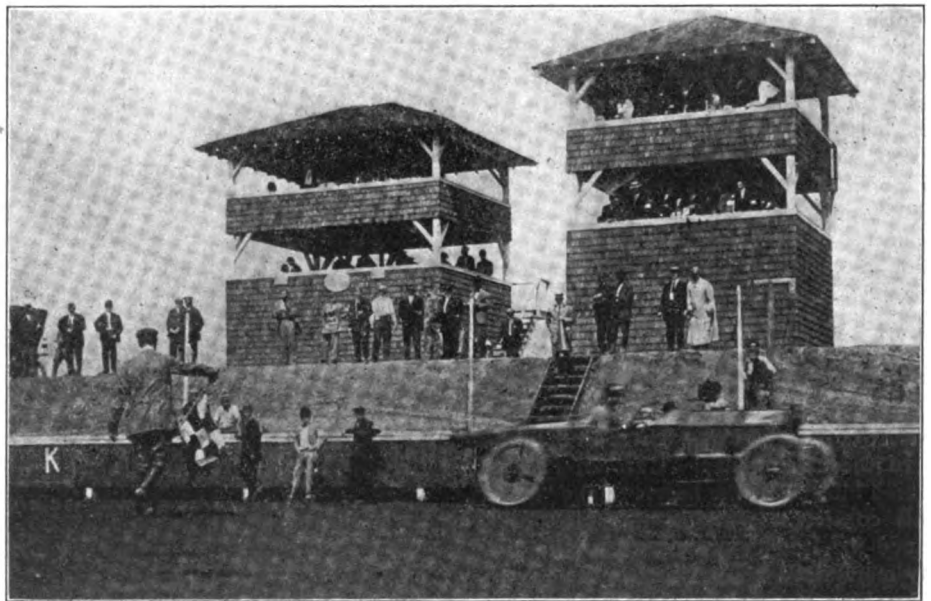
In the six national championship events the honors were well distributed, so that everyone should feel satisfied. Harroun really was the hero of the day. Besides winning the Remy Brassard and one of the titles, he figured in an exciting episode that brought out his nerve in unmistakable manner. While warming up his engine preliminary to one of the events a front tire



"HURDLING" THE OBSTACLE IN THE OBSTACLE RACE

In the early part of the race Chevrolet, following his usual custom, began battling out the laps as though it were his last day on earth and he wished to roll up as many miles as possible in that time. The natural result was that he soon flunked and Burman, his teammate, after whirling some dizzy miles, kept him company in the repair pits. Harroun's consistency then became apparent, and he led at 10 miles, with Kincaid running a close second. After the 15th mile Harroun was never headed, while Dawson kept him company until he went through the fence, this occurring in the 61st mile. Lynch, the doughty Jackson man, then began to show his caliber, and ran into second place, which he maintained until the finish, not having stopped once. Aitken, National, finished third; he drove a stock "Forty" and not a National "Sixty" as was reported.

One of the interesting features of the meet was a 2½ miles hurdle race for Overland cars. This event raised the curtain to the meet. Two "board hills," at an angle of 45 degrees were placed on the track, and the cars had to climb over and descend these artificial bumps. Of the six drivers entered three had the nerve to take both hurdles, Myers finishing the two miles in 3:28.52, excellent time, considering the hazardous nature of the test. Bragg's Fiat made the best time in the mile trials, and Oldfield, Wilcox and Aitken each captured



HARROUN AND THE MARMON BEETLE IN FULL FLIGHT

Oldfield, Knox; second, Herr, National; third, Aitken, National. Time, 4:03.24.

Ten miles free-for-all handicap—Won by Wilcox, National; second, Lynch, Jackson; third, Clarke, Cutting. Time, 10:55.33.

Two and one-half miles hurdle race for Overland cars—Won by Myers, 3:28.52; second, McGee, 3:38; fourth, Gregg, 4:43.

Two hundred miles for Wheeler & Schebler trophy—Won by Harroun, Marmon;

worked off and Harroun was left to the mercy of uncertain traveling. He did not become flustered, but stuck to the car even though it rushed at the cement barrier at the backstretch, and tore out a four foot section of it. Following this episode Harroun went in the 50 miles grind and won the race. He is a man devoid of nerves. During the afternoon Harroun was called to the front and presented with the Wheeler

& Schebler trophy and the \$1,000 check which the trophy carried with it.

The first of the championship events run was the 10 miles for cars in the 161-230 cubic inches class and Chevrolet captured the title without any real contention. This was followed by the 5 miles championship for 231-300 machines, and Dawson and Harroun, both on Marmons, ran first and second. The third titular event was at 10 miles for cars of the same engine dimen-

mon; second, Harroun, Marmon; third, Anderson, Marion. Time, 4:41.3.

Five miles free-for-all—Won by Bragg, Fiat; second, Kerscher, Darracq; third, Aitken, National. Time, 3:34.70.

One kilometer against time—By Oldfield, Benz, 0:21.45.

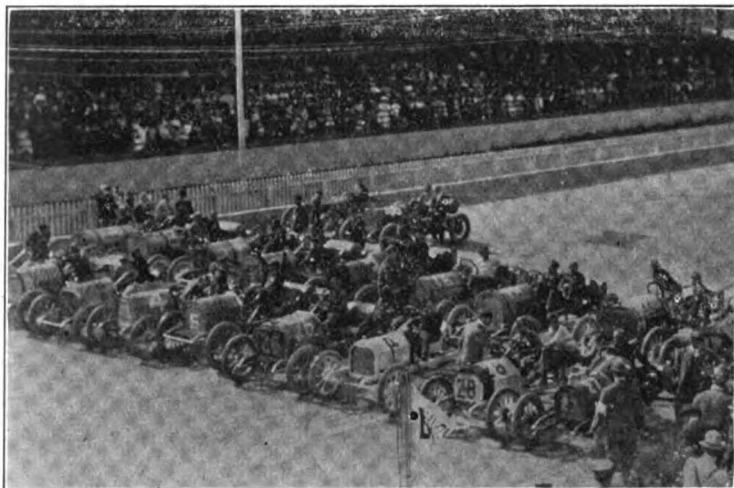
Ten miles National Championship, 231-300 cubic inches—Won by Harroun, Marmon; second, Dawson, Marmon; third, Anderson, Marion. Time, :35.21.

second, Merz, National; third, Kincaid, National. Time, 7:50.75.

Ten miles National Championship, 301-450 cubic inches—Won by Aitken, National; second, Kincaid; National; third, Merz, National. Time, 7:51.71.

Ten miles free-for-all—Won by Bragg, Fiat; second, Kerscher, Darracq; third, Titten, National. Time, 7:02.6.

One mile against time—By Barney Oldfield, 0:35.6.



LINED UP FOR THE TROPHY RACE



THE START OF THE TROPHY RACE

sions, and it provided a close finish between Harroun and Dawson, the former proving victorious. Anderson set the pace until the last lap, when he was out-jockeyed in the spring for the finish.

Aitken and his consistent National car proved victorious in both the 5 and 10 miles championship races for cars with engines between 301 and 450 cubic inches. In both events Kincaid had the runner up position, while Merz was third twice. The 10 miles championship for cars between 451 and 600 cubic inches was won in clever fashion by Oldfield's Knox, which outran Merz and Kincaid in the final spurt. Caleb Bragg, the so-called amateur, inscribed his name in the books by winning two free-for-all races with his Fiat.

Nine cars started in the 50 miles Remy Brassard Grind and this event was the feature of the closing day. Harroun further endeared himself to the hearts of the "fans" by his consistent work in this race. He assumed the lead before the 30th mile and easily maintained his position until the finish, breaking the class record in so doing. Dawson, his stable mate, was second, and Fuller, in a Pope-Hartford, came in for third award. The summaries:

Ten miles free-for-all—Won by Bragg, Fiat; second, Kincaid, National; third, Aitken, National. Time, 7:21.95.

Ten miles National Championship, 161-230 cubic inches—Won by Chevrolet, Buick; second, Burman, Buick; third, Miller, Warren-Detroit. Time, 9:00.36.

Five Miles National Championship, 231-300 cubic inches—Won by Dawson, Mar-

mon; second, Harroun, Marmon; third, Kincaid, National; second, Merz, National. Time, 4:06.7.



HOWARD AND W. C. MARMON  
AND MANAGER RICE

Five miles free-for-all handicap—Won by Reed, Stoddard-Dayton; second, Harvey, National; third, Aitken, National. Time, 3:38.6.

Ten miles National Championship, 451-600 cubic inches—Won by Oldfield, Knox;

Fifty miles for Remy Grand Brassard, 231-300 cubic inches—Won by Harroun, Marmon; second, Dawson, Marmon; third, Fuller, Pope-Hartford. Time, 42:41.33.

#### Regal Plugger has a Close Call.

R. W. Dean and Lee Cuson, who are piloting the Regal Plugger on its 5,000 miles "around the circle" journey, had a narrow escape from drowning near St. Charles, Mo. While crossing a weakened bridge across the Missouri river, the structure collapsed and the car and its occupants were precipitated into the stream. The drop was not great but the water was deep and the men saved themselves only by swimming. Later the Regal car was raised by a derrick, which by great good fortune chanced to be at work near by, and the journey west was resumed early the next day.

#### Jackson Withdraws Suit for Trophy.

The Jackson Automobile Co., of Jackson, Mich., has withdrawn its suit against the Indianapolis Motor Speedway for possession of the Wheeler & Schebler trophy. The Speedway officials have inscribed on the cup the record of the Jackson's performance in the race for the trophy last August, when a Jackson, driven by Leigh Lynch, was comfortably in the lead at the end of 235 miles, when the race was stopped on account of the dangerous condition of the track, and the event declared "no race." When it was refused possession of the trophy, the Jackson company promptly instituted legal proceedings.



## EASY RUN TO RICHMOND AND BACK

Washingtonians Take a Four Days' Jaunt to Virginia Capital—Twenty Cars "Survive" the Trip.

Sprinkled with dust accumulated in 465 miles of travel over Virginia highways, 20 of the 21 contesting cars in the Washington "Post's" second annual endurance run to Richmond, Va., and return, which rolled out of the National Capital Friday morning, 27th ult., returned to it Tuesday afternoon, 31st ult.; eight of them had perfect scores.

That the contest was much in the nature of a pleasure jaunt may be gleaned from the number of survivors and from the fact that those who were penalized incurred their demerits for trivial causes.

The starters were as follows: G. A. Hardart, Elmore; Bert Robertson, Columbia; John Fister, Mora; H. L. Moedes, Oldsmobile; A. L. Drew, G. J. G.; Ted Johnston, Buick; Herbert M. Hall, Marion; W. D. Arrison, Washington; Frank Carter, Washington; H. E. Walls, Maxwell; E. H. Wine, Moline; Emory Knudson, Staver; Clayton Graff, Overland; Frank Hosner, Regal; J. C. Larcombe, Jr., Moon; E. J. Drake, Ford; Stanley Mortimer, Buick; C. E. Miller, Ford; E. Selby, Paige-Detroit; A. D. Rea, Maxwell; I. C. Hamilton, Hupmobile.

The cars which completed the run without penalization were as follows: Class C, Maxwell, Moline; Class D, two Washingtons; Class E, Oldsmobile. Each of the class winners will receive a silver cup and where there is a tie lots will be drawn by the drivers to determine the ownership of the cup. However, the losers at the drawing will receive some balm for their disappointment by having their names engraved on the trophies together with the names of the winners. All of the perfect score drivers will draw for the sweepstake cup which was offered as first prize.

Staunton, Va., was the stopover on the first day and the 165 miles over excellent roads for most of the way were made in good time, the cars starting from Washington at minute intervals after 7 a. m. Dinner was taken at Winchester, made famous by General Sheridan's ride. At Winchester one of the drivers was halted by a constable and ordered to the center of the town where the Mayor would be ready to try him for exceeding the speed limits. He did not keep the involuntary appointment, however, and nothing came of the matter.

In several places constables shouted warnings which went unheeded, and in many of the towns which were passed through on the first day a holiday was declared and spectators lined the streets and roads and cheered the motorists as they flew by, while at other points groups of

girls gathered on the corners and tossed roses into the cars as they passed. Despite a bad stretch of road in the early part of the day, which alone was responsible for most of the penalizations due to carburettor and brake adjustments, 10 of the cars reached the night control with clean bills of health. The sharp stones, however, in the roads caused considerable tire trouble. Eighteen cars checked in at the night control, the delinquents being the Ford, Regal and Elmore. The latter had trouble outside Staunton, which necessitated it being towed and it was disqualified. It continued as a non-contestant, however, and was scored as a survivor.

With good roads again the rule on the second day's run to Richmond, where the tourists laid over for a day, it was but natural that there would be few penalizations. Nine cars reached the Virginia capital with their score sheets unsullied in the two days running, but several others had large penalties charged against them for mechanical troubles. Although the tourists had permission to use their machines on Sunday during their stay in Richmond for sight-seeing purposes without incurring further penalties, few of the contesting cars were taken from the garages for the excellent reason that long before any of the tired motorists awoke Sunday morning squads of Richmond cars and their owners were parked outside the visitors' hotel waiting for the visitors to put in an appearance to be whisked off to points of interest.

Escorted by Richmond motorists, the last one of whom did not turn back until 36 miles from his home city, the Washingtonians bade adieu to their hospitable Southern brethren on Monday morning and got under way on the homeward leg of the trip. Monday being a holiday, thousands of townspeople greeted the motorists and cheered them as they flitted by. Excepting for a few stretches which recently had been worked, the roads were in good shape and the schedule easily was maintained by the cars. Still in Virginia territory, the last night away from home was spent in the little town of Orange, the cars being packed on the grounds of L. Custdale Academy.

The last day's run of 100 miles was made in fast time, and on reaching the outskirts of the national capital the cars were halted until all had reported, when they entered the city in procession. Bedecked with pennants and the contestants wearing farmers' straws and bandana handkerchiefs, the cars paraded down Pennsylvania avenue and then gathered at the rendezvous in front of the offices of the "Post," after which they were dismissed.

The surviving cars were the following: Hupmobile, Paige-Detroit, Ford, Overland, Maxwell, Oldsmobile, Buick, Ford, Buick, Washington, Marion, Washington, Moline, Mora, Columbia, Regal, Buick, G. J. G., Staver and Elmore.

## HUGHES SIGNS THE CALLAN BILL

New York State's New Automobile Law Becomes Effective in August—Its Principal Provisions.

The Callan automobile bill now is a law, Governor Hughes having affixed his signature to it on Tuesday last, 31st inst. The law, which will become effective August 1st next, was printed in full in last week's Motor World.

For the present system of permanent registration in New York, the law substitutes annual registration which must be renewed on the first day of August of each year. Fees are \$5 for 25 horsepower, or less; \$10 for more than 25 and less than 35 horsepower; \$15 for more than 35 and less than 50 horsepower; \$25 for more than 50 horsepower, A. L. A. M. ratings to govern. Vehicles to be used solely for commercial purposes, \$5. On applications for registration filed after January 1st of this year, a reduction of one-half of the fees will be allowed. Non-residents of only such states as exempt New Yorkers from the provisions of their laws, are exempted by the Callan measure.

Owners who may dispose of their cars must report sale to the secretary of state.

Manufacturers and dealers will pay \$15 a year for a general registration of all their cars, and \$1 additional for each registration plate affixed to such cars. Cars so marked shall not be operated for private use or for hire.

Cities of the first class—New York, Buffalo and Rochester—may fix their own speed regulations without stint, and while other cities and incorporated villages also are permitted to make such regulations, they cannot require a speed of less than 15 miles per hour; a greater speed over a distance of one-eighth of a mile will be, however, presumptive evidence of careless driving. Elsewhere the speed must be "careful and prudent," but "a rate in excess of 30 miles an hour for a distance of one-fourth of a mile shall be presumptive evidence of driving at a rate of speed which is not careful and prudent." Cities and towns must erect signs showing where their speed limits begin and end.

The chauffeur's license fee is fixed at \$5 annually; his application must be accompanied by his photograph and must be sworn to before a notary public or justice of the peace. All chauffeurs must pass an examination and they may be restricted to the operation of a particular type of car; and no license will be issued to anyone under 18 years of age. The nature of the examination has not yet been determined, being discretionary with the state officers, but it is not likely to be very severe from the technical side.



**AMATEUR RUN CAUSES CLUB BREACH**

**Unpleasantness Between Crescents and Long Islands—Trouble Arises Over Entertainment Expenses.**

It is possible that the contest for the Pardington challenge trophy between teams representing the Long Island Automobile Club and the Crescent Athletic Club of Brooklyn, N. Y., which was decided last week, will prove the first one and the last one. For instead of promoting good feeling and amateurism, that free and easy endurance contest, which was won by the Long Island club, has provoked a breach between the two organizations which will not easily heal; and the dollar sign, which did not show itself during the contest itself, intruded itself unpleasantly immediately afterward; in fact, it is the cause of the trouble.

It appears that the Long Island club made the Crescent's team its guests at breakfast the morning the contest started and also garaged the Crescent cars the night before. It was the general understanding that the "athletes" would return the compliment at the end of the journey, and this idea was confirmed by President McDermott, of the C. A. C., in a speech he made at the Riverhead smoker. At the conclusion of the contest the entire party repaired to the Crescent's summer house at Bay Ridge, and while seated at the dining table information was conveyed to the Long Islanders that they would have the exquisite privilege of signing charge checks for the meal that they just had started to eat.

This created a buzz and so incensed President Alderman that with several others seated in his vicinity he arose and left the table. Later Henry Martin, chairman of the C. A. C. automobile committee, and A. R. Pardington, the donor of the trophy, who had competed as a member of the Crescent team, both of whom are members of both clubs, resigned from the Long Island organization and soon thereafter news of the affair became public. It has created a lot of ill feeling, and the end of it is not yet in sight.

**Bender Gets an Economy Award.**

Due to the perseverance of J. A. Bender, driver of the Knox car in the Chicago Motor Club's economy contest on the 19th ult., the results of which were detailed in last week's Motor World, in continuing in the test in the face of a discouraging siege of tire troubles, the standing of the contestants has been revised and Bender has been awarded second place in the standing and winner of the \$3,000-\$4,000 class. Weighing 4,255 pounds loaded the Knox consumed 1,561 ounces of gasoline for the

185 miles and averaged 15.6 miles per gallon. This performance gave it a percentage of 2.72 under the formula and ousted the Hudson with 2.42 from second place. Although finishing several hours after the judges had gone home, the rules permitted the deduction of time lost for tire trouble, and it was this provision which changed the complexion of the final standing. Another alteration is the disqualification of A. G. Shillo's Overland for failing to finish on schedule time, a broken spring causing part of the delay, and this elimination gave the much disturbed Hudson a final resting place in third position.

**Champagne for the Best Guessers.**

Probably because of the attractiveness of the numerous prizes offered, the second annual "sociability-guessability" run of the Washington (D. C.) Times to Great Falls, Md., and return—24 miles—on the 24th ult., attracted a record field of 99 starters. Vice-President James Sherman lent his services to help make the infantile contest a success and set the secret time of 119½ minutes as the official schedule for the distance. These figures were closely approached by the first prize winner, E. A. Garlock, Overland, who "guessed" at the unknown figures so closely that he overshot the mark by but 26 seconds. His reward was the silver cup offered by the Times, and in addition he received a magnum of champagne—an appropriate combination. Second award, two magnums of champagne, was captured by Christopher Dawson, Hupmobile, who was 41 seconds behind the schedule. Joseph Trew, Reo, accounted for third prize, a suitcase. Repeating her performance of last year, Miss Lillian Miller, Ford, again captured the first ladies' prize, a cut glass bowl. Her time varied 156 seconds from that in the sealed envelope. Most of the contestants finished, and nearly all received a prize.

**No Fee Due from Returning Tourists.**

Brokers who have been accustomed to exacting a charge of \$10 or \$15 for "clearing" American cars owned by returning tourists have had that source of easy money plugged up. The legality of the charge having been challenged, William Loeb, Jr., collector of the port of New York, has sustained the challenge and ruled that "wharf examination of American automobiles returned from abroad and foreign automobiles returned under certificate of registration is made of such automobiles when applied for by the importer providing no duties are collectable. Usual and ordinary repairs not including ten per centum of the original cost of the car are not considered dutiable. Extra equipment and accessories procured abroad are held to be subject to duty." A. L. Westgard's Touring Club of America claims credit for having secured the collector's ruling, having brought the matter to his attention.

**SYRACUSANS TRY RELAY GUESSING**

**Messages Are Relayed from Club to Club on a Secret Schedule—Amusements Are Provided en Route.**

Guessing in relays had its first trial on Saturday last, 28th ult., when an up-state New York paper conducted what it termed the first annual Central New York Relay Club run. Incidentally, the event introduced to public notice for the first time the Central New York Relay Club, said to be composed of members of the various local automobile clubs throughout the state. Certain messages from Syracuse business men and officials of the National and State automobile associations played an inconspicuous part in the event itself, having served a useful purpose in the advance work of the affair. The messages were relayed from club to club along the route, while as a sort of guard of honor to the messages, a dozen Syracuse cars with their occupants covered the entire distance of 400 miles or so.

The "secret" part of the program, which was supposed to add great zest to the business of carrying the business men's messages, consisted in the selection of unannounced running times between the various meal stations along the route. The car whose driver made the closest guess as to this schedule was promised a special prize, offered by the promoting publication. The route after leaving Syracuse included these clubhouse stops: Auburn, Ithaca, Elmira, Owego, Binghamton, Oneonta, Richfield Springs, Utica, Rome, Oneida and Syracuse. Luncheons, dinners, baseball games and sightseeing expeditions were important incidentals on the program which were participated in by the Syracuse contingent and by such of the local organizations as happened to be on hand.

Those participating in the run were Hubert S. H. Wilson, Fred A. Marshall, L. W. Quick, Frank Sprague, Harry Conde, Thos. Willis and George H. Messers. The remainder of the contingent included an official car, driven by J. Arthur Richie; a pilot car which carried Deputy Highway Commissioner Lyons beside Pilot Forman Wilkinson; two press cars, and a truck loaded with confetti. Although the contestants banqueted after their arrival in Syracuse on Tuesday evening, no announcement was made as to the identity of the "best guesser."

**Mont Cenis Pass Open to Motor Cars.**

The famous road over the Mont Cenis pass in the Savoy Alps has been opened to automobile traffic. As this road is the most important and most picturesque pass between France and Italy over the Alps, its opening is considered a great event.

**AMATEURS ON ANDERSON'S HILL**

**New Association Makes an Auspicious Beginning—Lambert and Rutherford Prove the Star Performers.**

Amateurism of the encouraging sort had its real beginning on Anderson's hill, at White Plains, N. Y., on Saturday last, 28th ult., when the recently formed Amateur Automobile Contest Association, composed

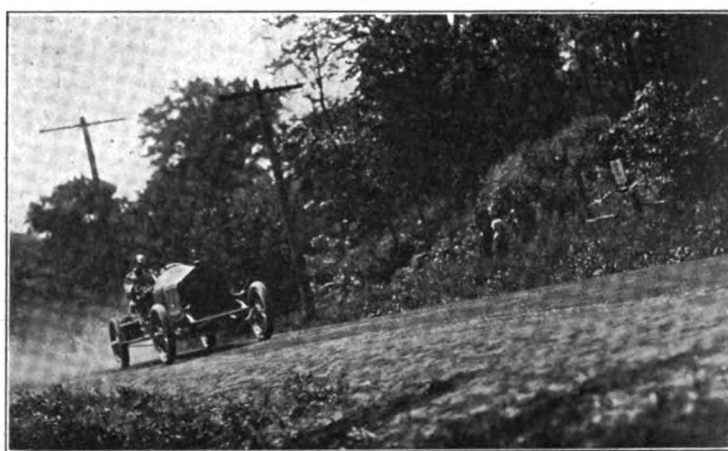
Plains and Harrison, and has an average grade of 6 per cent and a maximum slant of 11 per cent. Although having an excellent surface and but one curve, the course was difficult to negotiate, as it consists of a series of rises with a decline at the straightaway finish. Only members of the association were eligible to compete, and the policing and management of the function reflect credit on the promoters. There was not much for the police to do, however, as the hill is rather inaccessible to

to Lambert with a Mercedes. He was clocked in 1.04½. In this class the contestants were allowed one trial only, while in the other events two trials were permitted.

The only other driver to gather more than one prize was J. M. Rutherford, National, who corraled the 301-450-cubic inches class by a masterly drive in 1.05½. By his consistent performance in both trials, Rutherford also annexed the Jesup cup offered for the best average time in any class. C.



ONE OF THE AMATEURS AND SOME SPECTATORS



RUTHERFORD ON THE STIFFEST RISE

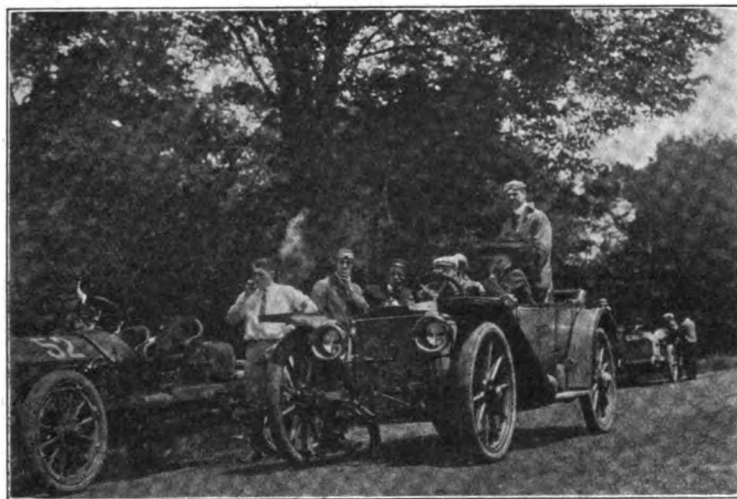
largely of the fashionable set of Westchester County, made its debut. While at first the new organization assumed a haughty attitude towards the American Automobile Association and intimated that it would do as it pleased without regard to the national body, it later experienced a change of heart and showed its allegiance by applying for a sanction and adopting

pedestrians and no great crowd gathered. The association had erected a stand at the finish point which was fairly well filled, chiefly by ladies.

The bright particular star of the day was G. B. Lambert with a big "90" Simplex, who was a favorite in the free-for-all class and who flashed up the grade in winning time, 1.03 flat. Although it was his only

H. Jackson, Buick, took second and H. A. Weatherbee, Speedwell, was third. Wishart first distinguished himself in the 451-600 division, which he won by the close margin of one-fifth of a second, making the trip in 1.05 flat. G. W. Quintard, Simplex, took second easily and J. D. Tooker, Stearns, captured third.

The lightweight class for cars under 300



SOME OF THE AMATEURS AT EASE



THE STANDS AND THEIR OCCUPANTS

the A. A. A. contest rules for its events.

This innovation in motor climbs, free from trade influences and dollar signs, drew good fields and was productive of fast times and close competition over a course which tested the mettle of both drivers and machines. The course, which was a measured mile, was situated midway between White

appearance of the day, his time was the fastest and gave him a double victory, the Association Cup for his class and the Northrup Fowler trophy for the best time. Spencer Wishart, a youthful driver, who at his maiden appearance in the last Vanderbilt race made a creditable showing, gained further laurels by running second

cubic inches was an easy victory for Thomas Cooke at the wheel of a S. P. O., who romped up the incline in 1.16½ and had several seconds to spare. Second honors went to an E-M-F., driven by H. C. Sierck, who topped the hill in 1.23½, and C. M. Chauncey, Lancia, accounted for third. The curtain raiser was an event for

## THE MOTOR WORLD

motorcycle policemen, and evidently the courage oozed from most of the nominees, for but four of the thirteen entrants started. Officer Ruggiere mounted on an Indian was the winner, reaching the finish line in 1.07½. The results are given in the table:

For cars not exceeding 300 cubic inches.

Drivers and Cars.	Time.
Thomas N. Cooke, S.P.O.	1.16½
H. C. Sierck, E-M-F	1.23½
C. M. Chauncey, Lancia	1.24½
A. E. Gallatin, Lancia	1.25½
W. M. Quimby, Chalmers	1.29
J. Thompson, Premier	1.31½
A. W. Page, Chalmers	1.32
J. G. Wilson, Lancia	1.32

For cars between 301-450 cubic inches.

J. M. Rutherford, National	1.05½
C. H. Jackson, Buick	1.10

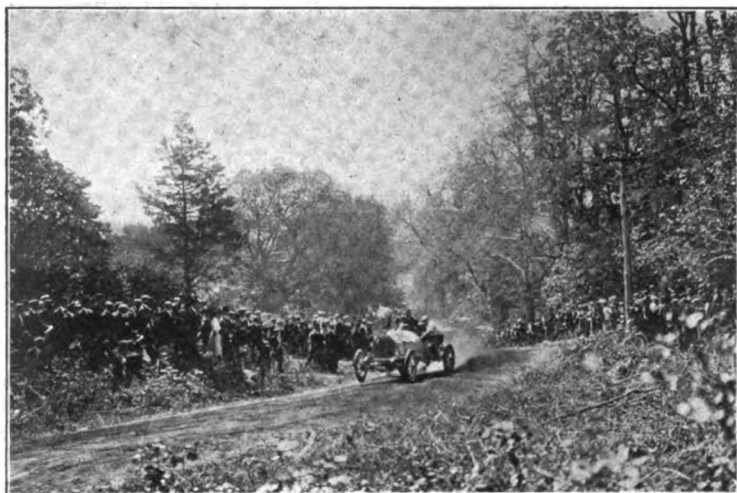
## SNAKE HILL CLIMB POOR SPORT

Bridgeport Event Suffers from Banker's Opposition—Scarcity of Entries—Oil too Liberally Applied.

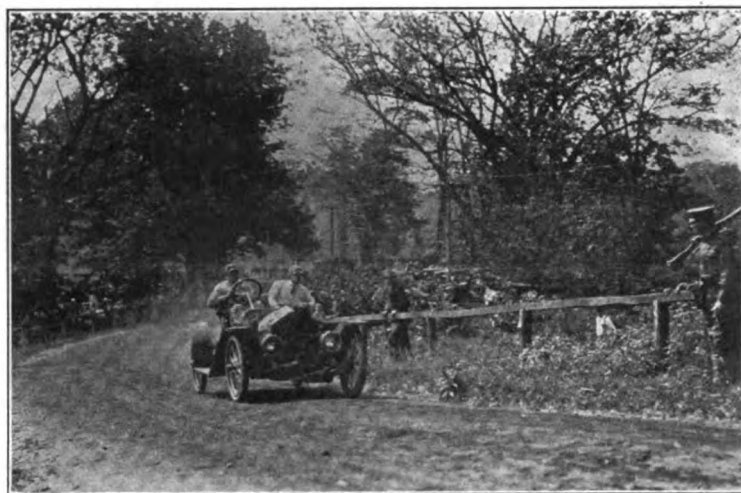
Failing to have his application granted for an injunction to prevent the Bridgeport Automobile Dealers' Association from holding their hillclimb on Snake Hill, Fairfield, Conn., on May 30, Frederick Sturges, the wealthy banker of that town, had the satisfaction of knowing that his opposition resulted in a paucity of entries which practically drained the event of all semblance of a contest, and reduced it to

Elmer Knox in an Atlas was the only other competitor in this division.

J. W. Schenck steered a Pullman to victory in Class 4, his time being 1.34½, and Griffin, Stoddard-Dayton, took second. In the two other classes Taylor, Correja, and Brooks, Warren-Detroit, captured first honors in hollow fashion, the latter having a walkover. The course was a winding one and somewhat difficult to negotiate, but there were no accidents. It was patrolled by a detachment of militia, who handled the crowds with comparative ease. In connection with the automobile events two motorcycle classes were run. Both were won by Indian machines, G. A. Wildman capturing the single cylinder class in 1.26, and P. Cox the twin division in 1.13.



WHERE THE CROWD GATHERED ON SNAKE HILL



ONE OF THE TOURISTS ON SNAKE HILL

H. A. Weatherbee, Speedwell	1.12
P. G. Grant, Rainier	1.15
C. D. Goddard, National	1.18
R. M. Jesup, Cleveland	1.20½

For cars between 451-600 cubic inches.

S. E. Wishart, Mercedes	1.05
G. W. Quintard, Simplex	1.05½
J. D. Tooker, Stearns	1.13½
C. A. Fowler, Jr., Simplex	1.14½
N. Fowler, Palmer-Singer	1.17½
J. R. Johnson, Locomobile	1.21½

Free-for-all.

G. B. Lambert, Simplex	1.03
S. E. Wishart, Mercedes	1.04½
G. W. Quintard, Jr., Simplex	1.04½
J. M. Rutherford, National	1.06
J. D. Tooker, Stearns	1.11½
N. Fowler, Palmer-Singer	1.16½
R. M. Jesup, Cleveland	1.22½
P. G. Grant, Rainier	1.24½
J. R. Johnson, Locomobile	1.37
J. G. Wilson, Lancia	1.44½

## Fairmount Park Race Again Approved.

All uncertainty as to the staging of the Fairmount Park road race this year has been removed with the granting of permission by the Park Commission to the Quaker City Motor Club of Philadelphia to hold the race. In accordance with this official authorization, the club has named October 8 as the date for the third running of the classic. The distance will be 200 miles, as before.

a mere exhibition of a handful of cars. Just how much of a sporting farce the affair was may be judged from the fact that there were about a dozen entries for the ten events on the card.

Scheduled to start at 7.30 a. m., a most unearthly hour, and one which caused a long cavalcade of spectators to wend their way towards the hill shortly after daybreak, despite the heavy rain which was falling at that time, the contest did not get under way until nine o'clock. At that hour several thousand people were distributed along the course, the rain having stopped and the sun come out. An indication of the degree to which prospective entrants had been scared off by the legal complications, was illustrated by the scratching of the very first event for cars selling under \$850 owing to lack of entries.

Advance predictions that the course would be covered in 1 minute flat were not verified, the best time of the day being 1.08½, made by Billy Knipper in a Chalmers in the free-for-all class, which had the most entrants. Dean Rankin, in another Chalmers, was the runner up with a mark of 1.15, and Joe Taylor landed a Correja third. Rankin with the Chalmers also won his class event easily in 1.18, and

What was taken by local motorists as another method of venting his spite against them by Sturges, was the extravagant oiling of the roads in the vicinity of the hill a few days previous to the climb. It is said that so liberally was the fluid applied that the roads resembled the outpouring of a California gusher, and that driving was rendered doubly dangerous, while the clothing of many spectators who walked to the course was drenched with the oil thrown by the wheels of passing cars and practically ruined.

The results are given in the table.

## Class 2.

Drivers and Cars.	Time.
J. H. Brooks, Warren-Detroit	1.59

## Class 3.

Joseph Taylor, Correja	1.41
J. W. Schenck, Pullman	1.48½

## Class 4.

J. W. Schenck, Pullman	1.34½
Griffin, Stoddard-Dayton	2.06

## Class 5.

Dean Rankin, Chalmers	1.18
Elmer Knox, Atlas	1.39

## Class 6.

Billy Knipper, Chalmers	1.08½
Dean Rankin, Chalmers	1.15
Joseph Taylor, Correja	1.34½
McMullin, Buick	1.36

## FAVORS FORCE FEED LUBRICATION

English Expert Explains New Theory on Bearing Friction—Tests Show Advantages of Pressure System.

Although the average motorist probably is lacking in appreciation of the fact, it is unquestionably true that no small amount of credit is due the automobile engineer for the success achieved in the lubrication of the average engine. The whole subject of lubrication is one offering more perplexities than would seem possible at the outset, but when complicated by the peculiar conditions surrounding the operation of the motor vehicle it becomes exceedingly difficult of satisfactory solution. Incidentally, since the advent of the self-propelled vehicle, the science of lubrication has undergone more or less of a change, so that the modern gasoline engine embodies the latest practice in this, as in practically all other respects.

The most recent view of the matter is somewhat radically expressed by R. K. Morcom, a British engineer, who attributes the resistance which the well oiled bearing offers to motion to the force required to shear the minute film of lubricant which separates the journal from its bearing. Though at first this may seem rather a far-fetched theory, a moment's reflection will show that it is not without a basis of reason. In regard to it, Mr. Morcom makes this explanation:

"The old ideal of a co-efficient of friction gives place to the more suggestive theory that the resistance to motion is due to the shearing of a film of oil, which more or less completely prevents metallic contact and abrasion. The importance of the film is shown by considering that the resistance of a fully lubricated surface may be only 1 per cent. of a similarly loaded surface in which an oil film is not maintained. Resistance to shearing depends upon the viscosity of the lubricant, thickness of the film, and the area of film in shear. The temperature of the film may alter its viscosity; the extent of the film may not be equal to the extent of the bearing; the thickness of the film may not be such as to entirely prevent abrasion, and the clearance in the bearing may be irregularly distributed and inaccurate, and similar disturbances may be created by bad alignment of the shaft or its springiness, so it is not possible to entirely solve the problem. As usual in engineering, theory may direct or explain practice, but experience must determine it. Certain positive conclusions, however, may be taken as established:

"1. The resistance decreases with the thickness of the film.

"2. The resistance increases with the viscosity of the lubricant.

"3. The point of nearest approach is approximately 90 degrees from the line of load.

"4. The points of maximum and minimum oil film pressure are approximately at equal distances from the point of nearest approach.

"5. As the speed increases the points of maximum and minimum oil pressure get further and further apart, till at very great speeds they are in the line of load.

"6. As the speed increases the eccentricity of the oil film becomes less.

"7. The concentric position is the one of least resistance.

"8. Oil should be supplied at a point where the supply pressure is greater than the film pressure.

"9. The loading for a given speed must not exceed a certain limit at which the oil film is broken.

"10. The limit may be increased by lengthening the bearing, so increasing the cooling influence on the bearing.

"11. Oil grooves wrongly placed may destroy continuity of the film.

"12. A motion of pure rotation produces automatic maintenance of the film, provided the supply is adequate.

"13. The temperature varies throughout the bearing, the highest temperature being at the point where the film is thinnest.

"Further, in the case of a reciprocating load we know that—

"1. A reciprocating load, irrespective of rotation, produces automatic lubrication.

"2. Heavier mean loads can be supported if the direction of load is reversed, because the lubricant is more vigorously sucked in, and the retardation of surfaces approaching one another normally, increases very rapidly as the film becomes thinner.

"Generally speaking, failure of lubrication is caused by rupture of the film due to:—

"a. Inadequate supply of lubricant.

"b. Reduction of the viscosity arising from excessive heating, either general or local.

"c. Badly placed oil grooves.

"d. Overloading.

"e. Grit.

"f. Impurities, such as water, reducing the film-forming quality of the oil. . . .

"The more one studies the question the more does forced lubrication best appear to meet the requirements. Its acknowledged superiority over other systems for high-speed steam engines suggests its adoption for the motor car engine. Various splash and gravity systems have been very carefully designed and worked out for car motors, and the success is good enough. But practice in the long run always pronounces in favor of the theoretically best, and it is this which explains the increasing favor with which pressure supply meets.

"Some experiences with forced lubrication do not at once fit in with theory, and it may be of interest to describe a few observations and experiments.

"One of the most obvious things to examine was the actual saving in friction, if any, which occurred with forced lubrication. A trial was made on a 120 b.h.p. engine at 450 revolutions per minute. The engine was run unloaded with oil pressure of 30 pounds and 5 pounds, and without pressure, the supply being maintained with a syringe. A large number of no-load cards were taken and the i.h.p. averaged out. The results of the trial showed:—1. That the engine was quieter the higher the pressure. 2. The friction i.h.p. averaged 2.13, 2.41, 3.33, with 30, 5, 0 pounds pressure, respectively.

"There is some trouble in explaining the result, for one would expect the cooler oil and more complete oil film with the higher pressure to increase rather than decrease the resistance. Some light is thrown on the case by the quietening action, which means that the film thickness in reciprocating bearings was better maintained. In addition, such a result may occur in a steadily loaded bearing, owing to the more copious supply preventing excessive local heating of the film, leading to rupture. This is borne out by the experience that an engine with forced lubrication takes longer to 'run in' than one with splash or gravity supply, and, further, that its bearings take longer to take up a high polish.

"The chief points in favor of forced lubrication brought out by the trials were its more rapid adaptability to various conditions, its very positive maintenance of the all-important oil-film, and the simplicity of the provisions necessary to ensure perfect lubrication. With splash and gravity systems elaborate oil grooves, troughs and oil-ways are required, and often they are cut without due regard to theoretical considerations. With forced lubrication very simple oil grooves are satisfactory. All that is necessary is to provide a circumferential groove whereby a supply of oil is ensured at whatever point the minimum film pressure exists; the oil at this point will be forced right along the bearing, ensuring a perfect supply. Where more circulation is required, one or more horizontal grooves may be cut in the bearing at suitable points, forming practically an oil pad, and also by increasing the circulation, having an important cooling effect on the bearing. Circumferential oil grooves should not form a continuous band, but should be staggered, thus preventing the formation of a ridge on the journal due to lapping action.

"From various experiments it has been shown that bearings with forced lubrication will carry greater loads per square inch than others (this is largely due to the cooling effect of the copious supply and the certainty of its distribution), and it is interesting to consider the forces acting upon bearings in a motor car engine and those existing in a stationary engine of larger size. The short period of reversal is noticeable in the petrol engine diagrams.

"The extent to which forced lubrication



is applied varies with different makers. Some apply it to main bearings only, and others to main bearings and crank-pins; others carry it to the gudgeon-pin, and in some cases it is also carried outside to details of the transmission. There seems little reason, if a pressure pump is included in the design, not to apply the pressure at any rate throughout the engine. . . .

"Generally, in designing a forced lubrication system, the following points must be kept in mind:—

"Have a pump of ample size, with good big suction and delivery pipes. There is a tendency to fit pumps and pipes too small to realize the benefits of forced lubrication. The discharge from the clearance spaces is quite appreciable, and too small pipes or pump may lead to the ends of the system being starved.

"Another point which makes it necessary to have an ample pump is that, due to centrifugal and inertia effects on the oil in the moving parts, variations in pressure occur beyond those due to fluid friction and escape at clearances.

"Oil pumps of various types are used, the most common being: 1. Plunger pump; 2. Gear pump; 3. Vane pump.

"The first is the most positive, and probably the most generally efficient. The second is good, and lends itself to simplicity of design. The third does not appear to be any good for high pressure. Centrifugal pumps are generally unsuitable, especially with thick oil. The horsepower is quite small, so that the question of drive is an easy one, and there should be no difficulty in designing an absolutely reliable, well-protected, efficient drive for the pump. Some of the various drives used are mentioned in the table.

"The filter which must be fitted in the system should be efficient and accessible. It would be an advantage to place it in such a position that by lifting a cover it could be at once got at and periodically changed. The spare filter could then be cleaned ready for the next change over. The filter should have ample area, as the suction of the pump must be quite free. A point to be remembered which is often overlooked is that perforated zinc and copper are not good neighbors in an oil well where water may be present. The oil pipes and oil ways should be ample in area, free from sharp bends and corners, and of adequate strength to stand the highest pressure that may fall upon them. Steel pipes made to template are better than copper pipes, since the latter have been found to develop mysterious fractures. Where it is possible, hollow shafts and rods should be used to facilitate the distribution. All oil pipes should be carried in positions where they will not get in the way of overhauling and will be protected from risk of damage. It is a good thing to bring the pipes up on the under side of the bearings in motor car engines,

since they can be carried close to the cross-frames which usually support the bearings. In fact, the oil ways may actually be drilled in the crank-base casting. The edges of oil holes in parts subject to stress should be carefully rounded, or they may be origins of surface cracks leading to ultimate fracture.

"In testing the pumps some trials were taken on heavy oils to show the effect of congelation in cold weather. Owing to the small quantity which can pass, a heavy pressure may come on the delivery pipe and gauge, if fitted. This is one reason for fitting strong pipes. A hand or automatic by-pass may be fitted to relieve the pressure. A by-pass valve alongside the gauge opening into the make-up oil tank was used with success in one instance. The best place for an automatic relief valve is on the delivery pipe close to the pump. Such valves are, however, a source of trouble, and should be avoided; as a rule, a gauge can be obtained to stand far greater pressure than will be put upon it in this way, and still be sensitive at the normal pressure.

"A very short time is required to warm up the oil, and the trouble from this source is probably less with forced lubrication than with any other system.

"The chief wear in the bearings on a high-speed engine occurs at starting and stopping. A pump very quickly forces oil into a bearing, probably more quickly than the oil will get there in other systems. A non-return valve on the delivery pipe is possibly of value to ensure the system remaining full. The chief argument in favor of a pressure reservoir supplying oil is based on the need for oil at starting, and such a fitting for the pump to discharge into might be of value.

"Any system in which a charge of oil is used for long periods may suffer from contamination of the oil. An experiment was made on a car fitted with forced lubrication. The sump was filled with a pure mineral oil, and the car run for 3,000 miles in about four months on and off. The make-up was by a small scoop pump feeding the proper quantity into the crank-case in the usual way. The oil after use was black in color and smelled of petrol. Its flash point, open test, was 214 degrees Fahr. against 435 degrees Fahr. On distillation at 300 degrees Fahr., 1½ per cent. of petrol came over. After distillation the flash point was normal at 435 degrees Fahr. The oil was still dark in color, but appeared to be a satisfactory lubricant. On burning, the amount of ash was very little over normal."

#### Proposes Motor Parking Spaces.

Hutchinson, Kan., rises to distinction by reason of its declared intention of establishing automobile parking spaces on its side streets. These parking spaces, it is explained, will be drives laid between the sidewalk and the curb, with runways lead-

ing up from the street line, in which motorists may stand their machines without obstructing traffic. Incidentally, Hutchinson's automobile tax of \$2 per machine hereafter will be collected annually instead of upon the enrollment of permanent registrations. The extra funds thus derived will be used for the construction and maintenance of the parking spaces.

#### Uses for Carbonic Acid Gas.

Although the use of carbonic acid gas for the purpose of tire inflation is not heartily recommended by most tire men, the fact remains that it possesses one or two very strong advantages for that service. One advantage is that in liquid form it can be transported in very small compass. Another, and by far the most important, is that in an emergency it is useful as a fire-extinguishing medium. Indeed, for this purpose alone it almost would pay to carry a small tank of the gas on the car at all times.

#### Tire Chains for Towing Purposes.

While the requirement for a tow seldom arises at a time when a length of rope is absolutely unobtainable, still it is well to bear in mind that on such occasions it is perfectly possible to make use of a pair of non-skid chains, fastened end to end for the purpose. At such times, of course, it is important to see to it that the axles of the towed and towing cars are well protected against the chafing of the chains.

#### About Altering the Carburetter Setting.

Generally speaking, it is a mistake to attempt to adjust an engine which is running irregularly by altering the setting of the carburetter. While it is possible to do this sometimes, merely by feeding an excessively rich mixture to the cylinders, the result is not a cure for the trouble, though it may remove the symptom for the time being. The real difficulty generally is to be found in the ignition system, or if not there, in the setting of the valves.

#### Bicycle Lamps to Meet Law's Demands

For city use, when the standard dash lamps happen to be ineffective for one reason or another, it sometimes is possible to make good use of bicycle headlights. Such lamps, which not only satisfy the provisions of "no-glare" ordinances but afford good illumination, are light enough to be clamped to the front cross bar which acts as a stay for the headlights, thus requiring no special fitting or attachment.

#### Missourians Are "Shown" a Motor Line.

The first interurban automobile line to be established in Louisiana County, Missouri, was inaugurated May 14th. The motor cars began running on that day from Ashley to Louisiana, Mo. a distance of twenty miles.



## JUMBO TRUCK TO HAUL GIRDERS

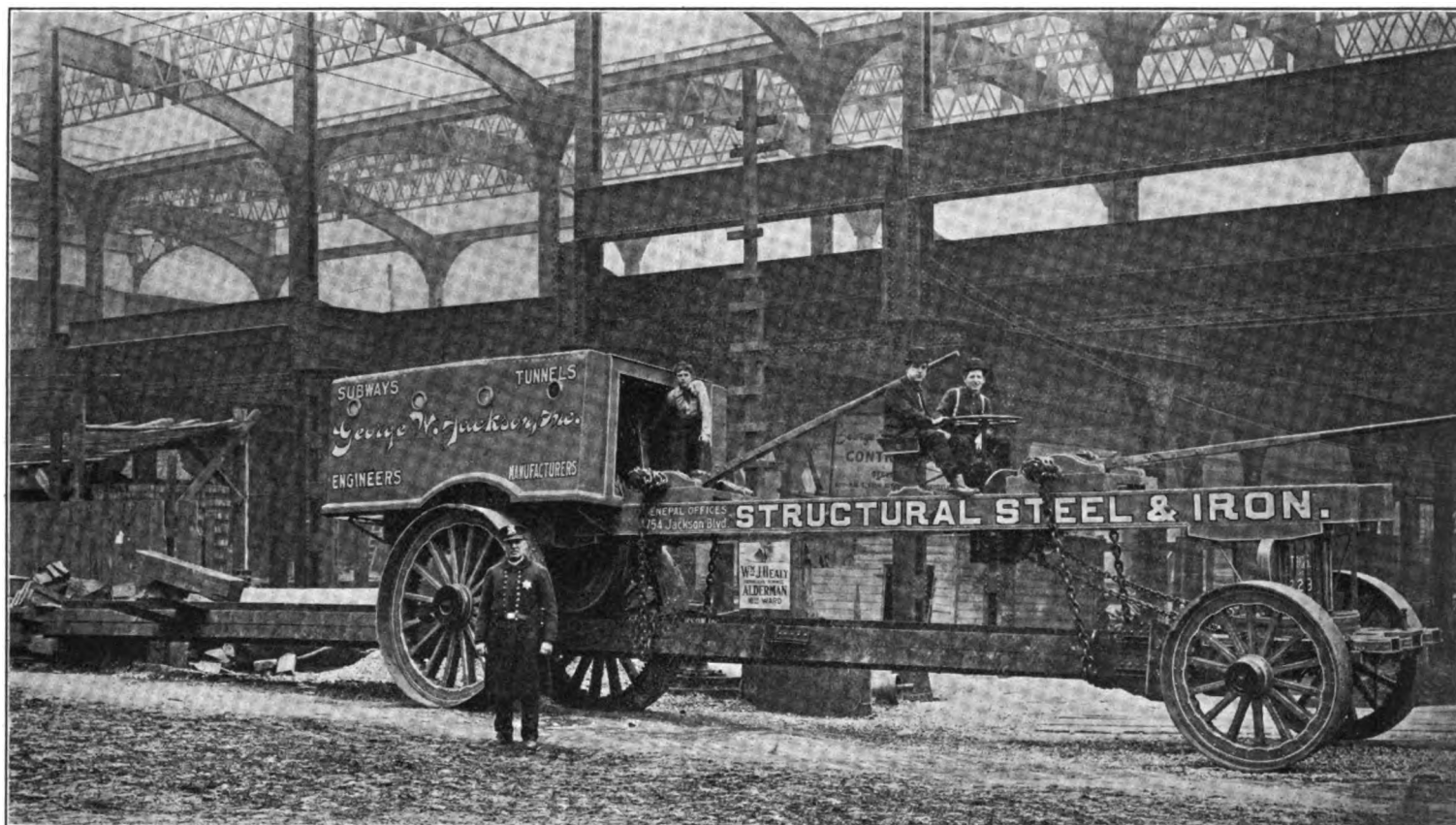
Chicago Contractor Builds Big Car to Carry Structural Iron—Motive Power Supplied by Steam Engine.

One of the most instructive phases of commercial vehicle development is that in which it is applied to specific purposes so far different from standard requirements as to demand treatment which is in every way extraordinary. A case in point is the mammoth truck built by George W. Jackson, Inc., a prominent engineering and contract-

ard type of girder handling truck, is shown in the accompanying illustration. It is driven by a 60 horsepower steam plant, which is located in the low cab mounted over the frame just above the rear wheels. Steering is accomplished by means of the large hand wheel and chain connections to the swiveled front axle, while for handling the load, which may be so long as to require the use of a "Devil," or trailer truck behind, two long-lever capstans are provided on the huge double beam frame which forms the true "chassis" of the machine.

The main sills are of 10 by 12 inch Douglas fir, 32 feet long, heavily reinforced and standing 6 feet 8 inches above the ground.

shaft, which carries a bevel gear compensating mechanism. From the outer ends of the differential shafts, the final drive is taken to the rear wheels by means of 9 inch pinions, 4 inches wide, which mesh directly with internal gears riveted to the inner rims of the wheels. Sufficient clearance and a backlash is provided between pinions and internal gears to permit the driving wheels to be operated at different levels without binding the transmission. Sufficient allowance is made for one wheel to be as much as a foot lower than the other, as when running through deep ruts. In addition to this, a differential locking device is provided.



JUMBO STEAM TRUCK FOR HAULING STRUCTURAL IRON

ing firm of Chicago, for use in transporting structural iron. The class of truck which alone is thought to be suitable for this class of work is a familiar sight in all localities where modern construction work is in progress. The large wheels, high frame and arched axles, under which the load is suspended, are made necessary by the desirability of reducing the handling incident to transportation to the lowest possible minimum. Ordinarily either four or six horses are required to handle normal loads, and under such circumstances maneuvering in city traffic becomes a work of functions the successful accomplishment of which is a marvel to the beholder.

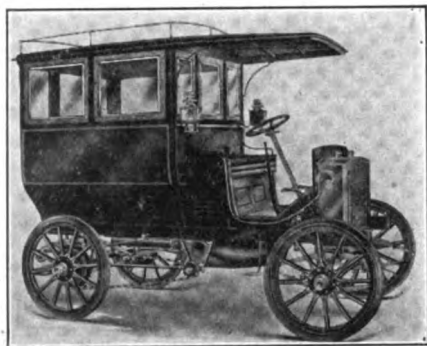
So far as is known, the Jackson firm is the first to apply mechanical propulsion to work of this character. The resulting vehicle, which is a modification of the stand-

The forward ends are supported on a heavy bolster which rests upon the fifth wheel which, in turn, is carried by the axle. The front wheels are 4 feet 6 inches in diameter with 12 inch face. The rear axle, which also carries a heavy bolster, is deeply arched. The rear wheels are 6 feet 8 inches in diameter, 18 inches wide, and shod with  $\frac{3}{4}$  inch steel tires.

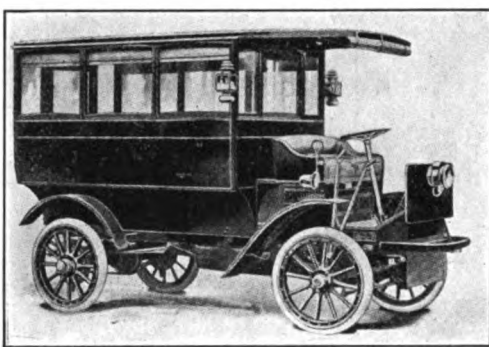
The power plant consists of a two-cylinder, reversing engine, with 8 by 8 inches cylinder dimensions, making 225 revolutions per minute. Steam is supplied by a marine type water tube boiler 5 feet long, 5 feet wide and 4 feet 8 inches high, which has 325 square feet of heating surface and 13 square feet of grate area. A bronze pinion, 10 inches in diameter by 5 inches in width drives from the crank shaft to a  $37\frac{1}{2}$  inch gear on the 37-16 inch differential

The total weight of the truck is 12 tons, and its carrying capacity 20 tons. Its average speed is somewhere about  $1\frac{1}{2}$  miles an hour, and it is designed to transport structural members up to 60 feet in length, or even longer when the "Devil" trailing truck is used. The total length of the vehicle is 32 feet, its wheel base being 26 feet 6 inches. Its total height is 6 feet 10 inches and its width over all is 8 feet 6 inches. The entire mechanism was designed and built by the manufacturing department of George W. Jackson, Inc., and is said to have proved satisfactory in every respect, being particularly effective in respect to ease of handling under embarrassing traffic conditions and where, under normal conditions, the use of horses would render manipulation of such a huge vehicle almost impossible.

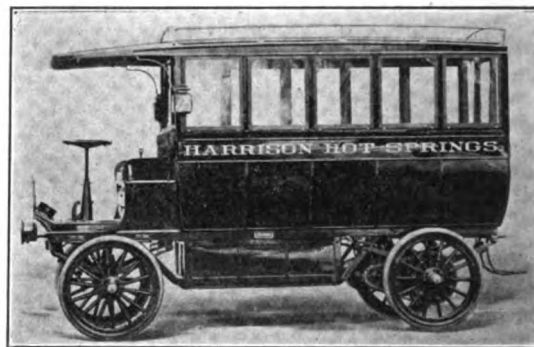
## COMMERCIAL VEHICLES FOR VARIED PURPOSES



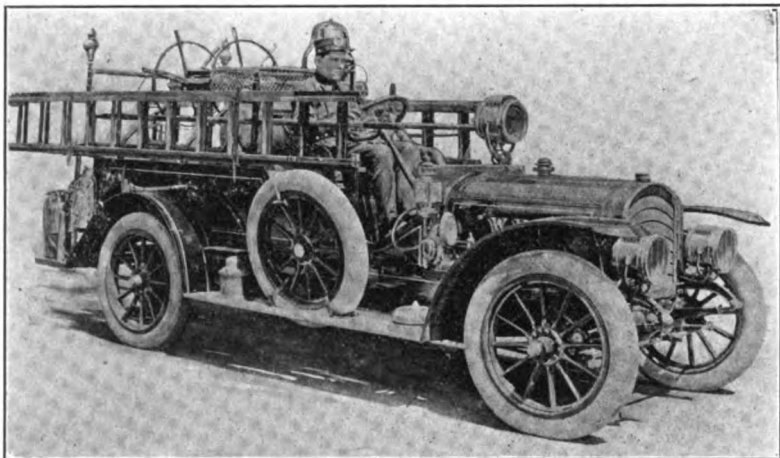
MARTIN GASOLINE WAGONETTE



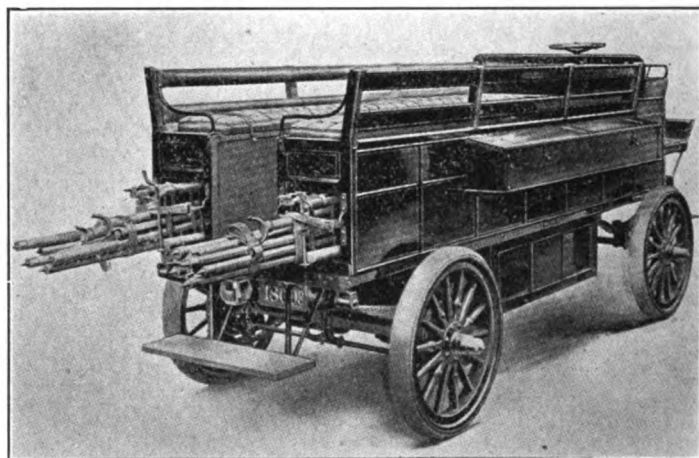
AUTOCAR GASOLINE OMNIBUS



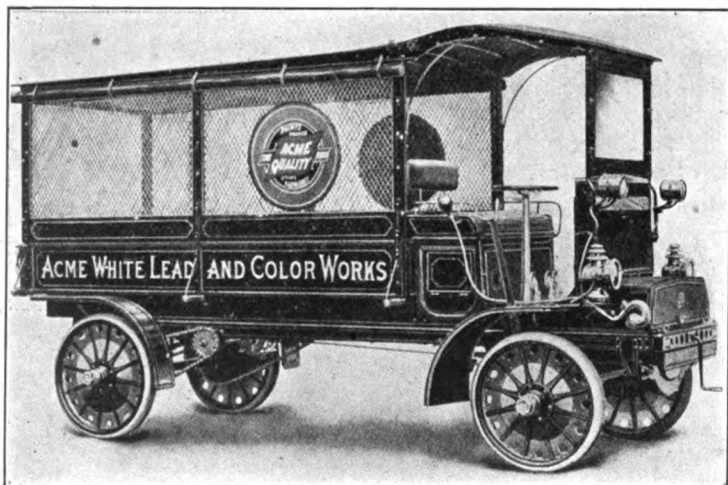
STUDEBAKER ELECTRIC HOTEL 'BUS



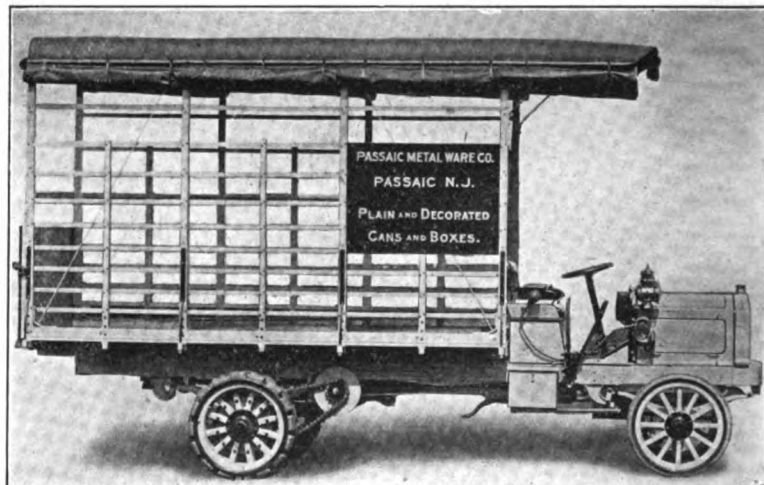
RAMBLER CHEMICAL FIRE COMBINATION CAR



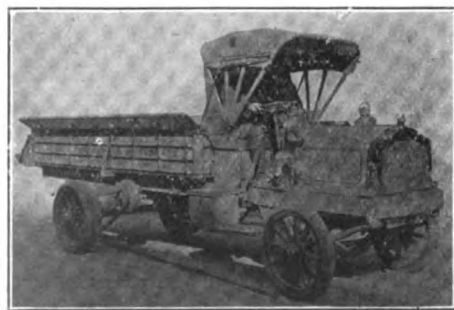
STUDEBAKER ELECTRIC EMERGENCY CAR



GRABOWSKY USED IN PAINT HAULAGE



LARGE RACK BODY REQUIRED FOR LIGHT LOADS



ARMOUR BEEF DELIVERY TRUCK



RAPID FOR DRUG DELIVERY



ARMOUR BEEF TRUCK LOADED

## MAKING TRUCKS IN WISCONSIN

**Former Chicago Company Begins Operations in New Location—Features of the Truck and a Test of It.**

Having completed the removal of its plant from Chicago to Janesville, Wis., the Monitor Automobile Works is well launched in the production of its commercial vehicles, under the direct supervision of C. D. Manley, assistant general manager, who formerly was concerned in the production of Reo and Oldsmobile cars. The Monitor is adapted to rather a wide variety of utility purposes, the single chassis foundation

Its grade is rated at 20 per cent. and its location and cobble stone paving prevent any "jugglery" in making it with a run. At the time the photograph was taken, the car carried a load of 1,600 pounds of spring water, with which it not only negotiated the grade successfully, but performed a sufficient number of evolutions to prove its absolute capability of taking care of itself under any reasonable conditions of service. With its load, the car was stopped half way up the hill, restarted and driven to the top, and afterward run to the bottom and backed up, with an intermediate stop and start.

### Rubber Blocks Violate New Jersey Law.

Rubber block tires, such as are being employed on commercial vehicles, are under



TWO-CYLINDER 20 HORSE POWER MONITOR DELIVERY WAGON

known as type "A" being built entirely independent of the body and hence being suitable for any type of upper works which may be desired by the user.

The rated power output is 20 horsepower, the cylinders of the horizontal opposed motor measuring 5 inches bore by 4 inches stroke. It is mounted under the forward end of the car in an accessible location, with magneto ignition equipment and a specially designed form of automatic lubricator which is mounted directly over the crank case. Transmission is by propeller shaft to the semi-floating rear axle, which is mounted on roller bearings. Changes of driving speed are obtained by means of a planetary gear-set affording two forward drives and one reverse. The total weight of the chassis is set down at 2,200 pounds. The rated carrying capacity is from 1,500 to 2,000 pounds. Solid tires are employed, both front and rear, the front equipment being 33 by 2½, while the rear is 34 by 3 inches.

The accompanying illustration shows the model "A 109" car, which has an open express body, in the act of climbing the 9th street hill in Kansas City, which is the supreme hill-climbing test of that locality.

the ban of the New Jersey law, according to a decision in the police court of Passaic, when a driver for the Hackett Motor Car Co. was fined \$25 for operating a machine with rubber blocks on the circumference of its wheels, in alleged violation of Chapter 224, Section 6, of the state laws of 1910. A state inspector of motor vehicles, Edward Thomas Moore, appeared as the prosecutor. The Consolidated Rubber Tire Co., the manufacturer of the rubber block tire with which the machine was equipped, has indicated its intention of taking the case to the Supreme Court and testing the legality of the law.

### To "Keep Tabs" on Delinquents.

Practical steps are being taken by the Motor Accessories Association, of St. Louis, Mo., toward protecting its members against those purchasers of supplies and accessories who do not pay their bills. Having elected officers for the coming year and arranged its working organization, the association is establishing a credit bureau, where information may be obtained as to undesirable customers who in the past have defrauded St. Louis dealers.

## SUBSIDIZING THE COMMERCIAL

**French Government Follows Example of its Neighbors—How the Money Will be Apportioned to Owners.**

Following the example of the German and Austrian governments in establishing a volunteer department in the train service of the regular army, to be used in war time, the French government just has voted the sum of \$60,000 to be devoted during the fiscal year 1910 towards the subsidizing of commercial motor vehicles in the hands of private owners. On purchasing, the owners themselves are obliged to make application for the subsidy, which will be immediately granted, providing conditions have been complied with, until the funds allowed for this purpose have been exhausted.

As an example of the assistance given, the purchaser of an approved truck carrying a minimum useful load of two tons will receive from the government \$400 on taking delivery of his vehicle, and \$200 for each of the three following years, providing, of course, that the vehicle is presented for inspection annually, and is maintained in proper working condition. For each addition of 550 pounds to the minimum load of two tons, an additional subsidy of \$30 on purchase and \$10 per annum will be allowed.

In return for this subsidy the owner must surrender the vehicle to the government in case of mobilization, which, in itself, is no hardship, as the vehicles doubtlessly would be immobilized by the calling out of their drivers for compulsory service. In France commercial vehicles and the army are so closely connected that it has been a common practice in the maneuvers of the past three or four years for manufacturers' test vehicles to be driven by the firm's own mechanics while the latter were undergoing their compulsory period of military training. The men pursue their normal calling with only a change from overalls to military uniforms, and the manufacturers have the satisfaction of knowing that their vehicles are in the hands of skilled men instead of being abused by the first comer picked from the ranks. During the annual maneuvers such vehicles will be hired from the owners at reasonable rates.

### Mitchell Builds a Testing Track.

With the purpose of removing its testers from the streets of Racine, Wis., and from the surrounding country roads, the Mitchell-Lewis Motor Co. has constructed a half mile testing track on its factory property. The track, which is of cinders, is provided with grades and other variations, which will give the cars as hard a test as on the outside roads.

## HILL CLIMBING ON THE HIGH GEAR

Enormous Stresses to Which it Subjects the Car and the Damage it Does—  
Figures Showing Losses.

Next to excessive use of the brakes, causing the car to skid and tear the shoes of the tires, about the worst thing a driver can do is to abuse the high gear. Those manufacturers who shout of the ability of their cars to negotiate any hill "on the high" are to blame for no little damage that results.

To climb a hill on high speed imposes the hardest kind of work, not only upon the engine but upon every other part of the car. And such stunts are unnecessary, for the lower gear ratios are provided for just this kind of work—the climbing of steep hills—and they should be used for it. The speed with which a car shoots up a hill is not by any means a criterion of the power and excellence of the car, but more often than not merely an example of the foolishness of the driver who, for the sake of a few seconds gained over "the other fellow," ruins his car to such an extent that it will render him much poorer service thereafter.

"It may be well," says the Co-Operator in dealing with the subject, "to consider a little more carefully the amount of work performed by an automobile climbing a gradient on, say, a gear ratio of three to one. A ratio of three to one means that one revolution of the driving wheels is produced by three revolutions of the engine crank-shaft. With the lower gear ratios, the intermediate and the low, the number of engine revolutions becomes still greater, as compared to the number of driving-wheel revolutions.

"With the engine running at high speed the pulling effort is slower, but of greater power, and it is also produced with greater evenness.

"It is not difficult to compute with exactness the distance which a car is propelled by one explosion of the engine, and the power consumed in hill-climbing. The circumference of a 34-inch wheel is, approximately, 106¾ inches, and in covering one mile the wheels revolve 593 times. Since the motor turns over three times as fast as the driving wheels it will require 1,779 revolutions of the crank-shaft to propel the car one mile. Thus if the Maxwell Model E should proceed at the rate of 30 miles per hour, approximately 889½ engine revolutions per minute are required. With two power strokes at each revolution there are 1,779 explosions a minute, or 3,558 explosions per mile, and each explosion propels the car about 1 foot 5¾ inches.

"The estimate presumes that the car is propelled over level ground. To mount

a hill means simply that grade resistance is added to the various frictional and other resistances. An automobile weighing 2,000 pounds climbing a hill 200 feet high (measured vertically) simply performs the task of overcoming the action of gravity, or lifting, and the calculation of the power required to do this must involve the factors from which the horsepower unit is derived. To lift 2,000 pounds 200 feet high in one minute is the same thing as lifting  $2,000 \times 200 = 400,000$  pounds one foot high in one minute. Theoretically, then, the lifting of 2,000 pounds 200 feet high requires  $400,000 \div 33,000 = 12.12$  horsepower, and the losses through friction, air resistance, etc., consume the remainder of the theoretical horsepower output.

"From the foregoing it must become apparent that rushing up a steep hill on the high gear must subject any car to enormous stresses, which are likely to affect the life and service to a considerable extent. Gear-shifting is not a cumbersome task, and the mounting of gradients will not be attended by harm if the gears are put to the use for which they were intended."

### Bold Methods of Tire Thieves.

Somewhat mysterious are the facts in a larceny case which at present is under investigation by the Philadelphia police department. Harry Cohen, a fourteen-year-old boy of Thirteenth and South streets, was arrested for the theft of an automobile tire belonging to J. W. Nock, of 1902 Green street. He is said to have confessed the theft and implicated Clarence Frick, a chauffeur. Nock's automobile was standing in front of the Forrest Theater; the car in which Frick was driving stood on the opposite side of the street. According to his "confession," Cohen removed the spare tire from Nock's car and carried it across the street, dropping it in Frick's car and making his escape by running down a near-by alley. Frick's automobile immediately started down the street, and also vanished. The police now claim that Frick and the boy worked in unison, and together managed to get away with a number of extra tires and spare wheels. Frick, when arrested, denied any knowledge of the matter, and although no direct evidence could be obtained against him he was held in \$400 bail.

### Where Fire Engines Cannot go Fast.

Because he exceeded the speed limit in driving an automobile chemical fire engine to answer an alarm, Raoul M. Collins, a Summit (N. J.) automobile dealer, was fined \$10 by Police Justice Hicks. Five witnesses testified that in addition to going at a high rate of speed, the vehicle had been guided through a crowded street without the horn being sounded by way of warning. Collins had been acting as emergency driver pending the appointment of a regular chauffeur from the fire department.

## MUST WAIT UNTIL PAINT IS DRY

Owner Who Took his Freshly Painted Car  
Learns a Legal Lesson—Responsible  
for Unsatisfactory Result.

Painting jobs sometimes may result in lawsuits if the customer be permitted to take his car out too soon after the painting work is completed, the proof being provided in the case of R. B. Shaw, proprietor of an automobile painting shop in Decatur, Ill., against Elkin Chandler, whose car was the cause of the trouble. The litigation came before Justice McCoy in that city, and resulted in a victory for the automobile painting man, although at the same time teaching him not to let customers have their machines before it is safe to do so.

The owner, Chandler, brought two cars to Shaw's shop for painting. As soon as the first machine was completed, Chandler took it out and gave it a hard drive over muddy roads. The mud was allowed to dry on the fresh paint, and the next day, when the car was washed, part of the paint peeled off. When the other car was finished, Chandler went to get it, offering payment for the work on it but refusing to pay for the first car, it is alleged, on the ground that the work was unsatisfactory.

Shaw refused delivery of the second machine until the entire bill of \$52.50 was paid. Chandler went to the circuit court and obtained a writ of replevin, with which he secured the car. In Shaw's suit to recover the debt, a number of expert automobile painters testified, with the result that Justice McCoy was persuaded that Chandler was at fault in running his car before the paint had dried thoroughly, and accordingly gave judgment in Shaw's favor.

### Pledged to Use Speedometers.

Outagamie county (Wis.) motorists who are members of the Outagamie County Autoist's Association, have pledged themselves to equip their machines with speedometers. At a recent meeting of the association, at which the speedometer equipment resolution was passed, it was voted that at no time and under no circumstances should any member violate the speed law. The use of speed indicating instruments was considered essential in order to enable the members to keep within legal limits. The meeting, which was held at Appleton, also took action looking toward enforcement of the law in regard to the posting of signboards by local authorities.

### Demonstrator Meets Tragic Death.

Walter J. Gould, of the Grout Automobile Co., Orange, Mass., was killed on the 24th in a collision of his machine with a stone wall. He was demonstrating the car to a purchaser at the time.



## SEEKING RUBBER SUBSTITUTES

Some of the Things the Search so far Has Developed—Efforts to Make Rubber Synthetically.

Considering that, by all the rules of precedent, this should be open season for the rubber substitute game, there is surprisingly little visible activity among the ranks of those who in the course of many years have kindly permitted their nearest and dearest friends to assist in the foundation of the magnificent industrial structures which they were about to rear. Likewise, it is to be noted that the long-continued high price of the genuine article has not had the to-be-expected stimulative effect on those who earnestly and seriously seek to produce in one way or another substitutes equivalent in their properties to the india rubber of commerce.

Possibly, in the case of Great Britain, always an easy prey to concerted speculative pressure, it may be that the apparent quiescence of the rubber substitutionists is explained by the activities of their brethren who are interested in the marketing of shares in more or less hopeful ventures in rubber plantation. But elsewhere the non-appearance of a crop of the good, old-fashioned synthetical rubber or new-process substitute projects, during the past winter must remain more or less an inexplicable mystery.

Originally as legitimate as the search for the Elixir of Life, the quest for the rubber substitute began in an earnest endeavor to discover some substance equally cheap or cheaper to secure and work than caoutchouc. Resulting from this effort, gutta percha, Balata and other natural gums have been introduced into the arts with great success; and it is but natural that the search should continue as still other natural juices present themselves for examination. Scientific research should not be confounded with the original dyed-in-the-wool rubber substitute promotion enterprise, which flourishes much in the same manner as do schemes for the distribution of the gilded brick and the phony green-back.

Beyond the realm of the irresponsible promoter, the rubber substitute proposition resolves itself into a blend of pure science and commercialism. Rubber experts pretty generally agree that there is little likelihood that a genuine substitute ever will be produced equal in all its properties to the true rubber, which is so essential in automobile tire manufacture among other things. Of the great number of kindred substances which are available and which are likely to increase in number as time goes on, the problem is not one of absolute substitution, but of skilful blending to

meet the demands of specific requirements. In a sense, rubber substitutes are not only possible but actually in use at the present time; they are not the substitutes in which the guileless citizen is invited to invest, however.

Summarizing the present state of artificial rubber, *Nature*, the London publication, prints an instructive article in which three classes of substitutes are recognized, namely, compounds containing no rubber whatever; composites, in which some rubber is employed; and the true synthetic rubber of the chemical laboratory. The first of these classes is the most important, commercially speaking, at the present time. Says the authority in question:

"Scores of recipes, including very diverse ingredients; but the basis of most is a modified oil. . . . If we test the drying properties of boiled linseed oil by spreading a little of it over a slip of glass and allowing it to dry, a film of oxidized oil is eventually obtained, having a certain modicum of toughness and elasticity. The liquid oil has taken up oxygen and thereby become converted into a more or less elastic solid. Tung-oil substitute is essentially such an oxidized product, manufactured by heating the raw oil until it has absorbed enough oxygen to cause it to thicken and become solid on cooling, when it is powdered and worked up with a little petroleum. . . .

"In a somewhat similar way the oils can be made to take up sulphur, becoming thereby solid and endowed in some degree with elastic properties. The treatment is analogous to the 'vulcanization' of rubber. . . . Colza oil is largely used for these purposes, but various others are available—linseed, maize, arachis, and castor oils, for example. . . .

"'Nitrated' oils are also used as the basis of some rubber surrogates. Thus one well-known product is a solution of a nitro-cellulose in linseed or castor oil which has been nitrated by treatment with a mixture of nitric and sulfuric acids. Other such articles are made by oxidizing the nitrated oil with lead peroxid or by simply heating it in air."

Another class of substitutes, it appears, is formed by adding to the oil such other ingredients as tar, pitch and creosote. Covering only a few of these, it is explained that "Russian" substitute, particularly applicable for the insulation of telegraph cables, contains wood tar, hemp and linseed oils, ozokerite, spermaceti and sulphur. "Oxolin" has a basis of fibrous material, such as jute or hemp. "Jones's" substitute is made from various gums and dispenses largely with the oils. Gelatin or glue is dissolved in creosote and then treated with some reagent, such as tannic acid, in the substance known as "Perkins's" substitute. "Bakelite" is produced by the condensation of formaldehyde and phenol, while by the compression of grape skins, it has been proposed to make a "grape-rubber." The

latter substitute, however, is frankly stated not to be a commercial product. With regard to these and other so-called substitutes, the authority continues:

"Some persons are disposed to deny them any right to the title, and would look upon them as mere adulterants whenever used partially to replace rubber in what would otherwise be an all-rubber article. Others admit, though sometimes grudgingly, that there is a place which such substitutes can usefully fill. Much depends on what the article is sold as, and on what it is to be put to. Not all the special qualities of rubber are wanted in all the products for which it is employed. A door-mat is one thing, a bicycle tire quite another. Where a high degree of elasticity is not really needed, as, for instance, in water-proof goods and electrical insulating work, there is a legitimate field for substitutes which may serve the required purpose. . . .

"It may be said at once that no substitute is equal to rubber in every respect. Chemically, the latter is a very inert substance—much more so than the substitutes. Hence, even if the latter were not otherwise inferior, they would be less durable than rubber under certain conditions. They are nearly all acted upon more or less readily in circumstances where rubber remains unharmed. The modified oils, in fact, are still oils in the sense that they remain glycerids, decomposable by alkalies, as also by steam under pressure. If used for articles exposed to these agencies, they fail in durability, whatever their excellencies otherwise. . . ."

With regard to the synthetical variety of rubber, the original "will-o-the-wisp," there are "turpentine-rubber," which is made by passing turpentine through a hot tube and treating the resulting vapors with hydrochloric acid; and the product resulting from Heinemann's patent, "which attempts a true synthesis, starting with mixed acetylene and ethylene gases and ending in a substance closely resembling caoutchouc, if not identical with it."

A bit of timely interest is lent to the subject through the publication in the United States Consular Reports within a few days, of announcements concerning the discovery of yet another synthetic rubber process by a German professor at Kiel. The report which, in roundabout fashion, reflects the excitement created in Birmingham, England, by the news, states that "the invention is based on the boiling together, under certain conditions, of 'isoprem' with acetic acid, in a closed tube, the result being the creation of a grey composite possessing all the properties of pure rubber and capable of being vulcanized in the same manner as gutta-percha." Unfortunately "isoprem" is a substance not recognized by the dictionary, so that the public, for the time being, must remain somewhat in doubt as to the true classification of the new process.



While disposed to remain of open mind in the matter, the writer of the article quoted above harbors no boundless enthusiasm over the prospect of the elimination of the rubber plantations of the Amazon district; nor does he offer much encouragement to those who are tempted to invest in projects to that end. "Will rubber plantations go the way of madder-fields and indigo cultivation?" he answers, "Well, the future is on the knees of the gods. In the face of the precedents just mentioned, to say nothing of others, he would be a bold man who would venture to say that even the best quality of rubber may not some day be made on a commercial scale from cheaper materials such as beet-sugar and calcium carbide. But the day is not yet." ". . . One of the first doubts to arise is whether the synthesized caoutchouc will have the physical properties of natural rubber; or whether these, by any course of treatment, can be imparted to it. This doubt resolved, there comes the question of economical production in competition with the natural product. Much time and thought have been spent on the problem of synthetic rubber, and it is safe to conclude that there will yet be many a headache before it is solved. Judging by what is known to have been done rather than by the promises, owners of rubber plantations may for the present sleep peacefully in their beds."

#### Electric Lights Preserve Batteries.

One advantage which has come in connection with the adoption of electric lights in automobile service is that it provides for a fairly regular and periodic discharge of the accumulators, which otherwise might remain undisturbed for many days or weeks. As is well known, for economical use the storage battery should not be left either fully charged or entirely discharged for any length of time. Where the batteries are used for an ignition standby only, or are practically unused save for engine starting purposes, they are apt to deteriorate very rapidly.

#### One Effect of Magneto Wear.

In using magnetos which are equipped with plain armature bearings, care should be taken to see that the bearings do not wear to excess. If they do, there is some likelihood that the armature may be thrown enough out of the center of the tunnel through the pole pieces to permit it to rub. The effect of this would be to cause the insulation to be abraded from the outer turns of wire, thus producing short circuits and involving considerable expense in subsequent refitting, besides putting the instrument entirely out of business for the time being.

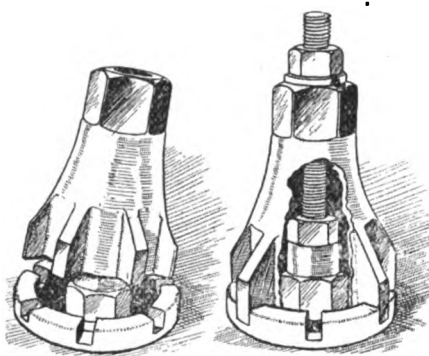
"The A B C of Electricity." Price, 50c. Motor World Pub. Co., 154 Nassau Street, New York City.

## THE MOTOR WORLD

### ASSISTS REMOVAL OF VALVE CAPS

Device that is of Service with Obstinate Caps Having a Castellated Flange  
—Method of Use.

Valve caps, of the sort which are adapted to use where the spark plug or petcock is inserted over the valve, are apt to prove difficult of removal occasionally when they have been in place for a long time, particularly if the threads have become "set" as a result of corrosion. In the case of those which are formed with a deep, female hexagon gripping surface, there is not as apt to be trouble as with those which are provided with a castellated flange, into which



VALVE CAP REMOVING TOOL

a corresponding tool is intended to fit when removal of the cap becomes necessary. With this arrangement it is not always an easy matter to hold the special tool in place while the necessary pressure is being applied to the handle. The result is that the tool is apt to fly off its seat, occasionally with uncomfortable consequences to the knuckles of the operator.

To obviate the difficulty a device has been contrived which is applicable to obstinate cases, and which is intended to take the place of the special tool, being operated by means of a large monkey wrench. As illustrated by the Autocar, its construction is relatively simple, as the accompanying picture shows. A trumpet-shaped casting is formed in such a way that the ears which project from its lower end are adapted to engage the notches in the castellated nut which forms the valve cap. Into its upper end is threaded a bolt of sufficient length to extend below the base, the lower end of the bolt being screwed into the shell of an old spark plug, while a nut and washer are run over the upper end.

In use, the spark plug or petcock is removed from the valve cap and the substitute plug, carrying the bolt, is screwed in place of it. Afterward the removing tool is set in position, with the end of the bolt projecting up through it, and the nut and washer run down over it "hand tight." When the wrench is applied to the hexagonal section

of the tool, the latter is prevented from working out of place by the pressure of the nut, and the required force can be applied to the wrench to start the cap without danger of the wrench being dislodged and flying off into space.

#### Far East Buying Motor Cars.

American automobile exports to the Far East have not made as great an advance as those of other countries. Siam, for instance, imported during the year 1909 seventy-eight motor cars valued at \$146,019, against 57 valued at \$96,900 in 1908; the United States, however, contributed but three cars, costing \$2,113, compared with 10 cars valued at \$7,362 during the preceding year. Of the total imported during the last year, 43 cars, valued at \$73,707, were from the United Kingdom, and fifteen cars, valued at \$32,187, from Germany. In addition to the motor cars, parts of automobiles to the value of \$27,880 were imported in 1909. One of the interesting features of the consular report containing the above information is the average price of the cars. While the average price of the English car exported to Siam was \$1,714, and that of the German \$2,146, the value of the average American car exported to Siam was but \$704. An increased demand for automobiles is expected to come in the next few years, as the roads are being improved greatly.

#### Ribbons to Help Window Displays.

Those dealers who place a proper value on attractive window display for either cars or accessories have an example in the case of a Philadelphia branch manager, who recently utilized what is sometimes known as the ribbon scheme. Staging a display car in the center of the window space, he attached ribbons to each of the principal features of the car, each ribbon being of a different color and terminating in a placard fastened to the window glass itself, where it could be read easily by spectators on the outside. Each placard gave a short "talk" as to the particular and peculiar merits of the part or feature of the car with which it was connected by its ribbon. The combination of the placards, the gaily colored ribbons and the car served successfully to catch the eye, and those who absorbed the information on the placards were well initiated into the main points of the machine and in what respects it was held by the manufacturer as being superior to others.

#### Fire Extinguishers for Commercial Cars.

Commercial vehicle users should find it wise to equip their machines with suitable fire extinguishers. The expense is slight, and the saving to vehicle and load in the event of a possible flare-up from the carburetter, or a mishap due to a leaking tank or feed pipe would more than compensate for the trouble of fitting it in a suitable and accessible manner and looking after its condition.

## WARNS BRITISH MANUFACTURERS

**London Times Discusses American Invasion and Lets Fall Words of Wisdom—Underrating Rivals Poor Policy.**

So marvellous are the production figures of American automobile factories to British eyes that fears are entertained in Great Britain that an American "invasion" of motor cars is imminent. These fears are so general that the London Times has deemed it proper to discuss the possibility editorially, and that "the Thunderer" is able to see things quite clearly, even when relating to things American, is made plain by the warning it gives the British makers against underestimating the character of the American product. The Times says, in part, as follows:

"For the present year the total American production is put at 200,000 cars of all kinds, and the question suggests itself: Can this large production be absorbed by the American market in addition to the 275,000 cars which are said to be already in existence in the country? The population of the United States is about double that of the United Kingdom, and its absorptive capacity for motor cars is no doubt more than proportionately greater. But 200,000 is a large mouthful to swallow, even when allowance is made for the Canadian market, which is almost completely in the hands of United States makers, and, if the domestic demand proves inadequate, efforts will naturally be made to dump the surplus elsewhere. In that event this country is as likely a field for the operation as any other; and, even apart from dumping proper, it is not improbable that some of the larger firms, in addition to those who are already selling here, will come to the conclusion that the British market is worth exploiting.

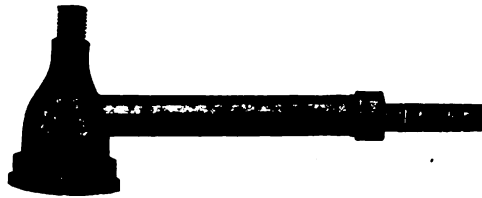
"In considering this contingency it is idle for British makers to lay the flattering unction to their souls that American cars are unsuited to British conditions, or to suggest that they will come to pieces on British roads, which on the whole, are probably superior to those enjoyed by the American motorist. The cars naturally differ among themselves, and so far as they can be regarded as a class they differ from those of British manufacture in such respects as design, material and methods of production. But one of the most striking differences is in price, and, however shy the British buyer may be in approaching a thing with the appearance of which he is not familiar, his diffidence is apt to be rapidly dissipated by an effective appeal to his pocket.

"If such an invasion becomes an accomplished fact, British manufacturers will not command success in holding their own

by underrating their adversaries, but they may strive to deserve it by dint of imitating their methods and reducing costs through producing standard patterns in large quantities, without introducing trifling variations to suit the particular whim of every customer. The practice of making endless special machines, instead of adhering to an adequate range of standard models, has been the bane of the industry, and, if it is persevered in, it will have equally untoward effects on the automobile industry in any struggle against outside competition."

### Tire Pressure Gauge in New Form.

That there are important points concerning an air tire gauge that sometimes are overlooked by the uninitiated is brought out in the presentation of the Safety tire gauge by the Safety Tire Gauge Co., of Chicago, Ill., a device which combines a pump connection of the quick acting



Eclair type and a gauge which indicates the actual pressure within the tire and not simply the pressure in the pump hose. As shown by the accompanying illustration, the gauge, which retails for \$1.50, has no glass, hands or frail parts to get out of order, and is small and compact. The gauge readings protrude at the side. When the device is attached to the valve stem of the tire the valve of the latter is opened, letting air back into the gauge. The air is kept from going back into the pump by a Schrader valve in the top of the gauge connection. The device has the further advantage of being light, compact, and not easily deranged.

### Chronological History of Old Concern.

Few automobile makers at present engaged in the American branch of the industry have a lengthier chapter of history than has the Stevens-Duryea Co., Chicopee Falls., Mass., a fact which is being emphasized in the chronological history of the Stevens-Duryea car, which is given in tabloid form in the early part of the new catalog of current models, and which shows mile posts in the progress of the car dating back for more than 19 years. The catalog itself affords an instructive summary of the special features which characterize the car, as well as throwing considerable light on the careful methods which are pursued in constructing it. It is almost needless to add that its typographical and pictorial features have been carried out in the distinctive manner peculiar to all the literature which is produced by this New England manufacturer.

## LIQUOR INTERESTS ARE AROUSED

**Resent Reflections on Their Business and Canceled Orders Result—Two Manufacturers Forced to "Take Water."**

Those automobile companies which either officially or through the personal action of their officers and representatives have become identified with prohibition or with opposition to the liquor interests are candidates for retaliatory measures by the liquor men which in some instances may prove costly from a purely business standpoint. The vigilance of the brewers and distillers in this respect is again made apparent by the publication last week of a letter written by the "wizard" of the General Motors Co., in which he assures the brewers that "the policy of the General Motors Company is to take no action which will in the remotest way interfere with the best development of your industry, which is a legitimate business, and holding a most important position among the leading manufacturing institutions of the country."

This enunciation of policy is regarded as so important by the General Motor "genius" that he uses paid advertising space to print it, suggesting an eagerness to placate and win the affections of the liquor interests rather than to encounter future experiences which might resemble those of Detroit manufacturers who have felt the penalty of antagonizing the brewing and distilling industries. Such antagonism in several cases has produced surprising and serious effects, made possible by the powerful co-operation of the liquor men in their common cause.

Among the notable instances is that resulting from the indiscretion of the advertising manager of a prominent Detroit company, in an address made before a billboard and advertising convention. The speaker expressed a low estimate of the billboard as an advertising medium for high grade automobiles, indicating that to his mind it was more valuable for beer and whiskey advertisements or other announcements calculated to appeal to the underworld who walk the streets at night. His words were such that the liquor interests construed a direct linking of their business with all that was vicious, criminal and immoral in city life.

The blow fell a few days later, when the Pittsburg agent of the automobile company was abruptly told that an order which he had obtained from a brewing concern for several large trucks was canceled. When he was asked the reason, he was told that since the makers, through their advertising manager, had chosen to cast slurs on the liquor business, they could not expect liquor men to purchase either their pleasure cars or their trucks, and that

throughout the country the liquor interests had placed a boycott on the company's products. Before the ban was raised, the president of the automobile company himself was obliged virtually to apologize for his advertising manager's words and to repudiate the latter's authority or responsibility in committing the company to a position of antagonism toward brewers and distillers. The advertising manager, who personally has no distaste for liquor products, is said to have held his job only by practically getting down on his marrow bones and swallowing a dose of humble pie large enough and heavy enough to choke most men.

In Michigan politics, the "wets" and the "drys" are waging such constant warfare that prohibition is one of the important and ever-present issues, and at least two prominent automobile officials have placed their respective companies on the liquor boycott list by reason of their political activity in favoring the "drys." As one of these companies is a General Motors constituent, there are perhaps excellent reasons for the "Napoleon of the industry" to declare in his letter to the brewers that "the company cannot assume responsibility for the individual or personal views of any of the thousands connected with the organization," but assuring them that "none of the various interests with which you are affiliated will have any just cause for complaint by reason of any action upon the part of this organization."

#### To Prevent Loosening of the Spokes.

Automobile wheels seldom give trouble as a result of shrinkage of the wood, in the way that carriage wheels generally do after they have seen a certain amount of use in extremely dry weather. Nevertheless, the bolts holding the hub flanges occasionally become loose, and if neglected this difficulty may ultimately lead to a loosening of the spokes themselves. On this account the nuts on all wheels should be gone over in connection with the regular overhauling of the car, care being taken to see that the tension on all of them is perfectly uniform, and that they are properly equipped with lock washers. If the spokes are found to be loose after this has been done, a liberal soaking generally will restore them to their proper condition.

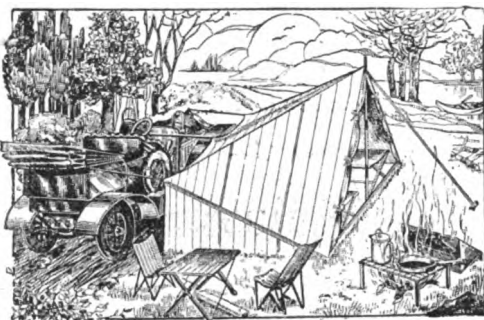
#### Why Grease Gun Should Be Cleaned.

While it might not occur to the average motorist that so simple an implement as a grease gun should require any sort of special care, one point in connection with its use is deserving of special attention. At all times it should be kept clean and free from grit, especially with regard to the spout. Hence it should not be allowed to rattle about freely in the tool box with dusty tire irons or other tools which have been laid on the ground, nor should it be permitted to come into contact with sur-

faces which are dust-covered. Unless this precaution is taken there is a fair chance that sooner or later it will be the means of inoculating some of the bearings with a sufficient amount of grit to do considerable harm.

#### Tents for Automobile Tourists.

Instead of merely being the experiment of a few adventurous souls, automobile touring tents and camping outfits are being used to an extent that would surprise the uninitiated, as is made apparent by the numbers in which they are being marketed. A typical outfit of the kind, as supplied commercially, is offered by the New York Sporting Goods Co., of New York City, in the "Compact" automobile touring tent,



the nature of which is indicated in the accompanying illustration. Only a single pole made in three joints is required to erect it, and ropes are used to guy the rear wall to different parts of the car, or improvised stakes may be used if preferred. The complete tent, which retails for \$25, weighs 31 pounds, including the jointed pole and the carrying bag, and folds up in a space 36x7 inches. When it is spread, the tent is 9 feet front, 7 feet deep and 7 feet high, and will hold three cots or two cots, with room for a table and chairs between. If bags or blankets are spread on the waterproof flooring, four persons may be accommodated comfortably. For more than four people, two tents may be set facing each other, with an entrance between them and a fly stretched over the opening. A complete range of suitable equipment in the way of furniture, blankets, sleeping bags, lunch baskets, cooking outfits, serving sets and sundries also is available for the motoring tourist who desires to be independent of hotels.

#### Book that Deals with Dynamo Building.

Because the constructive impulse comes to every man early or late in life many authorities have been moved to write little handbooks which, metaphorically speaking, take young genius by the hand and lead him through the mazes of such simple tasks at the bench or the lathe as may be necessary to the achievement of his own particular bent. One such volume just has been issued by The Norman W. Henley Publishing Co., New York City. It is called "Dynamo Building for Amateurs,"

and deals with all the processes incident to the construction of a small dynamo or motor which may be used for gas engine ignition, or for running a small lathe, sewing machine or other light tools. The book, which is instructively written by Arthur J. Weed, should make useful reading for such as wish to become posted on the general principles of simple dynamo machinery without becoming deeply involved in troublesome mathematical or electrical complication of a theoretical nature which so often serve to confuse those who have not a mechanical bent.

#### When Kerosene or Water is Wanted.

Because the average inexperienced motorist is apt to be lacking in inventiveness, owing to his unfamiliarity with the mechanism of his car, it may be well to explain that when kerosene is needed to flush out a heated or gummy cylinder, or for cleaning purposes where for any reason gasoline is unsuitable, it usually may be found in the fonts of the dash lamps. Similarly, when lighting up time arrives on the road, where wayside brooks are not at hand and no farmhouses are in sight, it usually is possible to start the acetylene generator by means of water drawn from the radiator. Novices have been known to walk long distances in quest of one or the other of these fluids merely because they did not happen to remember that they had them right at hand.

#### Development of the Automobile Trunk.

Of the very many special demands born of the use of automobiles and which have required the development of old things in new shapes, the tourists' trunk is a good example. The Kamlee trunk is an excellent example of this development. As made for automobile use it is fitted with either two or three suit cases, access to the contents of which can be had by merely lowering the patent drop front of the trunk; articles in the bottom are, therefore, easily obtained without disturbing those on top. The trunk is rain-proof and dust-proof and can be had with cut-in back to conform to the tonneau of any make or type of car, while it is so built that it can be taken from the car and safely shipped as baggage.

#### Importance of Correct Gear Adjustment.

One thing in particular should be impressed upon the owner of the small car who is bent upon doing his own repair work. That is the absolute necessity of preserving the correct adjustment of the bevel driving gears. Unless the position of the two members in question is so regulated that the teeth meet and mesh uniformly throughout their entire lengths there is every probability that the rate of wear will be increased tremendously, while noise and increased frictional resistance also will result.

## CITES CHAIN DRIVE ADVANTAGES

English Expert Gives Reasons for its Earlier Faults—Increasing Use in Commercial Vehicle Practice.

Although the use of the chain drive has waned during the past two or three years, certain considerations make it appear that its day of usefulness to the automobile industry by no means has passed, but rather that new applications of it may serve to compensate for the loss as time goes on. For commercial vehicle purposes, for example, it is particularly well suited, especially in the case of those machines designed for extremely heavy loads. In certain types of friction drive, also, its use is considered essential, while very recent developments on both sides of the water appear to argue a growing use for the chain in replacing spur gearing for valve gear drive on engines. Even more remarkable, and no less promising, is the application of the silent type of chain in the gear boxes of omnibuses—this being a recent innovation in British practice.

With these considerations in view, no little interest attaches to a lecture upon the general subject of chain transmissions recently delivered before the Institution of Automobile Engineers of London, by A. S. Hill, an engineer who for many years has specialized in the construction and application of chains for all purposes and is thoroughly familiar with their possibilities and general advantages. Under the circumstances, it is noteworthy that he presented few radical arguments in favor of the chain drive and solid axle as against the shaft drive construction as applied to pleasure cars of medium size, but rather that he credited the designers of that type of mechanism with having secured a remarkable achievement.

"It was to be expected that automobile designers would look for other means of transmission on their vehicles, in view of the unfortunate experience of many chain users in the early days," he remarks, "and there was great inducement to manufacturers to study and spend money in an endeavor to perfect the live axle. All are agreed that they have succeeded in producing a piece of mechanism which does them infinite credit. No doubt troubles of no mean order were experienced in the development of the live axle," he adds, "and who can say that if the same amount of time, patience and money had been devoted to the further improvement of the chain drive there would be anything like the same disproportion in numbers between the live axle and chain driven cars as now exists?"

With reference to the early use of chain drive on motor cars, Mr. Hill explains that "they were generally acknowledged, by the

original designers, as a ready and convenient means to provide for transmitting the power to the road wheels, and to the chain must be credited no small part in the early development of the motor vehicle.

"All of us doubtless recollect and can picture some of the early types of chain-driven cars with driving wheels as small as 6-tooth, which quickly lost their form and became under-cut or 'hooked,' causing constant chain troubles. As time went on matters somewhat improved, the makers of motor vehicles being so progressive as to put 9 teeth in the driving pinions with certainly better results, but yet far from satisfactory.

"It will be conceded that at this time chain manufacturers made marked advancement towards perfection of manufacture, especially in the matter of bearing life, notwithstanding which chains were rapidly destroyed, the owners of automobiles buying new chains often without a thought of the wisdom of renewing chain wheels; thus the new chains were compelled to get out of pitch even quicker than the old ones which they had replaced.

"Gradually the motor car manufacturers learned by experience that if the wear was distributed over a greater area, the teeth would retain their correct form for a longer period, until eventually gears were being used with pinions as large as 20 teeth made of steel castings, or from mild steel, case-hardened, instead of bronze or malleable iron. The above remarks, as far as chain wheels are concerned, have been confined to the driving pinions because in nine cases out of ten they were mainly responsible for chain troubles. Noise of transmission was reduced as the important conditions here detailed received attention, and the next improvement was naturally to provide for all chains being properly encased and given a fair chance to prove their efficiency.

"During all this time the fact must not be lost sight of that the horsepower of the engines of automobiles had rapidly increased, as much as 40 to 50 horsepower being transmitted through a pair of 1¼-inch pitch chains of the single roller type, whereas previously the same size of chain was being used for 6 to 9 horsepower, and yet on the more powerful machines, under the improved conditions, the chains lasted much longer than on the lower horsepower vehicles. Results have been recorded of 18,000 to 20,000 miles with one pair of chains. Is it too much to say that chains and chain wheels were probably the most ill-used part of the mechanism of a car? Their very position subjected them to streams of mud or dust from the road wheels, and nothing more could be expected of such an accurately made piece of mechanism working under such unfavorable conditions.

"No doubt automobile designers have many awkward problems to solve, and unquestionably one is the designing of a

proper chain case permitting cleanliness and reasonable lubrication. At last several automobile manufacturers decided to so design their vehicles as to admit of suitable chain cases being provided, and the author is of the opinion that chain gearing, under these conditions, compares with distinct advantage as regards efficiency and most favorably as regards silence, with live axle cars."

Turning to advantages of the chain method of transmission as compared with that of the shaft drive and live axle, Mr. Hill continues:

"The live axle, no one will deny, forms a clean and well-housed piece of mechanism; but do not its benefits end here? It is not too much to claim for chains a higher efficiency for transmitting power than high-reduction bevel or worm gears. Positive in their nature, they have some degree of flexibility, and even when fitted in cases are fairly accessible. Chain's and chain wheels can be quickly renewed without great expense, and an alteration of gear ratios, to suit the particular district the car is generally required to travel in, can be easily effected. The flexibility of the chain drive permits of freedom for axle, spring and frame movement, without setting up undesirable strains, and enables the road wheel, when required, to be conveniently splayed.

"With the live axle practically the whole weight of the bevel drive rests directly on the tires—that is to say, the weight is not spring-supported, and is subjected to the direct shocks from the road wheels, with the result that the tires on the rear wheels generally wear much more rapidly on a car with shaft gear drive than on a car with double chain drive. One pound weight added to the axle is harder on both tires and axle than many pounds added above the spring.

"The application of chain drive to heavy motor lorries and tractors simplifies many of the problems connected with the design and running of these particular vehicles, and permits of a drive which meets the most exacting requirements. During the period when the chain troubles previously alluded to were sufficient to make an impression, there were very few commercial motor vehicles in existence, and by the time commercial cars began to command general attention the chain drive had been greatly improved, and designers generally realized the importance of good chain wheels with correctly formed teeth. It will doubtless be now conceded by the majority of automobile engineers that the chain drive for commercial vehicles has demonstrated its superiority to the live axle, and there is little prospect, at present, of it being superceded. The torsional strain put on the frames of this class of vehicle is very considerable, and the chain lends itself, to a great extent, to the distortion without any appreciable harm.

"The fitting of chains as a means of transmitting power to the driving wheels of such vehicles at once dispenses with the large and heavy axle case with split axle, necessary when gear drives are employed, and permits of the use of the only satisfactory axle that can be used for carrying heavy loads—namely, a solid one. While thus reducing the total unsprung weight on the driving wheels to a minimum, a relatively stronger axle can conveniently be fitted, and the removal of the differential gear to the driving end of the chains, where it is protected from road shocks and axle strains, allows of a lighter gear being fitted, by reason of the increased speed at which it transmits the necessary power, and incidentally permits of more efficient lubrication there.

"Axle clearance with gear drives is very limited, but with chain driving of the road wheels it is easy to obtain an axle clearance practically equal to half the diameter of the driving wheels. The size of the road wheel can, with chain transmission, be made suitable to carry the required load without being influenced by the ratio of reduction between the gear box and axle by reason of the wide limits of ratios possible with this type of drive. The ratio of reduction can at all times be conveniently altered to suit varying conditions of road service, by the changing of sprockets and detachment or addition of one or more chain links. With chain drives torque roads are not required, and the absence of universal joints provides a transmission with an efficiency higher and more easily obtained and retained than is possible with other forms of mechanical drives.

"To automobile designers of the present day, to get best results from chain drives to the wheels, the author would submit the following points: The pinion should have from 17 to 20 teeth to suit chains of the 'inverted' tooth type for preference, and of a pitch and width suitable for the weight of the vehicle and power to be transmitted. The ratio of wheels not more than  $2\frac{1}{2}$  to 1. Pinion wheel of mild steel, case-hardened. The larger chain wheel, or wheels, should be made of steel castings, or mild steel, case-hardened, and for preference should be in the nature of a simple, plain ring or bolt on to the brake drum or bracket. The automobile designer should consult with the chain manufacturer as to correct tooth forms and wheel diameters. The whole chain gear should be cased in with a strong case easily detachable or easily accessible, and provision should be made for a drip lubricator on the top of the case which should only drop oil on the chain when the car is in motion.

"Such a drive would compare favorably for silence, and would be less severe on the tires than the live axle. It would be cheaper to instal, and would have longer life and is easier to alter ratios."

In regard to novel and special applica-

tions of the chain drive in automobile practice Mr. Hill has this to say:

"Although heated controversy resulted from the application of the 'inverted' tooth type of chain to the cam shaft drive of petrol motors, the results obtained have amply justified expectations.

"Coventry 'noiseless' chains were fitted to the two 'Knight' Daimler engines used in the now famous test carried out by the Royal Automobile Club, and some details regarding the condition of these, after running constantly at a speed of some 1,000 feet per minute under their maximum load, may be interesting and instructive. The two chains used were  $\frac{5}{8}$ -inch pitch, and on completion of the test were found to have elongated in their total length of 42 and 43 pitches by 3.64 and 1.16 inches, respectively, this difference being due to the former chain being used on the 38 horsepower and the latter on the 22 horsepower engines. The wear on the link faces was such as to still leave the marks of the machining visible, and the average wear on the bush and rivet diameters was .0005 inch and .0006 inch, respectively. An equivalent road mileage under such severe conditions as the above test would approximate 7,000 miles, during which time the chain would have itself traveled over the wheels some 8,000,000 feet.

"It will be noted that the centers of this drive are particularly close—no adjustment is provided, and the conditions generally are extremely stringent. Should the chain elongate more than 3-16 inch in a length of 25 inches its usefulness for this special purpose would probably be expended. For this particular drive, every chain is required to be within the total limit of .020 inch in its total length.

"Many firms are now considering the chain drive on the ordinary cam shaft, and in each case where tests have been made all the success expected of it has been realized. In every case it has proved, beyond question, to be quieter in action than spur gearing.

"The chain driven gear box as fitted to the motor omnibus is somewhat of an innovation. Spur gears proving troublesome for noise, the chain manufacturer came to the rescue, and the scheme has proved a great success; although the initial gear has not run more than 5,000 miles, there is every indication that it will prove to have considerably longer life than the spur gears which they displaced.

"The magneto drives come under the heading of the minor uses to which the chain is applied on motor vehicles. As small a chain as 8 millimeters pitch of the roller type can be used with excellent results on motor bicycles. It is now common practice to have them neatly enclosed in a case, which adds to the efficiency and general appearance. Both the ordinary bicycle roller chain and  $\frac{1}{2}$ -inch pitch 'inverted' tooth type of chain are being used for

magneto driving on the automobile; the same types of chains are being used also for pumps, fans, and for driving small dynamos for producing electric light."

#### **Wants \$500 Damages Added to Wages.**

The question of whether or not an employe of a taxicab company is entitled to "damages" has developed a new wrinkle in Buffalo, N. Y. George Benham, a chauffeur, sued the International Railway for \$500 damages for injuries which he sustained when a trolley car ran into his taxicab and threw him to the street, and which he claimed incapacitated him for three weeks. In court it was proven that, although Benham did not show up at the garage for nearly three weeks, the taxicab company, knowing the accident was no fault of his, paid his regular wages during that time. This unexpected turn in the trial caused Judge Maul to reserve his decision.

#### **Limousines as Photographic Studios.**

Heeding the maxim "Time is money," a Hamburg photographer has installed something new in the line of photographic appliances. He ordered a large limousine, fully equipped as a photographic studio, with several cameras, dark room, laboratory, etc. Wherever events of importance take place, the traveling studio will attend, take pictures, develop them and sell prints ready to take home within a few minutes of the event. In racemeets, games, aviation and other sporting contests, faithful photographs of the participants, their machines and the main incidents of the meet will be for sale before the echoes of the applause have died away.

#### **Extra Bodies for Garbage Wagons.**

As a means of saving time and labor, the street watering and dust collecting automobiles of London, Eng., have interchangeable bodies. As soon as a truck is loaded, it is driven to the dumping places, backed up against a ledge supporting the back portion of the load, while the front is raised on a sling. The chassis is then driven from under the hanging body, backed under an empty one, and starts off on its next collecting tour. It is said that the plan works admirably, saving much time which would be wasted in waiting for the car to be emptied.

#### **Exploding Tire Causes Death.**

That an automobile tire may explode with sufficient force to cause death was demonstrated on Decoration Day, at Chester, Pa. Frank D. Marshall, aged 45 years, was killed in the yard of his home by the explosion of an automobile tire which his brother-in-law was inflating. The inner tube struck Marshall across the face, lacerating him so severely that he died soon after his removal to the Chester hospital. The tire was an old one and showed evidences of being rim-cut.



# MICHELIN

**TIRES WIN**

**"AS USUAL"**

**at Indianapolis Motor Speedway**



## Wheeler & Schebler Trophy

**200 Miles — 2 Hours, 46 Minutes, 31 Seconds**

<b>1st.</b>	<b>Marmon,</b>	<b>Harroun driving,</b>	<b>Michelins "As Usual"</b>
<b>2d.</b>	<b>Jackson,</b>	<b>Lynch "</b>	<b>Michelins "As Usual"</b>
<b>3d.</b>	<b>National,</b>	<b>Aitken "</b>	<b>Michelins "As Usual"</b>
<b>4th.</b>	<b>Buick,</b>	<b>A. Chevrolet "</b>	<b>Michelins "As Usual"</b>

## Prest-O-Lite Trophy

**100 Miles — 1 Hour, 23 Minutes, 43 Seconds**

<b>1st.</b>	<b>National,</b>	<b>Kincaid driving,</b>	<b>Michelins "As Usual"</b>
<b>2d.</b>	<b>National,</b>	<b>Merz "</b>	<b>Michelins "As Usual"</b>
<b>3d.</b>	<b>Jackson,</b>	<b>Lynch "</b>	<b>Michelins "As Usual"</b>
<b>4th.</b>	<b>Marmon,</b>	<b>Dawson "</b>	<b>Michelins "As Usual"</b>
<b>5th.</b>	<b>Marmon,</b>	<b>Harroun "</b>	<b>Michelins "As Usual"</b>

Michelins "as usual" on the third day won 11 out of a total of 13 contests and established new records for all distances from 30 to 50 miles. During the three days' meeting Michelin tires won 25 out of a total of 28 contests—a consistent record for speed and tire durability never before equalled.

# MICHELIN

## RECENT PATENTS.

956,033. Supplemental Spring for Automobiles. Brenton D. Bishop, Boston, Mass. Filed Aug. 31, 1908. Serial No. 450,954.

1. The combination with a motor vehicle provided with leaf supporting springs, of supplemental springs each comprising a coil having arms extended in the same direction and bent at their ends in the plane of said arms to form eyes having their axis parallel with the axis of the said coil, and bolts passing through said eyes to connect the leaf spring with the framework of said vehicle.

956,060. Automobile Wagon. Martin V. B. Ethridge, New York, N. Y. Filed July 10, 1907. Serial No. 382,972.

1. In a motor vehicle, the combination with a body of a rear axle fixed against turning on the body, a front axle pivoted to the body, a steering shaft journaled in the body and having a sheave at its lower end, a tongue fixed to the front axle and extending rearwardly beyond and beneath the rear axle, depending idlers journaled on the rear axle on opposite sides of the tongue, and cables wrapped upon the

sheave and passing about the idlers, said cables being fixed to the rear end of the tongue adjacent to the axle.

956,089. Transmission Gearing. William W. Henderson, Washington, D. C. Filed Nov. 12, 1909. Serial No. 527,739.

1. The combination of a rotary driving member, a driven shaft on which said member is loosely mounted and around which said member rotates, a reversing gearing between the shaft and the said member, a clutch device for reverse drive between said gearing and the shaft, and located on the opposite side of said member, and means to shift the shaft lengthwise to engage one of said clutch devices and disengage the other.

956,110. External Guard for Pneumatic Tires. Joseph L. La Driere, Albuquerque, N. M. Filed Jan. 21, 1910. Serial No. 539,360.

In an external guard for pneumatic tires the combination of a plurality of sections each of which has a longitudinal central portion, a knuckle at one end thereof, spaced knuckles at the opposite end of said longitudinal central portion, and curvilinear

skirts extending from opposite sides of said portion and flanged at one end; transverse pintles extending through the aligned knuckles of the sections and connecting the sections together in a hinged manner to one of the first named sections and having a longitudinal central portion and curvilinear skirts and also having apertured lugs and guard flanges on said skirts, threaded bolts arranged inside the guard flanges and extending through the apertured lugs of the two end sections, and nuts arranged inside the guard flanges and mounted on the bolts at the outer sides of the apertured lugs, all substantially as specified.

956,191. Universal Joint. Louis Schwitzer. Indianapolis, Ind. Filed March 22, 1909. Serial No. 484,857.

1. A universal joint including two members with a pair of oppositely located projections extending from the end of each and so that the projections on the two members may interlock each of said projections having one side surface flat and the other side surface recessed, plugs fitting between the adjacent surfaces of said projections and in the recess thereof and with a flattened surface bearing against the flattened surface of the projections so

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as to be slidable thereon, the external surfaces of said projections being spherically disposed, a spherically disposed band transversely surrounding the joint, and means for securing said band to said plugs.

956,221. Magnetic Tachometer. John K. Stewart, Chicago, Ill. Filed Nov. 16, 1908. Serial No. 462,755.

1. In a magnetic tachometer, in combination with a case, an armature disk mounted on the case wall and inclosing a chamber within the case, a post within the case coaxial with said chamber, a magnet carrier mounted for rotation on the post, a carrier actuating shaft journaled in the case wall and projecting into the chamber, for rotating the carrier; a low resistance disk positioned between the armature disk and one end of the carrier and mounted for oscillation about the axis of rotation of the carrier, such carrier being provided with a plurality of peripheral recesses, and horse-shoe magnets mounted in such recesses

956,491. Auto-Drive Boat. John W. Freeman, Joplin, Mo. Filed Oct. 6, 1908, Serial No. 456,359. Renewed Nov. 20, 1909. Serial No. 529,096.

1. A boat arranged to receive an automobile, a pair of independently operable propelling devices, independent connections between the driving wheels of the automobile and the propelling devices, and means for independently controlling the speed of rotation of the driving wheels.

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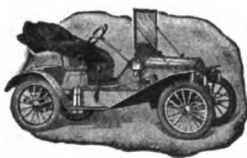
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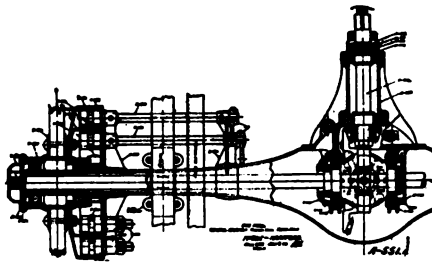
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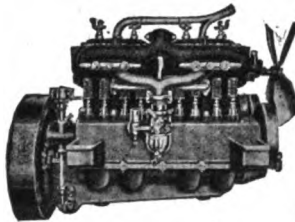
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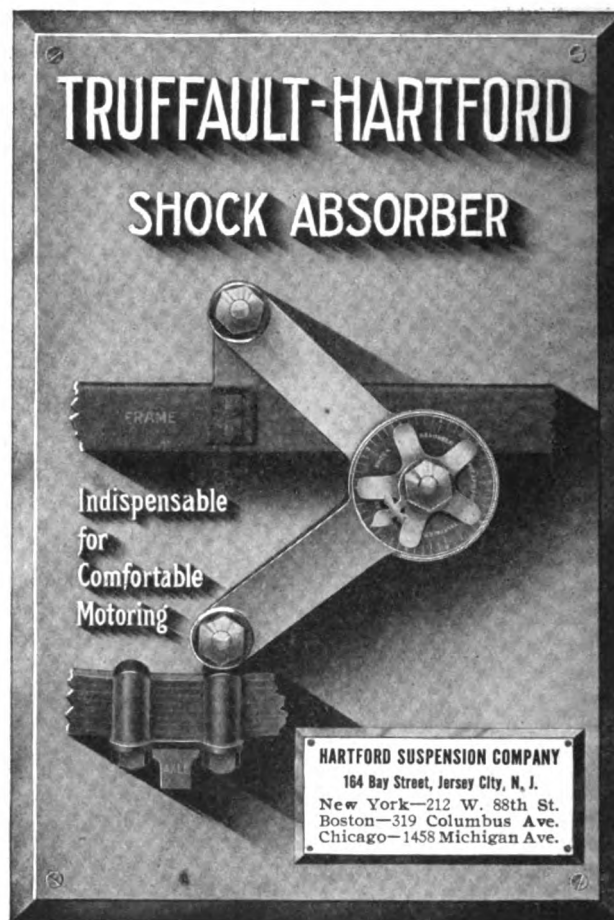
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### GETS \$50 INSTEAD OF \$20,000

**Pierce Loses Suit for Value of Four Cars Destroyed in Transit—Express's Valuation Clause Upheld.**

Alarming and in the nature of an "eye-opener" to automobile manufacturers and others who have occasion to ship cars or valuable consignments of accessories by express, a remarkable opinion has been enunciated in the United States District Court, for the Northern District of New York, by Judge Holt, the result of which was the return of a verdict for \$50 as the damages to which the Pierce-Arrow Motor Car Co., of Buffalo, N. Y., is entitled from the loss of \$20,000 worth of cars and accessories destroyed in an express shipment. The limitation of the damages to \$50 is due to the fact that the Pierce-Arrow company placed no declared value on the goods in giving them to the express company for transportation.

Four automobiles, a body and a number of accessories were shipped by the Pierce company in March, 1907, by Wells-Fargo express to San Francisco, Cal. The shipment was destroyed by fire in the derailing of a freight car on the Atchison, Topeka & Santa Fe railroad. Because of the loss, the Pierce company brought suit for \$20,000.

In the hearing of the case before Judge Holt, at Rochester, N. Y., on the first of this month, the attorney for the express company based his resistance to the awarding of more than \$50 damages on the ground that when shipping the goods the Pierce company chose to sign a regular bill of lading and refused to put a valuation on them. The usual express receipts, such as the automobile company was given, contain the following clause:

"Charges are based upon value, and the liability of the express company is limited to \$50, unless a greater value is declared at the time of shipment."

Judge Holt upheld the counsel for the express company in his contention that the Pierce company, having refused to declare a greater value than \$50, could not recover damages in excess of that amount. The jury was directed to return a verdict of \$50, with interest, for the plaintiff.

### Springfield Changes Name to Bayfield.

The Springfield Motor Car Co., which a year or so ago removed from Springfield, Mass., to Springfield, Ill., and which made an ambitious attempt to produce "assembled" automobiles, has been succeeded by the Bayfield Motor Car Co., which has been organized with \$150,000 capital to take over the business. Dr. C. H. Medcraft, the former manager, has severed his connection with the enterprise, but the stockholders in the old company control the new corporation.

### Marathon's Makers Move to Nashville.

The Southern Motor Co., which has been making the Marathon car in Jackson, Tenn., is removing to Nashville, where it has purchased Mill A of the Phoenix Cotton Mills for a factory. Nashville capital has been obtained for the company, which has been reorganized with \$400,000 capital stock. A. H. Robinson has been made vice-president, with J. H. Fisher as secretary and treasurer, while Exile Burkitt, the president, will continue in office.

### Dodges to Build Big Parts Plant.

Dodge Brothers, of Detroit, Mich., manufacturing machinists, who for some time have been making automobile parts, have completed plans for the building of a \$750,000 plant for this purpose. It is to be put up on a 24-acre site on Joseph Campau avenue.

### Pelletier Sails for European Sojourn.

E. Le Roy Pelletier, advertising manager of the E-M-F Co., of Detroit, Mich., sailed on Saturday, 4th inst., with Mrs. Pelletier, for a European sojourn. He will return in about three months.

### ABBOTT FIRST TO FILE ANSWER

**One of Michigan "Independents" Outlines its Defense in Selden Patent—Makes Some Embittered Allegations.**

If the vigor and warmth of the first answer to be filed in the batch of Selden prosecution cases recently brought by the Columbia Motor Car Co. and George B. Selden against a number of Michigan "independents," are to be taken as indications of the liveliness of the legal battle which the defendants are to give the Selden forces, the contest promises to be quite sharp and bitter.

Although the respective defendants have entered their appearance, the Abbott Motor Co., of Detroit, Mich., is the first to file its answer, which it did on the 3rd inst. in the United States Circuit Court at Detroit. Since a certain measure of co-operation and common cause is supposed to obtain among the various defendants in resisting the Selden prosecution, the answer which has been filed by the Abbott company may be taken as signifying the general character of the defensive plan.

All manner of allegations are made against the Association of Licensed Automobile Manufacturers in the Abbott answer, which is a voluminous document. It asserts that the principle features of the alleged Selden invention were disclosed in printed publications in this and foreign countries two years prior to the date of application for the Selden patent, and that the essential points thus became publicly known and were publicly used two years before the patent was asked for.

It denies the right of the complainants to bring action against the Abbott Motor Co.; charges Selden with postponing the issue of his patent for the "fraudulent purpose of extending the life of the letters when granted," and charges, also, that he copied into his invention the ideas and inventions



of others, relating to the construction of self propelled vehicles.

"Masked and disguised under Selden patent 549,160," the Columbia company, according to the defendant company, is "conspiring to enhance profits from the manufacture and sale of automobiles, not only in restraining its own trade in manufacture, sale and production, thus increasing prices, but in attempting to stifle competition, in particular as to defendant company, and prevent the manufacture and sale by defendant of automobiles."

As additional evidence of the alleged conspiracy, the Abbott company charges interference with its agents by the complainants. It asserts the Selden patent has scarcely two and one-half years life before its expiration and alleges:

"That manifestly it is the intention and policy of the Columbia Motor Car company and the Association of Licensed Automobile Manufacturers, who own and control its product, to bring suit under the patent and harass competitive automobile manufacturers, compelling them to expend large sums of money in the courts."

The Abbott company alleges it is not the purpose of the complainant that these cases be brought to trial. In this connection it petitions the court that the case may be ordered to an immediate issue; that the complainant and the A. L. A. M. be restrained from threatening the Abbott company or its customers with further suits on the Selden patent, from, in any manner, hereafter interfering with agents or employees of the Abbott company, and from interfering with the credit of the Abbott company by letters, threats, etc.

It is alleged that the complainant corporation has no right to determine who shall receive licenses under the Selden patent and that a large proportion of the royalties derived from these licenses are retained for the purposes of the association in maintaining a "price committee," "trades committee," "agency control committee," and "association patents company committee."

The duties of these committees, the Abbott company says, "consist solely in making arrangements and undertakings whereby commerce between the various states and territories and foreign nations in said automobile industry is sought to be controlled."

The answer is filed by Attorneys Abbott & Abbott and lists as additional legal representation Offield, Towle, Graves & Offield, with Chas. K. Offield as counsel.

#### Weston is Made Mercer's Manager.

Frank F. Weston has been appointed general sales manager of the Mercer Automobile Co., of Trenton, N. J. A veteran of the bicycle industry, Weston for the last few years has been acting as a factory sales agent for automobile accessories, parts and materials.

## NEW FACTORIES BEING PROJECTED

### Promotion Movement is Manifest in Five Cities—Financial Assistance is to be Requested from Investors.

Little Rock, Ark., may become an automobile manufacturing town, if the efforts of William L. Tedford, president of the Tedford Auto Co., can make it such. He is organizing a company to make a car styled the "Arkansaw Traveler."

Exeter, N. H., is considering the proposal of Joseph Symonds, president of the Exeter Machine Works, for a \$90,000 motor car manufacturing plant. Symonds asks that the citizens of Exeter subscribe \$30,000, and a committee has been appointed to see whether the plan is feasible.

Investors in Augusta, Ga., shortly are to be asked to subscribe for the stock of a local automobile manufacturing enterprise known as the New South Automobile Co., which has asked for a charter that will permit it to have a capital of \$1,000,000 if desired. L. J. Williams, the moving spirit in the enterprise, has acquired the old street car barns site in Augusta as a location for the factory.

Utica, N. Y., is to give birth to a new automobile manufacturing company which is to make eight-cylinder cars, according to the plans of John K. Gunn, of the Utica Pipe Foundry, who with several other local business men is organizing a \$200,000 concern. The eight-cylinder motor which is to be used, and which was designed by Gunn, has been on trial for some time in the chassis of a standard six-cylinder car.

Viewing their automobile building proposition with entire favor, the Chamber of Commerce of Alpena, Mich., has accepted the terms offered by C. H. Nunnelly and H. V. Grosbeck, of Mt. Clemens, Mich., by which the latter are to build and operate a motor car factory in Alpena. Nunnelly and Grosbeck are to furnish \$30,000, Alpena business men are to take \$20,000 worth of stock, and the city of Alpena is to provide a free site and \$50,000 bonus. It is proposed to manufacture a 35 horsepower roadster to sell for \$1,600.

#### New Factory for Klaxon Horns.

The Lovell-McConnell Mfg. Co., of Newark, N. J., have taken possession of their new factory at 194-212 Wright street and 139-141 Emmet street. The building provides 40,000 square feet for the manufacture of Klaxon and Klaxonet alarm horns.

#### Federal Withdraws Tire Quotations.

Advances in tire prices are threatened by a number of the tire makers because of the continued high price of rubber. The Federal Rubber Co., of Milwaukee, Wis., has

announced that "owing to the abnormal conditions controlling the prices of crude rubbers" all prices covering solid and cushion vehicle tires manufactured by the company are withdrawn and that new prices will be in effect on June 15. Increases in the quotations for pneumatic tires are intimated by several makers as being likely if rubber prices do not come down in the meanwhile.

#### E-M-F Employees Get \$50,000 Gift.

As a reward to the factory forces for maintaining a high rate of production, the E-M-F Co., of Detroit, Mich., has arranged to give three days' vacation with pay to all the employees at its several plants during the week of July 11, when the Elk's convention takes place in Detroit. The factories will shut down on July 14, 15 and 16. As the daily pay roll of the company is over \$17,000, the total cost of the vacation period, from the company's standpoint, is over \$50,000.

#### Imports Still on the Down Grade.

Automobile imports from abroad during the month of May amounted to only \$218,252.40 compared with \$358,496.89 in May, 1909. During the past month only one hundred cars were imported at an average value of \$2,182 each, while during the same period of 1909 199 motor cars entered the port of New York, showing an average value of \$1,811 each.

#### Baines Dies of Ptomaine Poison.

James F. Baines, service manager of the Packard Motor Car Co., Detroit, Mich., died at his home in Windsor, Ont., on the 5th inst., from heart trouble due to ptomaine poisoning with which he became ill in Boston, Mass., while on a business trip. He was 35 years old and formerly was assistant general auditor of the Lake Erie railroad.

#### Gauge Makers Get Wisconsin Factory.

The National Gauge and Register Co., of Minneapolis, Minn., manufacturing tire gauges and other automobile specialties, has secured a factory in LaCrosse, Wis. Inducements were offered by the LaCrosse Industrial Corporation, recently organized with \$125,000 capital, for the purpose of town promotion.

#### American Abandons Lafayette Project.

The American Motor Car Co., of Indianapolis, Ind., has decided definitely not to establish a plant in Lafayette, Ind. The subscribers to the subsidy fund in the latter place are having their money returned to them.

#### Oswald to Make Motors in Goshen.

The Oswald Motor Co., of Goshen, Ind., has obtained a site for a two-story factory. The company is preparing to make automobile motors.

**WOOD FOR BODIES IS "CORNERED"**

**Michigan "Wizard" Sends Prices Skyward  
by Heavy Purchases of Poplar—Makers  
Take to Metal Bodies.**

Not only is the Michigan merger "wizard" busy with the multifarious duties of financing the General Motors Co. and exercising a watchful care that the quotations on its shares shall be kept at a respectable figure, together with the activities incident to multiplying real estate values in the various cities where the plants of the "trust" are to be expanded so greatly, but he also would appear to be concerned in an attempted "corner" of one of the materials extensively employed in motor car building. This material is poplar wood, which is used for automobile bodies and for a number of minor purposes, and poplar wood, it seems, has been "cornered."

Poplar for some time has been steadily climbing, and from a price around \$90 a thousand has touched \$150 a thousand in some instances, in the grade necessary for good body work. Just why it should take this altitudinous course was something of a puzzle until it transpired that agents identified with the "wizard's" operations had been buying up all the available stock in such quantities as to point to an effort at controlling the market. The quantity bought, even when matched against the prospective output of the "trust" plants for a long, long time to come, was very much greater than the purchasers would need under ordinary conditions.

But as an offset to this unhappy condition in the poplar market, there has arisen a condition which ameliorates some of the difficulties it presents. It comes about as a discovery on the part of many automobile builders who heretofore have been using poplar, that the latter is not really a necessity in their business, and that, with everything considered, they can do better in buying metal bodies than in paying fancy prices for wood. In fact, the poplar "corner" has given an additional impetus to the use of metal bodies, and the automobile manufacturers who have been weaned away from wood bodies exhibit a disinclination to bother about being re-converted.

**Haradon Heads Trade Association.**

Following a brief period of service as president of the New York Automobile Trade Association, in filling out the unexpired term of General John T. Cutting, who resigned to cast his lot with the licensed dealers' organization, Wm. M. Haradon has been re-elected to that office. At the annual meeting of the association, which was held at the Hotel Cumberland on Monday of this week, these officers also were

chosen: C. W. Wurster, of Wyckoff, Church & Partridge, first vice-president; W. W. Burke, of Carl H. Page & Co., second vice-president; W. H. Yule, of the B. F. Goodrich Co., of New York, treasurer; Walter R. Lee, secretary and general manager. Secretary Lee enters upon his fourth consecutive term. The directors are: C. Andrade, Jr., of the R. M. Owen Co., who also is counsel for the association; W. A. Evens, American Locomotive Co.; J. E. Harlam, of the Sagamore Garage Co.; E. H. Broadwell, of the Fisk Rubber Co.; Peter Hoyt, of Hoyt & De Mallie, Inc.; C. H. Larson, of the Oldsmobile Co., of New York; W. C. Poertner, of the Poertner Motor Car Co.; and A. J. Inderreiden, of the Warner Instrument Co. The automobile dealers, garagemen and accessory manufacturers thus have four representatives each on the board.

**Will Handle Imported Materials.**

For the purpose of handling the American sale of the products of five French makers of automobile materials and parts, J. K. White, who until recently was connected with the New York agency for Lemoine and RBF products, has organized the French Steel Products Co., of New York City. The new company will represent Jacob Holtzer & Cie, makers of fine steel for gears, forgings and springs; Plichon Freres, makers of iron cylinder and piston castings; Societe Metallurgique Montbard-Aulnoye, makers of pistons, axle tubes, shaft tubes and forgings; Forge Persan Beaumont, makers of front axle forgings and chassis springs; and MAB ball bearings.

**Fire Damages to Gilbert Factory.**

Fire on the 7th inst. visited the building in which the Gilbert Mfg. Co., of New Haven, Conn., is located. The total damage by fire and water was \$25,000, of which the Gilbert company suffered a part, although it is not thought that the company's delivery of tire jackets, carbureters and other motor car specialties will be interrupted.

**Kansas Company Produces a Truck.**

The White Star Auto Co., which was organized in Pleasanton, Kan., last fall, has developed a car which is marked by four wheels steering and drive. The capital stock of the concern is to be increased, for the purpose of erecting a factory for the building of cars, trucks and motor farm wagons embodying four-wheel steering.

**Quaker Dealers Open Headquarters.**

The Philadelphia Automobile Trade Association, of Philadelphia, Pa., has established a trade headquarters at the southwest corner of Broad and Callowhill streets. J. H. Beck, the secretary of the organization, is in charge.

**RAISES CAPITAL TO \$30,000,000**

**United States Motor to Make Provision for  
Stoddard-Dayton Deal—Briscoe Calls  
Stockholders' Meeting.**

The absorption of the Dayton Motor Co., of Dayton, O., by the United States Motor Co., which a month ago was indicated by the Motor World as being in process, is scheduled for consummation on June 15, and to provide for the acquirement of the Dayton property and others, the United States Motor Co. on that date will increase its capitalization from \$16,000,000 to \$30,000,000. A special meeting of the stockholders, in Jersey City, N. J., has been called for the purpose, when the preferred stock will be raised from \$8,000,000 to \$15,000,000 and the \$8,000,000 of common similarly expanded.

In taking over the Dayton Motor Car Co., which manufactures the Stoddard-Dayton cars, the United States Motor Co. also will add to its list of properties the Courier Car Co., of Dayton, a younger concern, which is controlled by the interests in the Dayton company and which makes the Courier car, ranging under the Stoddard-Dayton line in price. The Stoddard-Dayton plants are two in number, while the Courier has a separate plant of its own.

It is understood that the transfer to the merger corporation is to be effected by an exchange of shares. An inventory of the three plants in Dayton has been taken with a view to determining the physical assets involved, although the purchase price is to make adequate provision for the patents and intangible assets. Little or no change is anticipated in the management of the plants, except insofar as their capacity and production is to be increased.

In a circular to United States Stockholders, Benjamin Briscoe, the president, indicates that at the June 15 meeting they will be called upon to approve recent deals entered into by the directors, and that the intended increase in capitalization is not only for the Stoddard-Dayton and other purchases but is also for the purpose of affording a working capital that will make the company independent of the market for commercial paper. Reference also is made to the fact that on May 1 the company completed its first three months of business, and that in addition to paying a first quarterly dividend of 1¼ per cent., it has established a reserve fund to provide for accruing dividends on such stock, after which the surplus profits may be applicable to dividends on the common stock. The circular reviews the successful operations of the company in Maxwell, Brush and Columbia cars and in Alden Sampson motor trucks for the first three months' period.

## THE WEEK'S INCORPORATIONS.

Detroit, Mich.—Carey Motor Car Co., under Michigan laws, with \$5,000 capital.

New York City, N. Y.—Twombly Motors Co., under New York laws, with \$1,000,000 capital.

Buffalo, N. Y.—United States Auto Station, under New York laws, with \$5,000 capital; to do general garage business.

Detroit, Mich.—Automobile Engineering and Mfg. Co., under Michigan laws, with \$1,000 capital; to deal in automobile motors and parts.

Jacksonville, Ill.—Jacksonville Automobile Co., under Illinois laws, with \$2,500 capital. Corporators—N. Broadwell, G. B. Andre, and others.

Fort Worth, Tex.—Lone Star Motor Car Co., under Texas laws, with \$25,000 capital. Corporators—E. R. Vernon, A. C. Alexander, M. A. Arnold.

Toledo, Ohio.—Ohio Motor Sales Co., under Ohio laws, with \$10,000 capital; to deal in automobiles. Corporators—M. Osborn, William Pratt and others.

St. Louis, Mo.—Major Motor Car Co., under Missouri laws, with \$15,000; to deal in automobiles. Corporators—R. L. Major, W. H. Little, George S. Foster.

Butte, Mont.—Butte Taxicab Co., under Montana laws, with \$40,000 capital; to operate taxicabs. Corporators—C. E. Shewe, C. L. Mitchell, Dora S. Mitchell.

Chicago, Ill.—Lloyd Auto Garage Co., under Illinois laws, with \$5,000 capital; automobile garage and livery. Corporators—W. I. Rudd, C. W. Ford, G. H. Lloyd, J. E. Davis.

New Haven, Conn.—Rally Rubber Co., under Connecticut laws, to manufacture automobile tires and other rubber goods. Corporators—Charles Hofacker, H. S. Rally.

Chicago, Ill.—Shaw-Merillat Co., under Illinois laws, with \$10,000 capital; to deal in motor vehicles and appliances. Corporators—H. I. Shaw, E. R. Bliss, Jr., Lloyd Merilat.

Chicago, Ill.—Hayes Avenue Garage Co., under Illinois laws, with \$5,000 capital; general automobile merchandise. Corporators—C. Kleinfelder, A. R. Pearson, Charles B. Obermeyer.

Chicago, Ill.—Junkers-Burdick Co., under Illinois laws, with \$25,000 capital; to do automobile and general merchandise business. Corporators—Otto Junkers, W. Burdick, George J. Meier.

Sandusky, O.—Sandusky Auto Parts & Motor Truck Co., under Ohio laws, with \$150,000 capital. Corporators—James M. Woods, D. E. Storms, O. T. Snyder, B. M. Freeman, Simeon Nash.

Portland, Ore.—Auto Delivery Co., under Oregon laws, with \$35,000 capital; to deliver packages and merchandise. Corporators—F. E. Harlow, P. E. Beam, C. E.

Runyon, S. P. Huston, F. A. Young, J. H. Hall.

New York City, N. Y.—Queens Boulevard Garage, under New York laws, with \$5,000 capital; to do general garage business. Corporators—G. J. Glaser, N. C. Glaser, Clarence M. Davis.

Bellaire, Ohio.—Poorman-Morris Co., under Ohio laws, with \$5,000 capital; to deal in automobiles. Corporators—J. F. Johnson, J. F. Poorman, W. H. Morris, Ella Morrell, D. D. Dubois.

Camden, N. J.—Falcon Motorcar Mfg. Co., under New Jersey laws, with \$125,000 capital; to manufacture automobiles and motor cars. Corporators—Frank A. Kuntz, Joseph P. Murray, Wm. S. Kell.

Springfield, Ill.—Rayfield Motor Car Co., under Illinois laws, with \$150,000 capital; to manufacture and deal in automobiles, accessories and supplies. Corporators—J. F. Miller, E. E. Staley, Burke Vancil.

Detroit, Mich.—McCrary Motor Co., under Michigan laws, with \$5,100; to manufacture and deal in automobiles and accessories. Corporators—C. R. McCrary, John G. Staling, Jay F. Pool, George W. Edson.

New York City, N. Y.—Modern Transmission Mechanism Engine Co., under New York laws, with \$25,000 capital; to manufacture and deal in motors, engines, etc. Corporators—G. Randolph Jaeger, Fred W. Jaeger, Frank Eveland.

Hackensack, N. J.—Baldwin Motor Service Co., under New Jersey laws, with \$250,000 capital; to manufacture and deal in automobiles. Corporators—T. H. Baldwin, Hackensack; F. Kaegebehn, Brooklyn; G. C. Norwood, New York City.

Kingston, N. Y.—W. A. Wood Automobile Mfg. Co., under New York laws, with \$3,000,000 capital; to manufacture automobiles, engines and appliances for automobiles. Corporators—Wm. A. Wood, Chas. W. Kahlerth, Francis Fitch.

New York City, N. Y.—Bretton Hall Garage Co., under New York laws, with \$50,000 capital; to keep garage, repair automobiles, and deal in accessories. Corporators—M. A. Cramer, S. Meyer and J. Fisher, all of New York City.

Jamestown, N. Y.—Jamestown Wheel & Mfg. Co., under New York laws, with \$25,000 capital; to manufacture and deal in automobile parts, wheels, accessories, motor vehicles and tools. Corporators—G. M. Thompson, H. K. Shaver, L. O. Todd.

Nashville, Tenn.—Selmer-Savannah Auto & Hack Line, of McNairy County, under Tennessee laws, with \$10,000 capital; to operate automobile stage line. Corporators—H. P. Wood, Hume Whitehurst, J. C. Williams, W. K. Abernathy, S. W. Gooch, C. C. Wright.

New York City, N. Y.—R. G. Green, Inc., under New York laws, with \$5,000 capital; to manufacture, deal in and repair automobiles, carriages and motorcycles. Cor-

porators—R. Granville Green, Mabel L. Kirkham, all of 118 East 126th street, New York City.

Wilmington, Del.—International Pneumatic Auto Wheel Co., under Delaware laws, with \$1,000,000 capital, to manufacture automobile wheels under letters patent. Corporators—C. M. Saulson, G. D. Edwards, of New York City; H. W. Davis, of Wilmington.

New York City, N. Y.—Sears-Cross Co., under New York laws, with \$30,000 capital; to manufacture and deal in motor vehicles, speedometers and other appliances. Corporators—P. Muller, Brooklyn; E. S. Gellatly, New York City; W. F. Kendall, West Haverstraw.

Hartford, Conn.—American Rotary Machine Co., under Connecticut laws, with \$2,000,000; to manufacture newly patented rotary engine, under license of and agreement with the Internationale Rotations-Maschinen Gesellschaft of Berlin, Germany, and A. Keith Baylor of London, England. Corporators—A. K. Baylor, E. M. Sairtelle of Englewood, N. J., and James H. Byrne of New York City.

## Increases in Capitalization.

Detroit, Mich.—Lavigne Mfg. Co. increases capital from \$100,000 to \$250,000.

St. Louis, Mo.—Carter Carburetter Co. increases its capital to \$36,000, fully paid in.

## Changes Among Prominent Tradesmen.

W. O. Rutherford, manager of the Buffalo branch of the B. F. Goodrich Co., is to become assistant to Vice-President H. E. Raymond at the company's plant in Akron, O. The change is to take place on July 15.

E. B. Finch has resigned as manager of the technical department of the Chalmers Motor Co., of Detroit, Mich., to become the distributor for Chalmers cars in Cleveland, O. He was tendered a dinner by his associates before his departure.

George Graham, who has been acting for the Overland interests in the Southwest, is to become assistant to John N. Willys, president of the Willys-Overland Co., of Toledo, O. The change will take place about the first of August, when Graham will move to Toledo.

Peter Fogarty, who was sales manager for George C. John, and who is one of the veterans of the Metropolitan trade, has become sales manager of the Croxton-Keeton Co. of New York City. The company now is handling the Inter-State car in addition to the Croxton-Keeton line.

H. J. Twelvetree has been appointed manager of the Cleveland branch of Thomas B. Jeffery & Co., succeeding George S. Patterson, who recently resigned to become general manager of the Gaeth Automobile Co., of Cleveland. Twelvetree has been assistant manager of the branch for some time.

## IN THE RETAIL WORLD.

John R. Davies of Lansford, Pa., has opened a garage on West Bertsch street. He will rent and repair cars and sell accessories.

The Salina Automobile Co., of Salina, Kan., has changed hands. A. J. Cleveland of Minneapolis, Kan., is the new owner; Fred Shellabarger has retired.

The Major Motor Car Co. has opened a garage and salesroom at 1512-1516 Locust street, St. Louis, Mo. The concern will represent Pennsylvania and Herreshoff cars.

W. H. Thayer, formerly of Pueblo, Colo., has become a partner of George W. Williams in the Araphoe Motor Co., in Denver, Colo. Elmore cars form their chief "stock in trade."

Under the style of the Tri-State Auto Co., a new concern has been established at 111-113 Central avenue, Minneapolis, Minn. Inter-State and Page-Detroit cars will be sold.

F. Byron Naylor of San Diego, Cal., is constructing a brick and concrete garage at the corner of Seventeenth and C streets. The building will be 100 feet square and cost \$15,000.

The Wagner-Kennedy Co. is the title of a new firm which has been formed in San Francisco, Cal. Its showrooms are on Van Ness avenue, near Bush street, where Marmion cars will be handled.

Under the style of the East End Automobile Co., a company has been formed in Mt. Pleasant, Pa. It will erect a garage in the rear of the East End hotel and do general repair work and renting.

Nine automobiles, a large amount of accessories, and equipment belonging to the local national guard company, were burned in a fire at Charles Echols' garage in Artesia, N. M. The loss exceeded \$25,000.

F. H. Grasswick, of Calgary, Alberta, Canada, has "taken on" the Haynes car, for which he has been given a considerable slice of territory. His agency includes all of Alberta and Western British Columbia.

R. M. Skidmore and Harry G. Hawkins have formed a new company under the style of the Washington Motor Vehicle Co., with showrooms at 508-510 Second avenue, Spokane, Wash. Baker electrics will be featured.

The three-story brick garage and a stable at Nos. 481 and 483 Park avenue, New York City, are to be made over into a garage for the Washington Irving estate, at a cost of \$12,000. M. Shulof and J. Bullinger are the lessees.

The Howard Cregor Co. has opened a garage and salesroom at 1207-1209 Broadway, Nashville, Tenn. Among the makes represented by the firm are Chalmers, Stearns and Hudson gasoline cars, and Detroit electrics.

The Jones Auto Exchange, the Ford agency, is about to move to more commodious quarters at 118-120 North Topeka avenue, Wichita, Kan. The new building is fitted in the most elaborate style with baths, restrooms, tinted walls and painted panels.

The Broadway Garage & Sales Co., of Kansas City, Mo., has opened a garage and salesroom at Broadway and Thirty-fourth street. R. B. Edwards, H. D. Biggs and Roy Bonebrake are the members of the new company, which will handle the Clark product.

R. G. Fernald is building a garage and salesroom, facing on Lincoln avenue, Denver, Colo., where he will open up shortly under the style of the Lincoln Automobile Co. The structure will be 50 x 125 feet, of brick and concrete. Westcott cars are to be featured.

The new three-story brick and stone garage building which has been erected at 220 Adams avenue, Scranton, Pa., was formally opened last week by the Electric City Auto Co., who will handle Ramblers, Regals and Hupmobiles. The building has a floor space of 40x100 square feet.

The Downer Place Garage Co., recently formed in Aurora, Ill., will occupy a new garage and salesroom which is being built at Downer place and Lake street. The building will cost, when complete, about \$30,000. Stearns, Oakland, Moon and Brush cars will be carried.

Leo and Edward Bigel, both of whom are connected with the Cincinnati Pump Co., have gone into the automobile business, and opened a salesroom at the manufacturing plant of the pump company at 109 East Liberty street, Cincinnati, Ohio. They will specialize in Selden cars.

J. King James, who was the first man to bring an automobile to Bristol, Tenn., and who for many years has conducted a garage there, has sold the business to Capt. David S. Simpson and several associates. The new owners will continue the garage under the style of the Bristol Automobile Co.

The West Side of Chicago is being invaded by automobile firms: the Rowe Automobile Co., at 281 West Lake street, and the Hagman Co., at Jackson boulevard and Hoyn avenue, being the first to "break in." The Rowe concern handles the Everitt "30," while the Hagman displays the Lambert car.

W. B. Sanford of the Tacoma (Wash.) Taxicab Co. has purchased the entire equipment and good will of the Washington Auto Machine shop at 705 Pacific avenue. He will make the machine shop his main garage and do a general garage and repair business, besides continuing his taxicab service.

The Lampl-Sternberg Auto Co. is the style of a new concern which has opened a

garage at 114-116 St. Francis avenue, Wichita, Kan. The building is two stories high, of brick and concrete, with steel ceilings and plate glass front. Studebaker, E-M-F, Flanders and National cars will be handled.

The Central Garage & Machine Works, at 238 West 50th street, New York City, N. Y., has made an assignment to Edwin A. Haaker. The corporation was incorporated on August 28, 1908, with capital stock of \$5,000, and conducted a school for chauffeurs besides doing general garage and repair business.

The Lee Motor Co., of Oklahoma City, Okla., has found its old quarters on West Main street too cramped, and is building a new garage and salesroom at 15 Broadway Circle. The new establishment, which is to be ready by August 1, will be three stories high and cover a ground area of 7,750 square feet.

Two dwelling houses, a garage and a big touring car were destroyed by fire in Oakland, Cal., on May 30th, when gasoline vapor from a leaking tank in the garage of N. J. Herby, 102 Ettie street, North Oakland, exploded while Herby was filling the tank. Before the fire could be checked it had caused over \$8,000 damages.

The Citizens' Motor Car Co., of Cincinnati, Ohio, is about to add five stories to its present garage at Main and 7th streets, at a cost of about \$73,000. This will make the building eight stories high, with a ground area of 137 x 93 feet. The additional stories are of reinforced concrete and will be built as nearly fire-proof as possible.

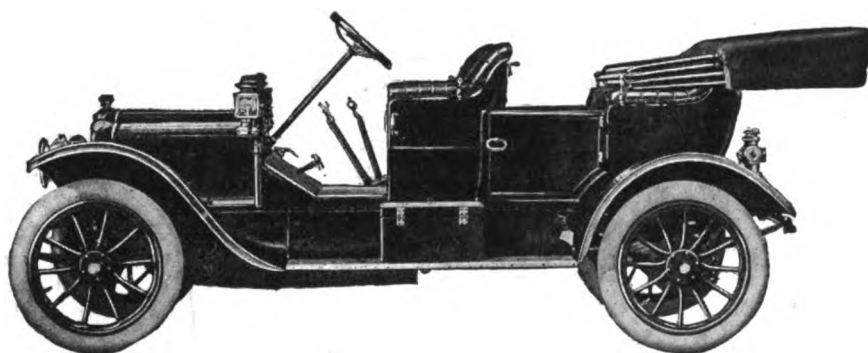
What is claimed as the largest garage building in the world is being built on the Grand Boulevard, west of Cass avenue, Detroit, Mich., by the Buick Auto Supply & Garage Co., of Saginaw, Mich. The building will be of brick and reinforced concrete, 245x150 feet, and comprise a garage free of posts, covering 245x100 feet, and a machine shop 50x100 feet, as well as offices, etc.

The large building extending from 19-21 West Sixty-second street to 18-20 West Sixty-third street, New York City, has been leased for the period of ten years for the Chalmers-Detroit Co., to the W. C. P. Taxicab Co. It was formerly occupied by the R. M. Stivers Co., carriage builders, and comprises a complete carriage factory, with a frontage of fifty feet in each of the two crosstown streets.

T. Eaton & Co., the largest retail mercantile house in the Dominion of Canada, have opened an automobile branch in Toronto. The automobile department, which is conducted entirely independently of the Eaton department stores, will occupy a five-story building, which just has been completed. T. Cotching is the manager of this department, which will handle Chalmers cars exclusively.

# WHITE GASOLINE CARS

## for 1911



**SIZE AND POWER**—moderate, therefore, most economical to maintain.

**PRICE**—moderate, therefore, easy to buy.

**DESIGN**—includes many advanced features not found in any other American car.

**QUALITY**—The only moderate sized car wherein every part is just as well built as in the highest-price, high-powered cars.

**DELIVERY**—Very few open dates. First come, first served.

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Write for descriptive matter

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Atlanta, 120-122 Marietta St.  
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NEW YORK, JUNE 9, 1910.

**Gaynor's New Declaration of "Rights."**

Mayor Gaynor has a reputation for irascibility and scant courtesy, but he generally is credited with being the possessor of a considerable fund of horse sense. His discourteous treatment of the automobilists who appeared before him in an effort to influence his disapproval of the bill which will practically convert a mid-section of the Coney Island Boulevard into a speedway for horse trotters, was, therefore, not wholly surprising, but his remarks and his reasons for approving the bill scarcely are worthy of one who only recently doffed the judicial ermine.

His assertion that "owners of automobiles are generally quite content" to be forced off the boulevard, "and that they deem it no more than just" is unwarranted by facts, while his declaration that those who oppose the bill are "too selfish to see the rights of others" is but one of many illustrations of his discourtesy.

It will be news to many persons that it is the "right" of any one class to have a mid-section of any public thoroughfare set aside for its own special purposes and to the exclusion of all other classes. But if this quasi-judicial declaration is correct, automobilists should lose no time in exercising their "right" by seeking to pre-empt a public highway for their uses; as, to paraphrase Mayor Gaynor, "there is no road in the Borough of Brooklyn (or anywhere else) where those who own and love automobiles may speed them." The howl that would arise and the virtuous indignation and wrath to which the sweet-tempered mayor would give vent were he asked to approve such a movement or measure are easily imagined. But if horsemen are "justly" entitled to such a speedway surely the same equal and exact justice entitles automobilists to one.

It generally is supposed that "the greatest good to the greatest number" is one of the keynotes of public policy, and if anything of the sort enters into a law that sets aside a portion of a public road for the uses of ten or a dozen horsemen and makes trespassers of a hundred or a thousand times as many motorists and cyclists, and subjects them to arrest, the mayor will perform a public service by pointing it out. It greatly is to be feared that the same political influence that reached the legislature reached into the mayor's office.

Mayor Gaynor's further assertion that "very much has been done for owners of automobiles" is in keeping with his other declarations. About all that has been done for them has been to force them to pay for the supposed right freely to use the public highways and generally to impose fees and fines and penalties and other burdens of which horse trotters never even dream.

**The Scope of the Engineer.**

So much flattery has been lavished on the automobile engineer by the daily newspapers in the course of tributes to his scientific attainments and praise for the products of his labors, and so much direct truth about the mad haste with which the industry is shaping itself has been uttered by those in a position to understand its growth, that there has come to be a certain indefiniteness about the real function of the automobile engineer. The question well might be asked, What does the automobile engi-

neer do for a living? Of course, the answer would vary according to the particular engineer or group of engineers that happened to be in mind. But it is safe to say that the average estimate of the real worth of the engineering department to the manufacturer would come as far out of the way as would that of the precise nature of its efforts and accomplishments.

It may be said without fear of contradiction that the time is past when the chief engineer is expected to develop entirely new and radical designs. Generally speaking, manufacturers of established standing are content to pursue a fairly uniform policy of design from year to year without demanding either very complete or very complicated changes in their products. It is true that in some instances very advanced designs are being studied, and that in a number of factories considerable time and energy is being devoted to the evolution of a satisfactory type of commercial vehicle. But in general, the burden of the engineer's work does not lie along the line of extensive constructive effort.

Nor is it true, as sometimes might be supposed, that the engineering department is engrossed to an overwhelming extent in the business of contriving manufacturing processes. The modern automobile engineer is neither a devoted inventor nor a highly technical sort of cost expert; rather he combines these two functions. At the same time he exercises vigilant supervision over every mechanical phase of the business, watching for opportunities to improve the product, reduce its cost or facilitate its manufacture.

It is in the routine work of the laboratory that the engineering department finds its most tangible opportunity for service, however. Every ounce of material which goes into the car must be up to specification and its properties must be proved according to recognized methods. The engineer first shows his hand in drawing the specifications after his general and tentative designs have gone the rounds and been approved. Once the material specifications are out and production has begun, there are questions of equipment to be decided which, in matters pertaining directly to his department, such as ignition, carburation, tires, bearings, and frequently parts as well, depend not a little upon actual laboratory tests for decision. Problems in valve setting, carburettor adjustment, ignition tim-

ing and lubricator regulation must be solved by extended dynamometer trials. In odd moments, the engineer is supposed to fill in his time by thinking up new ideas to be applied when opportunity offers; indeed, he is regarded as the general fountain-head of ideas from which any mental, moral, physical or technical stimulus may be tapped off at will by any other member of the organization who happens to be in need.

The modern engineer must be an extremely busy and purposeful person, ingenious and tirelessly resourceful. But he should not be regarded in the light of an inventive genius only. His greatest service to the industry at the present time—and it is a most important service indeed—consists in the application of his technical training to the translation of certain valuable ideals into the concrete expression of an intense commercialism, the commercialism of a whirlwind industry which demands results first and reasons afterward.

#### Perplexities of the Labor Problem.

More acute with automobile manufacturers than with almost any other line of production, the labor problem is the source of worry, perplexity, annoyance and a general wrinkling of brows, a condition which is aggravated by the "stealing" of employees which has developed as the result of the demand for men. Loud complaints are being voiced by manufacturers whose experienced workmen are being drawn from them by the lure of higher wages and greater opportunity elsewhere.

Youths who in some instances, it is alleged by "scouts" who are employed for the purpose, came into their shops a few years ago with little or no mechanical knowledge, and have been made into expert workers by careful training, are leaving in numbers to accept places in other motor car factories for more wages, and the manufacturers who lose them feel that the men exhibit a species of ingratitude in leaving, and that rivals who engage them are guilty of some vague violation of manufacturing ethics; and at the same time the manufacturers who are paying the advanced wages are not at all happy that they must give high figures and are rather envious of the makers who can "grow" their own workmen.

In just the sense that the heavy demand for cars keeps up profits, the corresponding demand for workmen to make them must

have its effect in keeping wages up, but that there may be a false and extravagant basis for hiring men away from other makers is apparent. The jovial searcher for men who invites them down to the hotel, orders fancy drinks and unfolds visions of not only higher wages but a flattering future is not apt to err on the side of conservatism. His absolute figures as to wages are definite enough, but his accompanying pictures of advancement and personal prosperity for the men he tries to win, are sufficiently vague to permit full play to his imagination and zeal in "delivering the goods" to his employers.

It is because of the idea that some of the companies most active in acquiring men from other factories are going about it in a way not justified by the economic conditions governing the case and are giving wage figures and promises which time will prove to be false in respect to permanent manufacturing, that the makers who are losing men are more or less vengeful and are contemplating such reprisals as lie in their power. They object to having their factories made mere training schools for supplying the emergency needs of automobile factories where abrupt developments and expansions are conducted with the offering of "fancy" wages to get the necessary men.

From the standpoint of the workers, the situation has its benefits, perhaps more so for those who remain with the factories where they received their training than for those who yield readily to the offers of outsiders. Defections in the working force, for pastures new, mean an increased appreciation for those who remain and also gives them greater individual opportunities of advancement.

It is contended rightly by the manufacturers, however, that the proper solution of the labor problem is not in the makers hiring men away from each other in a circle of constant advances and premiums in wages, but in making proper provision for training the number of men necessary for the full equipment of the industry. There is danger to the workman himself if he go to a new factory at a wage which later may lead to his being discharged in order that the wage scale may be readjusted to a more normal level. This result is only too probable when the temporary stress of expansion is over and makers in general have time to provide for the training of their own men from green material.

## COMING EVENTS

June 6-14, New York Herald-Atlanta Journal second annual good roads tour.

June 11, Newark, N. J.—New Jersey Automobile and Motor Club's 280 miles reliability run.

June 11, Wilkes-Barre, Pa.—Wilkes-Barre Automobile Club's annual hillclimb on Giant's Despair.

June 14-15, New York City—Motor Contest Association's biennial "Around Long Island" reliability run.

June 14-30.—American Automobile Association's seventh annual national touring and reliability contest for the Glidden trophy, starting from Cincinnati and finishing at Chicago.

June 16-22, Albany, N. Y.—Albany Automobile Club's sixth annual tour to Atlantic City, N. J., and return.

June 17-18, Buffalo, N. Y.—Automobile races at Fort Erie track.

June 18, Baltimore, Md.—Automobile Club of Maryland's hillclimb.

June 18, Ossining, N. Y.—Upper Westchester Automobile Club's annual hillclimb.

June 18, Philadelphia, Pa.—Quaker City Motor Club's race meet at Point Breeze track.

June 25, Port Jefferson, N. Y.—Automobile Club of Port Jefferson's hillclimb on East Broadway hill.

June 28-30, St. Louis, Mo.—St. Louis Manufacturers' and Dealers' Association's endurance run for "Star" trophy.

July 1, 2 and 4, Indianapolis, Ind.—Grand Circuit meeting on Motor Speedway.

July 2, Wildwood, N. J.—North Wildwood Automobile Club's roadability run from Philadelphia to Wildwood.

July 4, Wildwood, N. J.—North Wildwood Automobile Club's annual beach race meet on Ocean Drive.

July 4, Indianapolis, Ind.—Chicago Automobile Club's second annual race for the Cobe trophy on Motor Speedway.

July 13, Winnipeg, Man.—Winnipeg Automobile Club-Winnipeg Motor Trades Association joint racemeet.

July 18-22, Milwaukee, Wis.—Wisconsin Automobile Association's first annual endurance test for "Milwaukee Sentinel" trophy.

July 30, Wildwood, N. J.—North Wildwood Automobile Club's race meet on Wildwood Speedway.

August 3-5, Galveston, Tex.—Galveston Automobile Club's beach races.

August 6, Philadelphia, Pa.—Quaker City Motor Club's race meet at Point Breeze track.

August 6, Wildwood, N. J.—North Wildwood Automobile Club's beach race meet on Ocean drive.

**DEAD HORSE CLIMB NOT SO LIVELY**

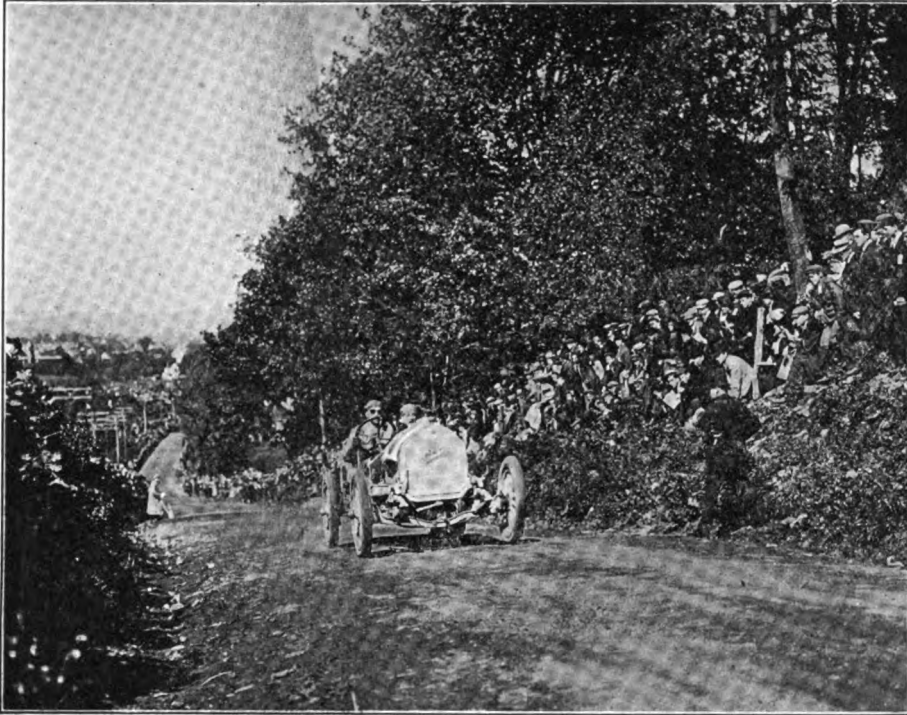
Scarcity of Competitors Detracts from its Importance—Caleb Bragg, the "Amateur," Makes the Fastest Flight.

Due to lack of entries and slower time than has been recorded in previous years,

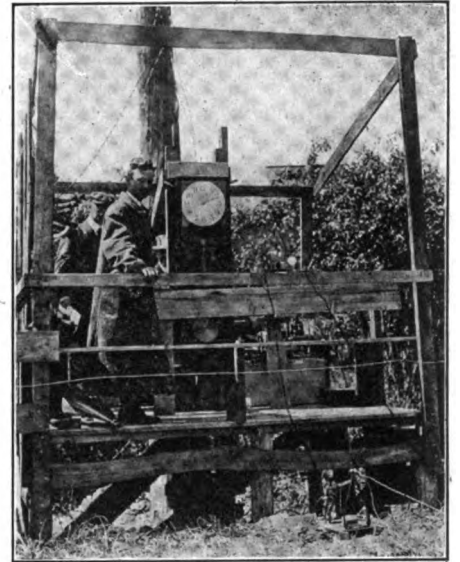
on a drum driven at constant speed by a small motor and on which are indicated second intervals through an electrically connected clock and pendulum. The speed of the paper can be regulated to record any fractions of a second. The instant a car goes over the line, either start or finish, the circuit is opened and the progress

car, the number of the event and the driver, and this system installed in duplicate, so that each performance is certified beyond possibility of question. This unique apparatus also can be arranged so that a series of gongs placed at different positions along the course will announce to the spectators the exact time of the start and the finish of a car.

Insofar as the meet itself was concerned there was little of the spectacular to require many glowing adjectives. The meet was opened by four motorcycle events, two of which had more than one contestant,



LOVEJOY (JACKSON) ON AN EASY PART OF THE SLOPE



THE TIMING APPARATUS

the annual hill climbing fest promoted by the Worcester (Mass.) Automobile Club, and held on the Dead Horse hill near that city, Saturday last, 4th inst., truthfully cannot be said to have been up to the previous standard, although the Worcester people would have it so. The crowd was smaller than has prevailed at former contests, numbering only about 5,000, and a very small percentage of these went to the top of the hill.

The record for the hill—54 seconds—was made a year ago by L. F. Baldwin, and in Saturday's meet the nearest approach to this was made by Caleb Bragg, whose Fiat covered the mile uphill course in 58 seconds flat. The same car which made the record twelve months ago could do no better than 1:09 1-10 last Saturday.

Perhaps the most interesting feature of the meet was the timing apparatus designed and operated by split-second "sharps" of the Worcester Polytechnic Institute, which successfully was tried out for the first time in a big event. This electrical apparatus, which can be made to record to the 1-1000th part of a second, but which on Saturday was made only to register tenths of seconds, as the scarcity of starters made more accurate timing unnecessary, is unique in arrangement. It consists of a roll of paper



KINGSLEY (THOMAS) RUSHING A STEEP PITCH

of the car recorded on the tape until the other wire closes the circuit. Each tape is marked with the make and number of the

and B. A. Swenson, of Providence, furnished all the excitement. He rode a two cylinder Indian motorcycle to the top in 1 minute

3 seconds, which was considerably faster than a great many of the cars were able to accomplish.

The Dead Horse hill, according to survey, is exactly one mile in length and the first quarter mile rises to 10.3 per cent. and then eases away to 8.3 per cent. The steepest portion is in the second quarter, when it reaches 12.2 per cent., the last half mile having an average rise of 8.8 per cent.

With only one car in five of the nine automobile events it follows that the excitement occasioned by the running of these classes was not of the nature to bring any attacks of heart failure to any of the lookers-on. J. F. Kingsley and his Thomas car had a walkover in the class for cars listing at \$4,000 and over, as did R. H. Higgins, Elmer Knox and Albert White, in their respective classes, while there was only one entrant also in the electric class. Lovejoy in a Jackson won the \$1,601 to \$2,000 class in 1:10 9-10, and later bettered this performance in the free-for-all.

The only two thrills of a thrilless meet came in the free-for-all—the last event on the program. Caleb Bragg, the A. A. A. "amateur," went up so fast that he appeared to be driving recklessly, and his snorting leviathan brought out a few cheers, followed by another burst of applause when it was announced that his time was 58 seconds. It proved to be the best performance of the day. The next fastest flight was made by Harry Grant, the famous Alco pilot and Vanderbilt cup race winner. Grant's time was 1:02. Lovejoy, who followed, was timed in 1:08 8-10. The summary:

#### \$4,000 and Over.

1 J. J. Kingsley, Thomas.....1:06 4-10

#### \$3,001 to \$4,000.

1 R. H. Higgins, Stearns.....1:53

#### \$2,001 to \$3,000.

1 Elmer Knox, Atlas.....1:31 2-10

#### \$1,601 to \$2,000.

1 R. M. Lovejoy, Jackson.....1:10 9-10

2 Howard E. Bauer, Oakland.....1:30 8-10

#### \$1,201 to \$1,600.

1 F. F. Cameron, Cameron.....1:38 6-10

2 Edw. Ditteau, Parry.....1:56 7-10

#### \$801 to \$1,200.

1 E. S. Cameron, Cameron.....1:33 9-10

2 H. E. Bauer, Oakland.....1:43

3 J. Doorley, Maxwell.....1:47 1-10

4 T. Hooker, Buick.....2:24 6-10

#### \$800 and Under.

1 Albert White, Cameron.....1:49 1-10

#### Free-for-All.

1 Caleb Bragg, Fiat.....0:58

2 Harry Grant, Alco.....1:02

3 R. M. Lovejoy, Jackson.....1:08 8-10

4 F. H. Marriott, Stanley.....1:09 1-10

#### Electrics.

1 Babcock .....3:00 9-10

#### Motorcycles, Singles, Trade Riders.

1 B. A. Swenson, Indian.....1:19 1-10

#### Motorcycles, Twins, Trade Riders.

1 B. A. Swenson, Indian.....1:03

#### Motorcycles, Singles, Worcester County.

1 Howard Clarke, Indian.....1:43 2-10

2 Robert McDonald, M-M.....2:11 7-10

#### Motorcycles, Twins, Worcester County.

1 Edward Jerome, Indian.....1:10 7-10

2 Howard Clarke, Indian.....1:14 2-10

3 I. C. Coombs, Merkel-Light.....1:17 9-10

4 Warren C. Fish, Merkel-Light.....1:28 3-10

5 Arthur Bennet, Indian.....1:38 4-10

6 Paul Rohde, Indian.....

#### Miss Hess Makes Two Proposals.

If there is any automobile manufacturer who desires to prove to the world that it is possible for a woman not merely to drive his car across the continent, or anywhere



MISS VENICE A. HESS

else, but absolutely to take care of it under any and all conditions and without assistance from any man, there is a young woman in Pasadena, Cal., who is both ready and anxious to demonstrate her ability to fill the bill. She is Miss Venice A. Hess, whose business card shows that she conducts an automobile rental service in Pasadena, and who unfolds her ideas in the following letter to the Motor World:

"As you are connected with all the motor people, I am writing you this proposition, because you may be able to set me aright; if you are interested in the motor world for woman as well as man.

"I am a girl just over nineteen, very anxious and ambitious; I have been driving autos for the past eight years, and taken care of them myself. I have now a sixty horsepower Thomas, and a fourteen horsepower car that I have built of parts of other cars.

"No. 1—With the right people or company I will sign a contract to take any standard gas car which has been assembled and tested, let them disassemble that car, ship the parts here, and I will assemble same and cross the continent with it, and

no one touch the mechanism but myself. Of course, when help is needed to hold a thing, that is different, or a part should break and need a new part, for I don't mean to make parts, though I can operate a lathe, drill, etc. They can have a man over me from beginning until ending to see that I do it myself.

"No. 2—Or I will take any car, let them take a part out, so that the car is useless and I will find that part which is out of order or taken away, and put it in place again so that the car will run as good as ever.

"I have the ability and knowledge and strength, and will contest in anything with man or woman. Some motor company may want to show how simple their car is built by such a contest as No. 1 above."

#### New York Orphans Have their Outing.

Through the generosity of the New York automobile trade and allied interests and private individuals, who responded to appeals for cars more generously than ever before, some 3,300 orphans were enabled to participate in the sixth annual outing at Coney Island on Thursday last, 2d inst., which was given under the auspices of the Orphans' Automobile Day Association, which is composed largely of prominent tradesmen. There were over 300 cars in line, and all were loaded to the guards with the little waifs of the orphan asylums of Manhattan and Brooklyn, whose calendar reckonings are computed from the day of days when once a year they are given the freedom of the gay city by the sea, through the courtesy of the management. Hugh Chalmers, president of the Chalmers Motor Co., Detroit, Mich., provided luncheon, to which the kiddies sat down immediately upon their arrival at Coney Island shortly after noon. After four hours of pleasure and recreation the start for home was made. The only mishap occurred in Brooklyn on the return, when a 'bus was run into and a few children bruised.

#### Mr. Munsey to Repeat his "Function."

Frank A. Munsey, the publisher, will "repeat" this year. Having conducted a polite form of endurance contest last year, the management of the chain of newspapers which bear Mr. Munsey's name has decided to try again, with variations. Accordingly this year's event, which is to start from Philadelphia on August 15th, is to be known as the Munsey Historical tour. The explanation is that the route will be laid through a number of points which are mentioned in the standard textbooks as possessing valued associations. Two groups of contestants will be recognized, one of which will be composed of manufacturers and one of private owners. The rules of the American Automobile Association will be followed and the course, of some 1,600 or 1,700 miles, will lead as far north as Portland, Me., returning by a different way to Washington.

**READY FOR THE GLIDDEN CONTEST**

**Thirty Competitors to Start on Tuesday**  
**Next—Who They are and the Route**  
**They will Follow.**

With just as many contestants as started last year, the 7th annual tour of the American Automobile Association, which is the 6th annual contest for the Glidden and the first for the Chicago trophies, will begin on Tuesday morning next, June 14th. It will be the longest of the Glidden contests, the total distance being 2,851 miles, as against 2,636.8 miles last year.

The contest will start from Cincinnati,

Okl.; Friday, June 24—Lawton to Oklahoma City, Okla.; Saturday, June 25—Oklahoma City to Wichita, Kan.; Monday, June 27—Wichita to Kansas City, Kan.; Tuesday, June 28—Kansas City to Omaha, Neb.; Wednesday, June 29—Omaha to Des Moines, Iowa; Thursday, June 30—Des Moines to Davenport, Iowa; Friday, July 1—Davenport to Chicago, Ill. Sunday, June 19 and 26, will be days of rest.

There are 18 entries in the Glidden trophy division, two more than was the case last year, but for the first time, the Pierce-Arrow, the trophy holder, is not represented. The entrants with their numbers are as follows: 1, Premier Motor Mfg. Co.; 2, Premier Motor Mfg. Co.; 3, Chalmers Motor Co.; 4, Chalmers Motor Co.; 5, Chal-

Besides the contesting cars the other machines in the run are a Columbia, which will carry Referee Whiting and set the pace; a Reo, which will convey the tour secretary; a Chalmers, with the pilot, while the newspaper men will be carried in two Cuttings, a Maxwell and a Chalmers. The non-contesting cars which will follow the tourists are two Cadillacs, which have been fitted as gun carriages by the Northwestern Military Academy, and a Rapid truck.

**Elgin Prepares for a Speed Carnival.**

For the purpose of financing the road race which the Chicago Motor Club is organizing, the Elgin Automobile Racing Association has been incorporated and in slack moments when it is not disposing of its \$20,000 stock issue, is arranging for a course for the two days' meet. By arrangement with the Chicago club, the latter body is securing entries and framing the program. Friday and Saturday, August 26th and 27th, have been named as the dates for the contest, to be held over an 8½ miles course.

The Chicago Motor Club, which is the real promoter of the event, has guaranteed a large entry list and magnificent profits to the Elginites, the benefits derivable from such an affair having been illustrated in some of the local newspapers by references to past performances at Lowell, Mass. A \$1,500 Elgin cup is to be the chief award, in addition to which there will be a substantial list of cash prizes. The officers chosen for the newly incorporated Elgin Automobile Racing Association are: Fred W. Jencks, president; Theodore Schmitz, vice-president; W. C. Wilson, secretary; Phillip Freiler, treasurer.

**Building Huge Grandstand at Indianapolis.**

Profiting by the lesson learned at the Decoration Day meet, when thousands were unable to obtain seats in the stands and overflowed into the paddock, the management of the Indianapolis (Ind.) Motor Speedway is taking steps to accommodate all future crowds by commencing work on a grandstand which will be one-half mile long, the largest structure of its kind in the world. The addition will be 1,840 feet in length, and will be coupled to the present structure, which is 800 feet long. Work will be begun at once, and the new stand is expected to be ready for the meeting in July. When completed the seating capacity, which at present is 40,000, will be doubled.

**California's Big Road Race Assured.**

The Portola road race, which is to California what the Fairmount Park classic is to Philadelphia, is again assured for this year, permission having been granted by the park commissioners of San Francisco to the Automobile Club of California to use the roads of Golden Gate park for the race. With this last serious obstacle removed, preparations are going forward and a tentative date, Sept. 10, has been selected.



MAP SHOWING ROUTE OF THE GLIDDEN TOUR

Ohio, and 16 days of traveling finally will bring the tourists to Chicago. Practically all the competing cars already are in Cincinnati, where they have been examined by the Contest Board's technical committee, to ascertain if they comply in all respects to the stock car definition. A. G. Whiting, of the Automobile Club of America, has been selected as referee, and Chairman S. M. Butler will be assisted by A. L. McMurry, E. L. Ferguson and David Beecroft. The itinerary is as follows:

Tuesday, June 14—Cincinnati, Ohio, to Louisville, Ky.; Wednesday, June 15—Louisville to Nashville, Tenn.; Thursday, June 16—Nashville, to Sheffield, Ala.; Friday, June 17—Sheffield to Memphis, Tenn.; Saturday, June 18—Memphis to Little Rock, Ark.; Monday, June 20—Little Rock to Hot Springs, Ark.; Tuesday, June 21—Hot Springs to Texarkana, Tex.; Wednesday, June 22—Texarkana to Dallas, Tex.; Thursday, June 23—Dallas to Lawton,

mers Motor Co.; 6, Cole Motor Car Co.; 7, Maxwell-Briscoe Motor Co.; 8, Cartecar Company; 9, Parry Auto Co.; 10, Bartholomew Company; 11, Ohio Motor Car Co.; 12, Ohio Motor Car Co.; 14, Penn. Auto. Motor Co.; 15, Cino (Haberer & Co.); 16, Buick Motor Co.; 17, Buick Motor Co.; 18, Oakland Motor Car Co.; 19, Oakland Motor Car Co.

There are 12 entrants in the Chicago trophy division, which is for miniature tonneaus and runabouts, corresponding to the Hower trophy class of previous contests, this number being two less than last year. The entrants are: 100, Moline Auto. Co.; 101, Moline Auto Co.; 102, Moline Auto Co.; 103, Lexington Motor Car Co. (John C. Moore); 104, Cole Motor Car Co.; 105, Parry Auto Company; 106, Fal Motor Car Co.; 107, Maxwell-Briscoe Motor Co.; 108, Cartecar Company; 109, Cartecar Company; 110, Lexington Motor Car Co.; 111, Westcott Automobile Co.



## SOUTHERNERS START FOR NEW YORK

**Second Good Roads Tour Sets Out from Atlanta over Proposed National Highway—Encouraged en Route.**

Escorted to the outskirts of this city by a detachment of mounted police, the second good roads tour promoted jointly by the New York Herald and Atlanta (Ga.) Journal over the proposed national highway between those two cities, started from the southern metropolis on Monday morning last, 6th inst., with 70 cars in line, 62 of them contestants in the 1,100 miles publicity jaunt in the interest of the promoting papers and which will end at Herald square, New York, on Tuesday, 14th. On the occasion of the first tour last fall, New York had the honor of giving the tourists a hearty sendoff, and this year Atlanta was accorded the privilege of launching the cavalcade, Mayor Maddox firing the starting gun and wishing each party good luck in true "Southern style" as they rolled past his stand.

Immense crowds from Atlanta and the surrounding territory lined the streets and cheered enthusiastically as the tourists got under way, while a band on a huge motor truck, which formed part of the farewell escort, struck up the air of "Dixie" and factory whistles and sirens screamed their hoarse adieus. In the early morning it appeared as if the skies would weep at the departure of so many native sons and dollars for Yankee land, many of the latter at least never to return, but later the sun came out and smiled his prettiest as the well loaded cars started on their long journey. In numbers this tour eclipses that of last year by about a dozen, exclusive of the eight official machines which make a small caravan in themselves.

Equally enthusiastic were the ovations tendered to the tourists after leaving Atlanta, on the run to Anderson, S. C., 139 miles and the first night stop on the tour. Factory, train and mill whistles screeched a welcome at every station and hamlet, while long lanes of people lined the highways and cheered themselves hoarse as the motorists flitted past. At Norcross, Ga., citizens stretched across the highway at the town limits a huge sign reading "Speed limit 110 miles," and which could be distinguished nearly a mile away. Furthermore, the smooth and excellent highways of this town easily were capable of the best speed which the cars could develop. On crossing Knox's Bridge, the boundary line between Georgia and South Carolina, the tourists passed beneath a huge floral arch, while further on pretty young maidens passed out post cards and refreshments to those who had time to tarry for a moment.

Several cars were penalized for late arrival at Anderson, some not reporting until nearly midnight. Some of the chief mishaps of the first day were broken springs which occurred to the Maxwells driven by Emmett Callan and Charles T. Smith. John W. Grant's Locomobile skidded into a ditch 4 miles from Atlanta and sustained a broken spring and wheel, which latter were replaced. The second day's run was to Charlotte, N. C., 159 miles. The contestants and their cars are as follows:

Packard, Beaumont Davison, Atlanta, Ga.  
National, W. J. Stoddard, Atlanta, Ga.  
Thomas, Col. John J. Woodside, Atlanta, Ga.  
Packard, Robert E. O'Donnely, Atlanta, Ga.  
Knox, Joseph F. Gatins, Jr., Atlanta, Ga.  
Pope-Toledo, Edward M. Durant, Atlanta, Ga.  
Lambert, W. S. McNeal, Jr., Atlanta, Ga.  
Regal, Regal Atlanta branch, Atlanta, Ga.  
Lambert, J. T. McNinch, Atlanta, Ga.  
White Star, White Star Co., Atlanta, Ga.  
American Traveler, Jackson P. Dick, Atlanta, Ga.  
Maxwell, Maxwell-Briscoe Motor Co., New York.  
Pope-Hartford, E. H. Inman, Atlanta, Ga.  
Maxwell, C. W. DuPre, Marietta, Ga.  
Columbia, Charles I. Ryan, Atlanta, Ga.  
Buick, W. E. Wimpy, Atlanta, Ga.  
Chalmers, J. H. Marsteller, Roanoke, Va.  
Ford, E. M. Willingham, Atlanta, Ga.  
Hupmobile, N. W. Wallace, Jr., Charlotte, N. C.  
Pope-Hartford, Milt Saul, Atlanta, Ga.  
Hudson, Ralph W. Northcutt, Marietta, Ga.  
Brush, Georgia Brush Auto Co., Atlanta, Ga.  
Kisselkar, Kelley-Knight Motor Car Co., Atlanta, Ga.  
Speedwell, Arthur T. Smart, Atlanta, Ga.  
Firestone-Columbus, Columbus Buggy Co., Columbus, O.  
Stoddard-Dayton, W. D. Alexander, Atlanta, Ga.  
Lozier, Asa G. Candler, Jr., Atlanta, Ga.  
Maxwell, Maxwell-Briscoe-Southern Co., Atlanta, Ga.  
Locomobile, John W. Grant, Atlanta, Ga.  
Hupmobile, E. D. Crane & Co., Atlanta, Ga.  
Corbin, T. H. Cooper, Salem, Va.  
Stevens-Duryea, C. H. Johnson, Atlanta, Ga.  
Halladay, Georgia Commission Co., Albany, Ga.  
Brush, John Moore & Co., New York.  
Winton, Herman J. Haas, Atlanta, Ga.  
Selden, J. E. Brown, Atlanta, Ga.  
Speedwell, S. M. Smith, Bluefield, W. Va.  
Ford, Dr. E. C. Seawright, Fayetteville, Ga.  
Jackson, C. D. Smith, Albany, Ga.  
Maxwell, Julian H. Reynolds, Augusta, Ga.  
Mitchell, L. C. Brown, Athens, Ga.  
Thomas, Roy Collier, Atlanta, Ga.  
Mercer, Mercer Motor Car Co., Trenton, N. J.  
Pullman, W. G. Humphrey, Atlanta, Ga.  
Ohio, Ohio Motor Car Co., Cincinnati, O.  
Pullman, Pullman Motor Car Co., York, Pa.  
Cole, Carter and Logan Bros., Savannah, Ga.  
Reo, A. P. Herrington, Atlanta, Ga.  
Oakland, Robert Campbell, Cedartown, Ga.  
Cadillac, D. K. McColl, Barnetsville, S. C.

Ohio, M. L. Thrower, Atlanta, Ga.  
Columbia, Marcellus Rambo, Birmingham, Ala.  
Mitchell, Winston-Salem Good Roads Committee, Winston, N. C.  
Palmer-Singer, R. D. Apperson, Lynchburg, Va.  
E-M-F., R. G. Scruggs, Waycross, Ga.  
White, W. A. Gunter, Montgomery, Ala.  
Cadillac, W. H. Peacock, Cochran, Ga.  
Stevens-Duryea, Mrs. Myrtle L. Barnes, Myrtle, Ala.  
Buick, Lamar S. Collier, Atlanta, Ga.  
Maxwell, Charles T. Smith, Concord, Ga.  
Maxwell, Emmett Callan, Washington, Ga.  
Columbia, J. W. Mangham, Griffin, Ga.

### Swiss to Open Their Highways.

According to advices received from its Paris branch by the Pierce-Arrow Motor Car Co., Switzerland has come to the conclusion that it is to its interest to encourage motor car tourists. For several years that country has had barriers against motor cars in the form of special taxes, closed roads and legislative restrictions of various kinds. The result has been that many tourists have shunned the country altogether, skirting the borders of the mountainous little republic by taking the roads along the Italian, Austria and German frontiers. Switzerland is noted for the large number of its hotels, and when the keepers of these resorts began to realize the amount of money that might have come into their hands from the tourists, but didn't, they became active.

The result of their activity, the Pierce-Arrow advices state, is that the Swiss Federal Council will reopen the question of allowing cars on the roads in the Canton of Grisons, which includes within its confines some of the best thoroughfares through the picturesque passes of the Alps, among them main arteries leading to Germany and Italy. A trial is to be made of practically unrestricted travel in the Grisons district, and the question of opening the roads in other districts is to be entertained.

### Olds Owners to Meet Once More.

Invitations have been issued by Gen. J. T. Cutting for the sixth annual reunion of Oldsmobile owners in the East, which will be held at the Empire City track, Yonkers, N. Y., on Saturday, 11th inst., and which was the trysting place of the first gathering. As in former years, a \$3,000 Olds will be given away in a drawing, in which only Olds owners may participate, and a program of speed trials and novelty events will be decided.

### Here's Another Wonderful Tire Record.

California has produced another wonderful tire record. Allen R. Kennedy, of San Jose, has made affidavit that on one set of Diamond tires—36 x 4 front, 36 x 5 rear—he has traveled 27,000 miles. The tires were applied to a 4,000 pound car and Kennedy swears that they were removed from the wheels on but two occasions, when the valves of two inner tubes required repair.

**BRAGG NOT QUITE FAST ENOUGH**

**His College Chums See "Prof." Robertson Show Him How to Climb Shingle Hill—Honors Well Distributed.**

Almost as great a calamity in the eyes of Yale men and New Haveners generally as would be the triumph of the Harvard hosts over the Sons of Eli on their own gridiron, was the defeat of Caleb Bragg, the "millionaire amateur" driver of the Fiat forces, and himself a Yale graduate, by smiling George Robertson and his well nigh invincible Simplex in the free-for-all class at the Yale University Automobile Club's third annual climb on Shingle hill, West Haven, Conn., on Tuesday afternoon, 7th inst. Although he did not lower the course record of 51 seconds, made by David Bruce-Brown last year, Robertson came mighty close to it and pushed the big Simplex to the top in 51½ seconds.

Bragg, who, fresh from his triumph at Dead Horse hill, Worcester, last week, was the universal favorite in the stellar event, disappointed his admirers who looked to see him add to his laurels in the city of his alma mater and in an event promoted by a club which in his college days he had helped to organize. Starting just before Robertson, Bragg made an excellent climb in the big Fiat "90," but the time, 52½ seconds, was a disappointment, as it failed to shatter Bruce-Brown's figures. Greater humiliation was administered to the "amateur" a few moments later, when Robertson got under his figures and carried off the laurels of the day.

New England built cars showed up well in the stock events, capturing two out of five. Joseph Taylor, who drove a Correja to victory in its maiden appearance at Bridgeport, on Decoration Day, duplicated the feat in the \$1,600 class, which he won by a good margin. Time, 1:13. E. C. Bull, Buick, who ran second to Taylor in the previous class, retrieved himself by winning the \$2,000 division in 1:14. Fred Belcher, who placed a Knox third in the all star division, gained further laurels by winning the \$3,000 class in 1:06, defeating Billy Knipper, Chalmers, by 4 seconds. However, Belcher's victory afterwards was protested by Maynard, entrant of Knipper's Chalmers, on the ground that the Knox was ineligible because of non-compliance with the rules. Referee Gillette will render a decision in the matter later.

T. Jones, at the wheel of an Amplex, carried off the honors in the \$3,000-\$4,000 category by the narrow margin of ⅔ of a second. He was timed in 1:09½, and Pallman, P-S, did it in 1:09¾. There were but three starters in the high-priced division for cars costing over \$4,000, and the pair of Houpt-

Rockwells from Bristol ran 1, 3, Frank Ives driving the winner in 1:07¾. R. B. Stern, in a Simplex, was second. Quite spectacular were the three motorcycle events, and it was in these that the fastest time of the day, 51½ seconds, was made. Merkel machines made a triple killing and H. H. Logan, a Yale student, rode the winner in two events. His time in the twin class was 53¾ seconds, which he bettered by 2 seconds in the free-for-all. A. G. Chapple won the single cylinder event in 54¾ seconds.

Owing to the prominence of the drivers, and the expectations of thrilling stunts on the "S" turn, the contest attracted a crowd of nearly 7,000, hundreds of whom came in motor cars. Parking spaces along the route were well taken, particularly at the well adapted action points, where standing room was at a premium. Especially was this so at the "S" turn, where the largest crowd congregated. Many of the agile ones, unable to obtain satisfactory places on the ground, climbed into the trees along the course in order the better to witness the flights. The ideal weather which followed the recent rains, together with the grooming which the course received, left it in prime shape for the climb. Not a single mishap occurred.

The results follow:

**Class D—Under \$1,600.**

Drivers and Cars.	Time.
Joseph Taylor, Correja.....	1:13
E. C. Bull, Buick.....	1:18½
F. W. Smith, Oakland.....	1:25
W. A. Maynard, Chalmers.....	1:37¾

**Class E—1,601-\$2,000.**

E. C. Bull, Buick.....	1:14
A. McMillan, Buick.....	1:15¾
G. H. Holcomb, Inter-State.....	1:18½
F. W. Smith, Oakland.....	1:25¾
W. E. Morris, Midland.....	1:34¾

**Class F—\$2,001-\$3,000.**

Fred Blecher, Knox.....	1:06
William Knipper, Chalmers.....	1:10
Jack Rutherford, National.....	1:11
H. B. Griffin, Stoddard-Dayton.....	1:19
G. G. Prentice, Chalmers.....	1:22¾

**Class G—\$3,001-\$4,000.**

T. Jones, Amplex.....	1:09½
L. F. Pallman, Palmer-Singer.....	1:09¾
J. N. Cooke, S.P.O.....	1:12
W. A. Maynard, Thomas.....	1:15¾
M. P. Batts, S.P.O.....	1:17¾

**Class H—Over \$4,000.**

Frank Ives, Houpt-Rockwell.....	1:07¾
R. B. Stern, Simplex.....	1:08¾
P. B. Foster, Houpt-Rockwell.....	1:14

**Free-for-All.**

George Robertson, Simplex.....	0:51¼
Caleb Bragg, Fiat.....	0:52¾
Fred Belcher, Knox.....	1:01¼
S. E. Wishart, Mercedes.....	1:04¾
A. McMillan, Buick.....	1:06¾
R. B. Stern, Simplex.....	1:07¾
Frank Ives, Houpt-Rockwell.....	1:08
C. Tousey, National.....	1:08¾
William Knipper, Chalmers.....	1:10
Jack Rutherford, National.....	1:11
C. MacHaley, Buick.....	1:12
J. D. Holloway, Locomobile.....	1:29¾

**SWAN FLIES UP BLACKSTRAP HILL**

**Takes Three Firsts with an Intermission for**

**Dinner—Slow Climb on High Gear Proves Novel Event.**

Favored with a perfect course, ideal weather, well filled classes and close competition, the hill climbing contest on Blackstrap hill, West Falmouth, a suburb of Portland, Me., on Saturday last, 4th inst., promoted by the Portland Sunday Telegram, left nothing to be desired. Nearly 6,000 people from far and near viewed the flights from advantageous positions along the course.

There were seven events and all but one were well filled, but the honors were somewhat unequally divided, R. P. Swan capturing three of the seven firsts. In the free-for-all class, the feature of the card, Swan in addition to winning the event made the fastest time of the day, 1:17¼. Second place in this class resulted in a tie between A. M. Spear, Ford, and A. T. Baker, Thomas, both of whom swept up the nine-tenths of a mile straightaway in 1:20 flat. In the intermediate classes, while the starters were somewhat sparse, the struggles were exciting and in some cases close, the winners being Swan, Buick; Willard, Inter-State, and Frost, Palmer-Singer. Nearly all of the starters in the previous events faced the gun in the free-for-all. Baker in the Thomas was the first sent away and set the figures at 1:20, which were equalled by the next man, Spear in the Ford. Further assaults against Father Time were unsuccessful until Swan made his bid, when the figures were hammered down to 1:17¼, where they remained.

The speed classes dispatched, the last number on the card was a slow race on high gear, which attracted seven starters, of whom Spear in the Ford proved the best manipulator of spark and throttle and used up 6 minutes 57 seconds on the incline. The next best at time killing was Roscoe Willard, who held an Inter-State down to 6:52¾. Arthur Brunt, Johnson, was third, with 6:49.

Departing somewhat from the usual order of things, the climb was run in double header fashion, an intermission of an hour and a half being taken after the fourth class was finished. Evidently the Down Easterners do not believe in letting sports interfere with their regular dinner hour. Typical of the shrewd New Englander, the ladies of a church society which bordered on the course, took advantage of the gathering to serve dinner to the hungry ones and incidentally swell the society's exchequer, and through their worthy efforts over \$100 was gathered in by catering to the wants of the inner man.

The timing was by electrical apparatus, the cars breaking strings stretched across the road at the start and finish, and which rang bells and recorded the time at either end. Not a hitch occurred in this department. The road was perfectly straight and as smooth as a billiard table, and had a steady rising grade which tested the best efforts of the motors.

Not a formal protest was made, and in order to preclude the possibility of adulterated fuel being used, samples were taken from each tank by a chemist and examined. However, at the request of A. M. Spear, Jr., a second sample was taken from the Buick car, which won Class B, and the award will be withheld pending the chemical analysis.

Following are the results:

Class A.	
Drivers and Cars.	Time.
C. E. Woodbury, Hupmobile.....	2:47

Class B.	
R. P. Swan, Buick.....	1:27
Charles Hill, Ford.....	1:34½
A. M. Spear, Jr., Ford.....	1:37
M. S. Folkins, Maxwell.....	1:45
Arthur Brunt, Johnson.....	1:53
P. T. Stoughton, Oakland.....	1:59

Class C.	
Roscoe Willard, Inter-State.....	1:31¾
James Meader, Oakland.....	1:32¾

Class C, Special.	
R. P. Swan, Buick.....	1:19¾
Arthur Brunt, Speedwell.....	1:38

Class E.	
Percy Frost, Palmer-Singer.....	1:22¾
A. T. Baker, Thomas.....	1:30

Free-for-All.	
R. P. Swan, Buick.....	1:17¾
A. T. Baker, Thomas.....	1:20
A. M. Spear, Jr., Ford.....	1:20
Norman Gray, Speedwell.....	1:23¾
Carroll Brown, Palmer-Singer.....	1:26¾
Charles Hill, Ford.....	1:28

Slow Race on High Gear.	
A. M. Spear, Jr., Ford.....	6:57
Roscoe Willard, Inter-State.....	6:52¾
Arthur Brunt, Johnson.....	6:49
R. P. Swan, Buick.....	6:37¾
Charles Hill, Ford.....	6:18
P. T. Stoughton, Oakland.....	5:25
M. S. Folkins, Maxwell.....	4:42¾

#### Not to Race Against Motor Cars Again.

Races between automobiles and railroad trains more often result unfortunately for the motorists than for the locomotive engineers, but at least one engineer has found it otherwise so far as his personal experience is concerned. As the result of speeding his train to a pace faster than was provided for on his schedule, in order to keep up with a motor car that was trying to beat him into Wichita, Kan., the man in charge of a Santa Fe Railroad locomotive was fined \$10 by the company. Two more such fines will entail his discharge, so that it is not likely that he will be tempted to further "brushes" with speeding motorists who are anxious to try conclusions with the iron horse.

## GOOD BEGINNING, POOR ENDING

**San Francisco's First Day Succeeded by a "Frost"—No Aviators; no Crowd; but Some Good Racing.**

If the San Francisco (Cal.) Motor Club's two days' meet at Tanforan track on May 29th and 30th had been a one day affair instead of a double header it is probable that the good roads cause to which the proceeds were devoted, would have fared better, for the first day's profits were changed to losses on the second. In the belief that a mixed program would attract larger crowds than a straight racing card, the club, which worked hard to make the meet a success, put on several aviation exhibitions by local bird men, and while this added feature helped to draw a crowd of between 5,000 and 6,000 on Sunday, the second day practically was a frost, both from an attendance and sporting standpoint, several of the star numbers being called off. On the whole the meet was not a financial success, and the club now faces a deficit instead of the expected fund which it hoped to raise.

#### First Day—Sunday, 29th.

With a \$100 side bet hinging on the result, the 5 miles stock chassis race for cars under 230 cubic inches was a pretty struggle between Ruddle in the Ford and Murray, Buick, who were the only starters. Ruddle got the pole early and held it throughout, despite the efforts of Murray to wrest it from him. Coming down the stretch for the last time the cars were almost abreast, but Ruddle crossed the wire first by a margin of 2 seconds. The time, 4:36¾. Although the contesting cars were much more powerful, the time in the 5 miles for stock chassis, 231-450 class, was much slower than its predecessor, but nevertheless proved the most exciting race of the day. As in the previous race there were only two starters, Murray, Buick, and Bert Oakes, Knox. Both evidently understood the desirability of furnishing some excitement and drove accordingly. It was more like a game of tag than a race, the two alternating in the lead with the other at his heels. The fourth lap was a dead heat, and the expected break came in the stretch when Murray crawled ahead a few feet and led Oakes to the wire by a fifth of a second amid great enthusiasm. The time was 5:58¾.

In the 10 miles handicap Murray, who was scratch, gave Ruddle in the Ford a minute start, which proved all too ample, though the scratch man made desperate efforts to make up the gap. Ruddle never was in danger of losing and romped home an easy winner in 11:16¾. The best mile

of the day was made by Murray, who covered the last lap in 0:59¾. Those old rivals, Balke and Collins, furnished the excitement in the motorcycle events, and broke even, each taking one race. Balke, steering a Thor, won the 5 miles for twins in 4:56.02, and Collins, on an Indian, captured the 5 miles coast championship for twins in 4:52¾.

The summaries:

Five miles stock chassis, 230 cubic inches and under—Won by A. Ruddle, Ford; second, Frank Murray, Buick. Time, 4:36¾.

Five miles stock chassis, 231-450 cubic inches—Won by Murray, Buick; second, Bert Oakes, Knox. Time, 5:58¾.

Ten miles handicap—Won by Ruddle, Ford (1.00); second, Murray, Buick (scratch). Time, 11:16¾.

#### Second Day—Monday, 30th.

Everything seemed to go awry on Monday, the aviation trials being given up on account of accidents to the air birds, and the automobile events had a sameness and lack of entrants which sent the enthusiasm below par. From the hammer and tongs fashion in which it was begun the five miles race between Murray and Oakes, handling a Buick and Knox respectively, promised to be a lively seance, but it fizzled early, Oakes stopping in the third mile and Murray romped home a winner in 5:50¾. Later these two came together again at the same distance, and Murray duplicated his previous performance, but not by such a big margin, Oakes putting up more opposition. The time, 6:02¾. Three started in the 10 miles open, Murray, Ruddle and Schuler, Autocar, and this furnished the best racing of the day. Schuler went to the front early and managed to stay there despite the efforts of Ruddle to displace him, while Murray never proved dangerous. Schuler's time was 11:18¾; Ruddle was second. Murray captured the closing event, a 5 miles handicap, driving from scratch in 5:17½. Schuler, Autocar, with 25 seconds allowance, was second. Ruddle and his Ford entered into a 5 miles match race with Collins on an Indian motorcycle, and the latter won easily. He also rode several exhibitions and lost a 5 miles handicap to Chelini, Indian, by giving him too much leeway.

The summaries:

Five miles stock chassis, 231-450 cubic inches—Won by Murray, Buick; second, Oakes, Knox. Time, 5:50¾.

Ten miles stock chassis, 230 cubic inches and under—Won by A. Schuler, Autocar; second, Ruddle, Ford; third, Murray, Buick. Time, 11:18¾.

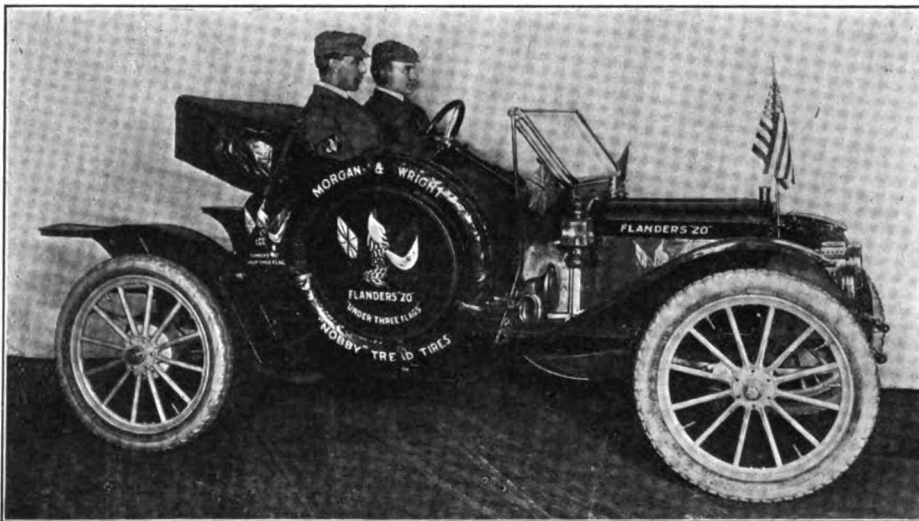
Five miles stock chassis, 450 cubic inches and over—Won by Murray, Buick; second, Oakes, Knox. Time, 6:02¾.

Five miles handicap—Won by Murray, Buick (scratch); second, Schuler, Autocar (0:25). Time, 5:17½.

## TRAVELING UNDER THREE FLAGS

**Detroit Crew Undertakes the Journey from Canada to Mexico—Will be a "Tour of Demonstration."**

On Monday morning last, June 5, W. H. Line and Paul H. Bruske, two members of the E-M-F staff, in a Flanders "20" motor car of the stock "roadster" pattern, left the venerable city of Quebec, Canada, bound for the equally historic City of Mexico, the abode of the Aztecs, a distance of about 4,500 miles. It is a "tour of demonstration" and "Under Three Flags" is the title which has been chosen for the



LINE AND BUSKE IN THE "UNDER THREE FLAGS" FLANDERS

undertaking, and there is easily enough of the territory of each nation represented included in the itinerary, to afford a fair sample of the conditions to be encountered in each.

In every way the crew of the Flanders "20" will endeavor to truthfully reproduce touring conditions. There is no intention on the part of W. H. Line, the pilot, to "beat it" and make the affair a sort of race against time. No schedule will be laid out for the car to follow. On the other hand, no weather will be regarded as too inclement and no road too heavy for the car's attention. It is planned to touch at Montreal, Toronto, Windsor, Detroit, Toledo, Indianapolis, St. Louis, Dallas, San Antonio and Laredo, the old Mexican state road being employed for that part of the trip under the banner of the "Sister Republic." The car which will be used for the purpose and which is fitted with Morgan & Wright tires, has been embellished with a design made up of the three flags under which it will travel. On the radiator will be carried the three flags of the countries en route, the daily itinerary determining the colors which will be accorded the center or honor position, the flag of the

particular country in which the car may be being accorded "pride of place."

### The Effects of a Kansas "Sinkhole."

Since falling into the Missouri river at St. Charles, the Regal "Plugger," which is on the "Around the Circle Tour," has met with another mishap, possibly not so startling, but quite as disastrous.

At the invitation of the Oklahoma Automobile Association, the "Plugger" crew, Messrs. Dean and Cuson, and Sales Manager Wilcox, of the factory force, who joined the "Plugger" last Saturday, decided to make a detour to Oklahoma City.

"The roads of Kansas are in an abominable condition," writes Mr. Dean, "owing to the excessive amount of rain which has

## MAYOR FAVORS THE "HORSE TROTS"

**Approves the Bill Forcing Motorists off Public Highways and Tells Objectors They are "Too Selfish."**

Those automobilists who imagined they at least would be courteously received by Mayor Gaynor at the hearing on the Cullen-Goodspeed "horse trot" bill, which will permit the Park Commissioner of Brooklyn to exclude automobiles, bicycles and motorcycles from the Ocean Parkway or Coney Island boulevard between 22nd avenue and Kings Highway, whenever he pleases, and permit this stretch to be used exclusively by owners of horses for racing purposes, received a jolt at the hearing held in the City Hall, Thursday morning last, 2nd inst. They not only received cold comfort but scant politeness.

The Mayor's reception room was crowded at 11 o'clock, the time set for the hearing. C. Andrade, Jr., who represented the New York Automobile Trade Association and the Licensed Automobile Dealers of the City of New York, appeared as the principal speaker against the bill. Mr. Andrade pointed out that the setting aside of a public highway for the exclusive use of any class of vehicles would be illegal, aside from the unfairness of the principle involved.

Herbert G. Andrews, chairman of the legislative committee of the Long Island Automobile Club, said it was a physical impossibility for the owners of automobiles to use the 25-foot side road proposed in the bill. The boulevard is the only road to Coney Island, and to close it to automobilists, he contended, would be a great loss to the business men of Coney Island.

He was followed by Dr. George W. Brush, of the Brooklyn League, who stated that his association had decided to oppose the measure chiefly because it gave unrestricted power to a park commissioner, who is a political appointee, and upon whom influence could be brought to bear. John G. Hart, who resides on the boulevard, and who said that his family had paid more than \$8,000 in taxes on their property, also objected to having the road restricted and to the holding of "horse trots" thereon.

When Mr. Hart had finished, the Mayor asked if there were any other opponents of the measure who desired to speak, and before anyone had a chance to answer he announced that he intended to sign the measure anyway. He told the automobilists that they were a selfish lot and wanted to own the earth, and that they could afford to be more generous and not oppose this slight concession to horsemen. He then declared the hearing at an end and the in-

fallen recently—perfect quagmires in some places. Where the country is swampy they are practically miniature lakes. While journeying from Wichita to Emporia, taking the road late at night, we unfortunately ran into a sinkhole. We came upon it quite suddenly. Before I was aware of it our car had sunk into the mud quite up to the floor of the tonneau. Cuson volunteered to 'drill' it back to the nearest farmhouse, where he procured shovels and a lantern. We immediately set to work to extricate our machine. We labored long into the night in an attempt to get the car out, but all to no avail. Becoming exhausted, we finally abandoned our task and took refuge in an old barn near by. This was about three a. m., and we certainly did fulfill that saying 'hitting the hay' to a 'fare ye well.' It was some time after ten a. m. before any of us awoke. Securing the service of the farmer from whom we had borrowed shovels and lantern, we managed to get the machine out, with the assistance of his team. It was well nigh toward noon before we got away from the spot, however, and we certainly were a thankful lot, for, to tell the truth, I began to think it would not be possible to save the car."

dignant motorists filed out into the corridors.

Later, the Mayor made good his threat to sign the measure. It received his official signature on Monday and was sent to Governor Hughes at Albany with the following misleading statement:

"There is no road in the Borough of Brooklyn where those who own and love trotting horses may speed them. They used to do it on the Ocean Parkway until the automobiles became so numerous that they were crowded off. All that this act does is to enable the local authorities to set off one and one-half miles of the Ocean Parkway for the use of horsemen at certain times, the automobiles meanwhile being obliged to take a side road. The owners of automobiles are generally quite content with this, as they deem it no more than just, while a few of their number oppose it, being too selfish, apparently, to see the rights of others. Very much has been done for the owners of automobiles and they should not begrudge this little to the owners of horses."

That the automobilists intend to continue the fight was made plain by the prompt action following the hearing of last Thursday. Immediately after the Mayor showed his unfairness and his antipathy toward motorists, Walter R. Lee, secretary of the New York Trade Automobile Association, telegraphed the Governor, asking for a hearing. Simultaneously with this action the law committees of the Automobile Club of America, the Long Island Automobile Club and the directors of the Licensed Automobile Dealers of the City of New York were notified by Mr. Lee and requested to co-operate in the fight against the measure.

The telegram requesting a hearing by Governor Hughes was followed by a formal protest embodied in a set of resolutions passed by the New York Automobile Trade Association, in which it was formally petitioned that a public hearing be granted automobilists. So far the Governor has not replied.

#### Killed While Lighting Rear Lamp.

An unusual accident occurred in Rochester on March 17th, when William Wernick was killed while lighting the rear lamp on his automobile. It seems that Wernick had gone until late that evening with unlighted lamps, and rounding a curve on Lake avenue was hailed by a pedestrian, who advised him to light his lamps. He promptly stopped the car and went to the rear to examine the lamp. At that moment another car came around the curve at a moderately fast pace, and before it could be stopped crashed into the rear of Wernick's machine, crushing him between the cars. He died at midnight. William H. Briggs, the driver of the second automobile, was held pending the outcome of the inquest.

## GALLANTRY FROM A GOVERNOR

**Woman Transcontinentalist is Envied by Ohio's Chief Executive—"A Girl After my own Heart!"**

Miss Blanche Scott, who, with Miss Amy L. Phillips as a companion, is engaged in making a cross-continent journey in an Overland runabout, is having the "time of her life." She has had several luncheons

world out of a car window like you two girls are seeing it in your automobile.

"I believe that if more women would get out and enjoy life in the way you two are doing the world would be the better for it. There is too much of the nervous excitement of social life among our women. Too much indigestible food and too late hours. More of nature is needed; more of the natural and less of the artificial."

When Governor Harmon was told—by the veracious historian—that Miss Scott



GOVERNOR HARMON LISTENS TO MISS SCOTT'S STORY

and dinners and other entertainments tendered her en-route and has shaken hands with a number of notables. At Utica, N. Y., she met Rear Admiral Robley D. Evans ("Fighting Bob") and she went out of her way to visit East Aurora, N. Y., to "How'dy" to Elbert Hubbard, chief of the Roycrofters. At Dayton she saw the Wright brothers and in Indianapolis she was in evidence at the Speedway championship meet. Miss Scott's star play, however, was executed at Columbus, Ohio, where Governor Harmon was induced to drop the cares of State and to come out into the street and meet the young woman and inspect her car while a photographer performed her deadly work.

According to the veracious historian of the journey, Governor Harmon grew quite enthusiastic during his chat with the fair traveler.

"I wish that I could take just such a trip," he declared, says the v. h. "After a hard winter's weary round of routine I feel like getting out and communing with Nature in just such a way as you are doing. It's the only way. You never could see the

had undertaken her trip to escape the penalty of these same things, he—the Governor—"was delighted to learn that her own experience coincided so nearly with his views in the matter."

"You surely are a girl after my own heart," he is credited with having exclaimed.

#### What a Danger Sign Did to Wood.

It seems almost as if Fate had gone to extreme lengths when it engineered the accident to Frank Wood, Chicago representative of the Knox Automobile Co., and prominent member of the Chicago Motor Club, on Memorial Day. Wood was seated in the rear of a touring car which skidded at the bottom of a hill. The skidding automobile crashed into one of the Chicago Motor Club's new iron guide posts which carry the word "Danger" on top. When the car hit the post, the latter broke and the iron sign struck Mr. Wood on the jaw, breaking jaw, cheekbones and knocking out nearly all his teeth. Not only was this particular sign put up by the club to which Wood belongs, but it was placed there at his own suggestion.



## OKLAHOMANS IN A HARD CONTEST

Six of Twelve Starters Fall by the Wayside—Confetti Trail Confusion Results in a Protest.

Six days racking over 800 miles of Oklahoma prairie and through the quicksands of the Red river not only was sufficient to wipe out all chances of a perfect score for any of the 12 starters in the Oklahoma Automobile Association's reliability tour for the "Daily Oklahoman" trophy who left Oklahoma City on the 30th ult., but also bodily eliminated half of them before the conclusion of the contest on the 4th inst. And, if this was not enough hardship for the survivors, three of them—C. S. Carris, Franklin; J. C. Davidson, Velie, and Frank Grosbeck, Oakland—were disqualified by the technical committee after the finish for deviation from the official route on the last day's run.

Regardless of whatever action the other disbarred survivors may take, the Franklin people have signified their intention of filing a protest against the ruling with the American Automobile Association on the ground that the route book furnished the contestants and the road indicated by the confetti car did not agree, and that Carris chose the confetti trail as the correct one. The confusion over the right road occurred after leaving Ponca City on Saturday, and is thought to have been due to the intermingling of the confetti trail laid by the pathfinder on its entrance to the city on the previous day with that laid upon its departure Saturday. Another car, the Ford, driven by E. C. Ross, narrowly escaped disqualification for taking the wrong route, but upon learning of his error Ross returned and started anew.

Although no official statement yet has been rendered by the technical committee following their examination at the conclusion of the contest, unofficial reports credit the Parry, driven by L. M. Dull, with having emerged from the ordeal with the highest score, approximately 950 points. Second honors are awarded to Jack Twohig's Ford, with a tally of 920 points. The only remaining rival for honors, L. H. Randall's Velie, received a crushing setback when its crank case was broken by a wristpin coming adrift during the technical examination, incurring an assessment of 200 points. In its preliminary examination before the start the technical committee established a precedent by ruling out the Inter-State because of the center-punching of bolts to prevent them from working loose; the committee held that the punching rendered the car ineligible, at it thereby ceased to fulfill its standard specifications.

Under cloudless skies, the procession of 16 cars, 12 of which were contestants, filed

out of Oklahoma City on Monday morning, 30th ult., on the first day's run to Lawton, 145 miles by way of El Reno, Chickasha and Anadarko. Mechanical troubles commenced early and at the night control only two cars had clean scores—Carris, Franklin, and J. L. McClelland, Buick. Real animal horsepower was in great demand on the second day's run to Hobart, all of the cars being stalled in attempting to ford the quicksands of the Red river, 17 miles from Altus. Although the water was shallow, some of the cars sank to the hubs in quicksand in midstream and it took hours of tugging and hauling to bring them safely ashore.

Contestants removed their footwear and waded around in the treacherous sands seeking to discover firm footing, and so deeply was one car enmeshed that it required the efforts of two pairs of horses to release it. Several cars stalled their motors in the river sands, and this, together with the use of horses, raised some doubts as to what penalizations would be inflicted, but on telegraphic request of the referee, Secretary Butler of the A. A. A. Contest Board rendered a special ruling absolving all cars from penalization for delays or assistance received at the ford.

The first car to be eliminated was A. M. Allen's Maxwell, which butted into a hidden stump in the road between Altus and the Red river, and sustained a broken frame. Owing to the difficult hills on the route, Wednesday's run to Kingfisher was changed and under the revision the distance was 143 miles.

The hard running on Wednesday was responsible for the withdrawal of J. L. McClelland's Buick, which broke a spring near Geary. This locality also proved unlucky for the Cadillac pathfinder, which broke an axle and was temporarily stranded until a new one could be fitted. During the interval the Pioneer, a locally built car, assumed the duties of pilot. On the arrival of the cars at Kingfisher Wednesday night, Carris, Franklin, still had a perfect road score, being the only one with that distinction. Due to the change in schedule, the tourists doubled on their course on Thursday after leaving Kingfisher, and after passing through Enid returned there by another route and put up for their night of well earned rest.

This was the longest day's run of the tour, 191 miles, and also saw the retirement of another contestant, the Auburn, driven by B. E. Gridley. Near Enid the car struck a section line stone and broke a rear spring, and Gridley decided to quit rather than continue under a possible heavy penalization for time lost in repairing it. As a reward for the long run Thursday, the Friday jaunt was a short one, requiring but little more than five hours to complete. Carris still maintained his spotless record of no penalizations. The night stop Friday was at Ponca City. Although a com-

paratively easy run on Saturday, the final jaunt proved unfortunate for Carris. Davidson and Grosbeck through taking the wrong road, as previously told. Another unfortunate was Fullenweider's Brush, which encountered trouble near Orlando and had not arrived at Oklahoma late Saturday night. Up to the time of his disqualification, Carris still retained his perfect road score and was conceded to be the probable winner of the trophy. The survivors were the following: C. S. Carris, Franklin; J. C. Davidson, Velie; L. H. Randall, Velie; Frank Grosbeck, Oakland; E. C. Ross, Ford, and L. M. Dull, Parry.

### Virginians in Another Endurance Run.

The Times-Despatch, of Richmond, Va., is "going strong" on automobile endurance runs. Two weeks ago it conducted an affair of the sort from Richmond to Washington and return, and this week it is fathering another, of which Raleigh, N. C., is the destination, or rather turning point. It started on Tuesday and is due to finish in Richmond tonight. Those who started were as follows: T. E. Williams, Buick; S. Stagg, Regal; E. J. Allen, Rambler; L. M. Foster, Buick; E. C. Pelouze, Chalmers; J. T. Palmatory, Chalmers; J. J. Tignor, Overland. Dr. B. A. Hord, Overland; Dr. Samuel McAnally, Maxwell; J. R. Williams, Buick; B. D. Daniels, Hupmobile; Howard Wagner, Speedwell; Fufus Williams, Buick.

### Cobe Cup Now in Speedway's Possession.

In compliance with the request of President Cobe, donor of the trophy, the Buick Motor Co. has relinquished possession of the Cobe cup, which it won at Crown Point, Ind., last June, and it has been forwarded to the Indianapolis Motor Speedway Co., where it again will be battled for on July 4. It was rumored that the Buick company was loath to relinquish the trophy, inasmuch as it will this year be raced for on a speedway instead of on the road, but as it filed a \$3,000 bond guaranteeing its return, and which would be forfeited on its refusal so to do, it evidently counted the cost of such refusal and decided to yield to the request.

### Chance for New Yorkers to "Guess Again."

Westgard & Elliott's Touring Club of America has planned to try one of the now popular "sociability-guessability" runs on the New York public. July 2-4 have been selected for the purpose. The route of the run will be from New York to Waterbury, Conn., and return, about 200 miles. Sunday, the 3rd, will be spent on a side run to Hartford, which, however, will not count in the guessing match. There will be three prizes, of which the first, a silver cup, will be awarded for the guess nearest the sealed time which will be fixed by Vice-President James S. Sherman. The entry fee will be \$10.

## TEST OF NEW YORK'S TAXIMETERS

**New Bureau Begins its Work and Finds Few Errors—The Tariff of Charges Prescribed by Law.**

Taximeters, of the several kinds which are in use in New York City, are practically all right. Manufacturers of the four or five different types of instruments in general use knew it all the time and so did the taxicab people. But the public had had periods of doubt. Indeed even now the public may want a little more convincing as to the rectitude of the fare registers because on the face of it the results of an im-

from the Plaza up Fifth avenue and returned to the starting point, after making a circuit of Central Park. The measured distance was  $6\frac{1}{4}$  miles and the metered fare should have been \$2.70.

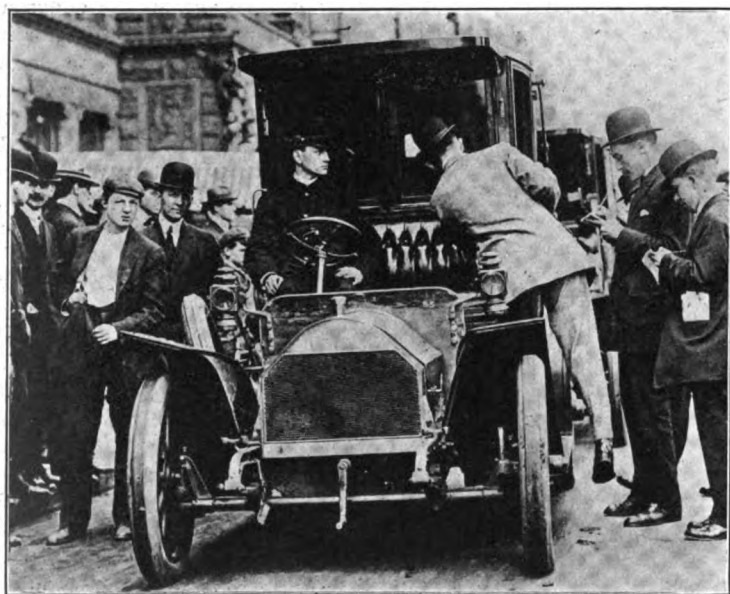
In all but four cases the charge recorded at the end of the test was correct. Two of the other instruments charged up \$2.80, one \$2.90 and one \$2.60. In defense of the latter it was said that it had cut the course. Of the 16 cabs which strayed away from the prescribed route and meandered off up Riverside Drive, all but four registered a fare of \$4.70, the four charging up only \$4.60 in each case.

The errors, it was explained, could be accounted for by the fact that the minimum distance charge registered was a quarter

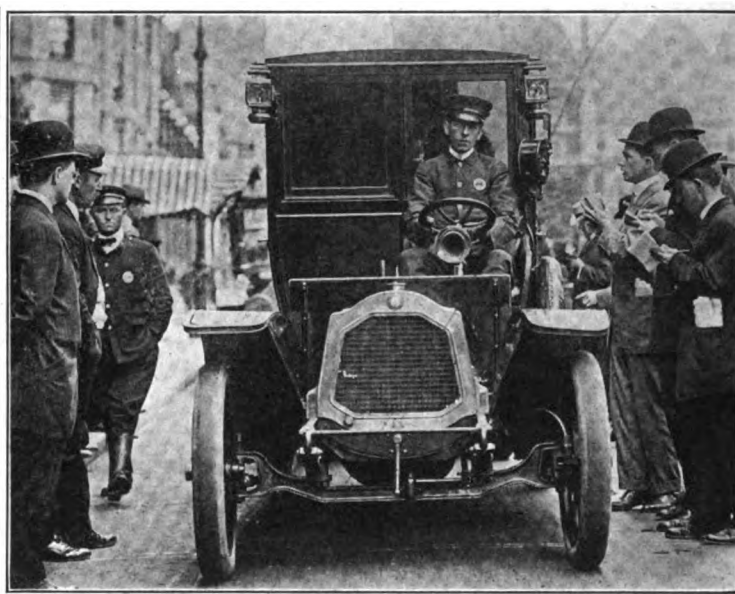
accordance with the municipal ordinance passed last year, which goes into effect 60 days after the appointment of the official inspector by the Mayor. That part of the ordinance which regulates the fares and which makes a distinction between machines designed to carry two and four passengers, follows:

"For each taxicab intended to seat two persons inside, for one-half mile or any part thereof, 30 cents. For each additional quarter mile or part thereof, 10 cents. For waiting time at the rate of \$1 per hour.

"For each taxicab intended to seat four persons inside, for one-half mile or any part thereof, 40 cents. For each additional quarter mile or part thereof, 10 cents. For waiting time at the rate of \$1.50 per hour.



IDENTIFYING INSTRUMENTS AT THE START



READING METERS AT END OF TRIALS

partial trial have shown about 25 per cent. of the instruments are in slight disagreement with the remainder. Under the circumstances, however, that ought to be considered a pretty good showing.

The trials in question, which were carried out under the supervision of Francis V. S. Oliver, Jr., chief of the bureau of licenses of New York early last week, were incidental to the formal establishment of the official system of rates and the inauguration of an august municipal inspection bureau consisting of a chief and six assistants. The bureau, having been appointed by Mayor Gaynor, with John Brennan as chief, will go to work immediately investigating the complaints of motor cab patrons who think the instruments are exaggerating.

For the purpose of the first test 31 taxicabs were rounded up and dispatched over a measured course. Through an error no less than 16 of them took another route and came home with double charges on their meters, but comparison of their readings left no room for doubt as to their approximate accuracy. The official course led

of a mile, so that while the majority of the meters registered a uniform amount, the actual distances traversed might vary within a quarter of a mile without showing any difference in the readings, while a difference of ten cents in the charge need not necessarily indicate a difference of a quarter of a mile in the distance covered. Eccentricities in driving reasonably could be expected to account for all of the high and low readings, taking into account the irregularities of city traffic and its possible delays.

The operating companies supplying the cabs for test and the forms of meter used on the 31 machines were as follows: The New York Taxicab Company, Popp meter, 8 cabs; New York Livery and Auto Company, Popp meter, 5; Mason Seaman Transportation Company, Popp meter, 3; Connecticut Cab Company, Jones meter, 3; New York Transportation Company, Kosmos meter, 5; Universal Taximeter Cab Company, Brunn meter, 2; Taxi-Service Company, Jones meter, 3; Renault Taxi-Service Company, Popp meter, 2.

Hereafter the standard rates will be in

"For each piece of baggage, 20 cents.

"No charge shall be made for hand bags, dress suit cases, or for children under six years of age."

### How a Car Started Without Assistance.

If the reports printed in some of the western papers are correct, a taxicab in Omaha, Neb., successfully performed the rather difficult feat of starting itself from a perfect stop with the engine "dead." The chauffeur had stopped the cab at the top of the hill at Capitol avenue and 20th street, and entered a house to answer a call. As the brakes were not set, or had slipped after being set, the cab started to roll down the hill. On the chauffeur's seat lay a heavy package, which was dislodged by a jolt and dropped upon the throttle pedal, holding it down and accelerating the engine. As the cab was fitted with magneto ignition and the gears were in mesh, the engine started running and the cab raced down Capitol avenue. A policeman, sighting the driverless car, managed to jump on the running board and bring it under control.

**FAN BRAKE TEST IN NEW FORM**

**How it is Employed in the Inter-State Factory—The Advantages Afforded by the new Method.**

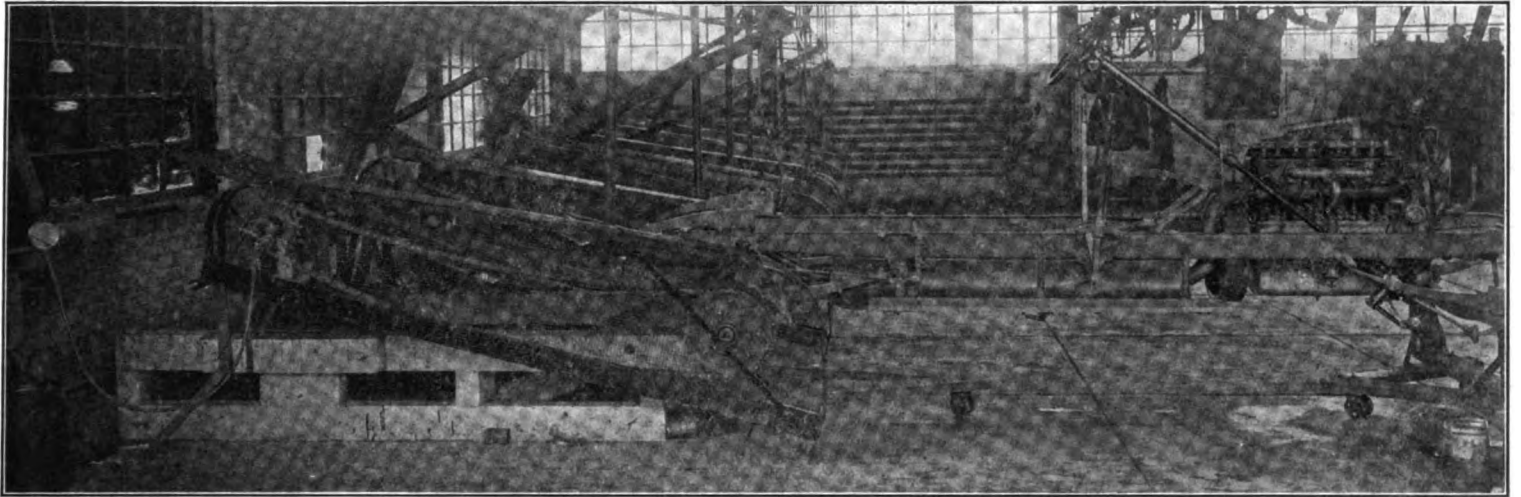
There is no longer any question of the value to the automobile manufacturer of the dynamometer method of chassis test as a forerunner of the final road tryout. A large number of the American makers

the other forms of brake in use. Furthermore, the method is distinguished by the way in which it affords the test crew means of inspecting and adjusting the power plant and transmission. In this respect it possesses much advantage over the systems in which the chassis power test is made after the car is completely assembled except for the body.

The chassis are tested before the completion of the assembling process, and before the wheels are put on. As the accom-

the test consists merely in the operations of pushing the chassis into line with the dynamometer shaft and connecting the piping.

The dynamometer mechanism proper consists merely of a single shaft mounted on inverted shaft hangers and carrying midway of its length two cross-arms, at right angles to each other, upon which the fan blades are mounted in staggered relation. The blades are 24 by 18 inches in dimensions, and the fan diameter is five feet.

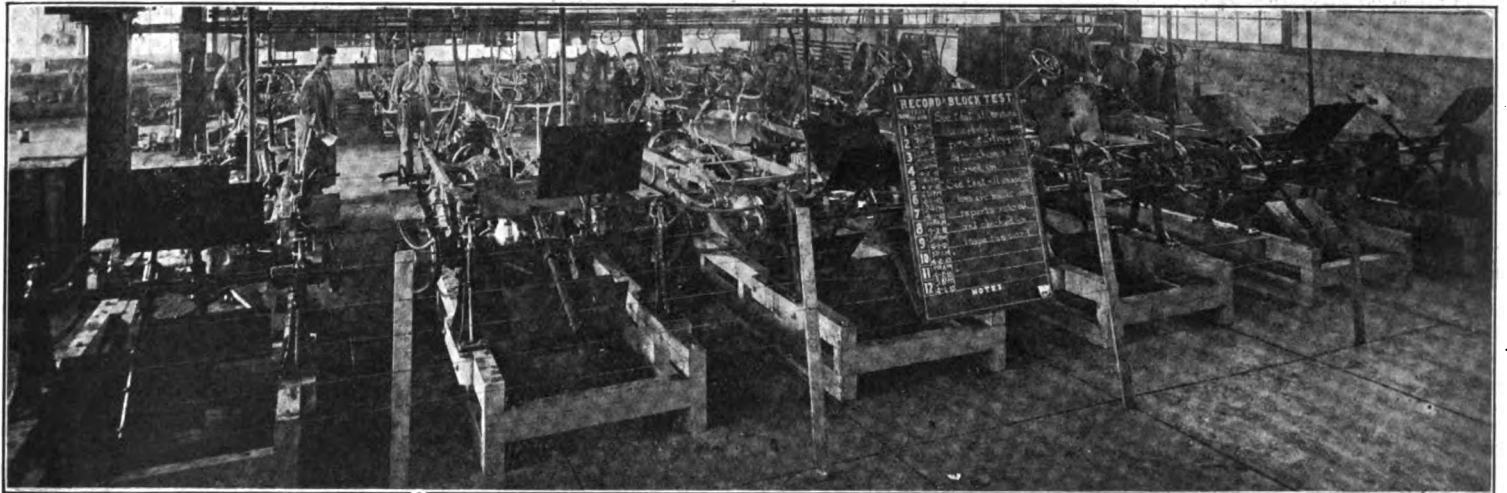


INTER-STATE CHASSIS TESTING OUTFIT EQUIPPED WITH AIR FAN BRAKES

now employ the system in one way or another, and no little ingenuity is displayed in the precise details of the process. A novel and ingenious system, differing in many respects from those in use in other factories, is that which has been worked

panying illustrations show, the bare chassis, carrying the springs and axles, steering gear, motor, transmission and propeller shaft, are mounted on transfer trucks and wheeled in front of the dynamometer stands. In place of the rear wheels, special

The sprockets on the dynamometer shaft are smaller than the driving members on the rear axle of the chassis, affording a speed increase amounting to one to two. Thus, when the fan shaft is being driven at 400 revolutions per minute, the rear axle



GENERAL VIEW OF INTER-STATE TEST ROOM SHOWING DYNAMOMETER FANS

out by the engineering department of the Inter-State Automobile Co., Muncie, Ind., and which has become a part of the routine production of all Inter-State cars.

The Inter-State method involves the use of the fan type of dynamometer by way of brake load, and therefore is both simple in construction and operation and remarkably inexpensive in comparison with some of

bosses are mounted, which carry driving sprockets, suggesting in appearance the driving members of a chain driven car. From the two sprockets, chains lead to the extremities of the dynamometer shaft. The two sprockets and chains are all the special mechanism required, with the exception of the water and exhaust leads to the motor. Mounting the chassis ready for

is turning over at 200 revolutions. A fan speed of 400 revolutions, by the way, indicates in this case an output at the rear wheels amounting to 40 horsepower and a little over. This is considered the test room equivalent of running the car up a 25 per cent. grade on high gear.

In the course of assemblage, naturally, the motor is given the usual block test.

The accompanying illustration shows the method of mounting, which is arranged to facilitate belting the fly wheel to an overhead line shaft for the preliminary running in. The regular schedule adopted calls for about two and a half hours. Afterward it is run under its own power, the output being absorbed by means of the electrical brake shown in the picture.

The engine brake consists of a form of dynamo so constructed that the field and outer frame is capable of rotation about the armature shaft. The lever arm which projects from one side of the machine affords means of weighing the turning moment of

fect carburation. During the second speed run, however, all adjustments are made in a permanent manner. Subsequently a short run is made on the high gear.

After the chassis test the final inspection is gone through with and then the car is sent out on the road for a relatively short tryout which determines finally whether the steering gear and springs are in perfect condition and also affords a final check on all running adjustments under true operating conditions.

By the more usual method of assembly and test, the change gear and axle units are "run in" separately on special racks,

its condition. Where the test is made under conditions which permit the exact operation of each and every part to be observed directly, there is much better opportunity for the detection of possible sources of trouble such as otherwise might pass unnoticed.

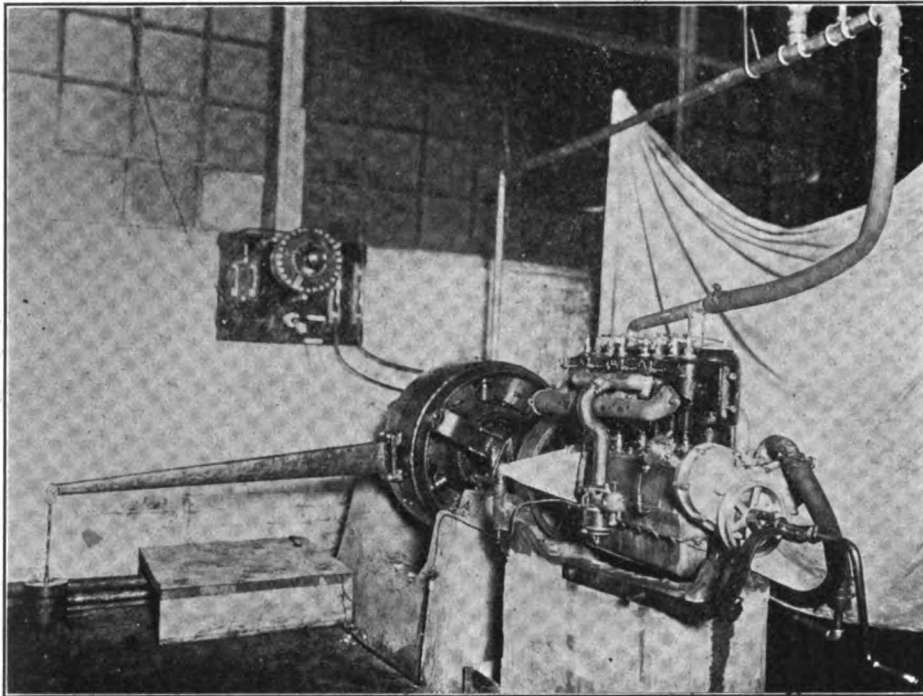
#### Machinery Catalog With New Features.

Parts catalogs which deal with complex machinery frequently prove confusing because of the multiplicity of similar elements which are depicted on their pages without adequate means of correlating them in the mind of the reader except by a laborious and trying mental process of assemblage. To save the customer the trouble of going out into the shop and walking around one of their machines with a parts list in one hand and a replacement order blank in the other, the National-Acme Manufacturing Co., of Cleveland, Ohio, has resorted to the novel expedient of presenting the front and back sides of its Acme automatic multiple spindle screw machine in connection with every plate of parts illustrations in its new tool and parts list.

Gummed inside the front and back covers of the book are clearly indexed cuts of both sides of the machine, the plates, which are printed on stiff cardboard, being so arranged that they will unfold and lie above the text pages when open. Each of the pages bears a large plate illustrating the parts, arranged in serially numbered groups, with references below to show their mutual relation. As the assembled views of the machine are indexed by pages and plates as well as by name, it is easy to locate any part without loss of time. The device is an instructive one and is well worth studying for its own sake, although especially intended to facilitate business between the manufacturer and his customers.

#### Two-Cycle Engine With Rotary Valves.

With the idea that the three-port type of two-cycle engine is not capable of smooth and efficient control, the Willet Engine and Carburetter Co., Buffalo, N. Y., has developed a special form of rotary disc distributing valve to take care of the crank case inlet. The valve is said to be particularly effective in fulfilling the purpose for which it was designed and to result in an unwonted degree of flexibility in an engine of the two-stroke type. Other features of the engine which are out of the ordinary are its balancing system, which has been developed by long continued experiment and the carburetters, which are made especially to suit the engines. Willet engines are made up in two, three and four cylinder units, equipped for single or double ignition, forced or natural water circulation, and in shape for automobile or marine use. The new catalog, just issued, explains the construction and general purpose of the unusual features very completely.



INTER-STATE TEST BLOCK AND DYNAMOMETER

the frame, thereby yielding a direct indication of the horsepower which is being produced. The motor is run on its own power for seven hours, after which it is taken down, inspected and readjusted. It is then installed in the chassis ready for the complete running trial.

After being connected to the dynamometer, the chassis mechanism is run for two hours on the first speed gear and at a medium rate of engine revolution. This gives ample time for the lubrication system to take up its work, and also affords opportunity for a complete inspection of all visible moving parts, in order to make sure that they are running smoothly and that there are no alignment difficulties.

The gears are then shifted to second speed and the engine run for a sufficient length of time to repeat the inspection and also to make adjustments to the valve gear, timing mechanism and carburetter, as well as the gear changing mechanism. During the first run the engine is operated under special conditions, with an excessive oil feed, and no attempt is made to secure per-

much in the same way that the "green" engine is worked down into shape in the earlier stages of the bench test. Thereafter they are assembled into the chassis, which is completed practically ready to receive the body, before it undergoes further testing. Regardless of the exact method of trial pursued from that point on, it is evident that whatever adjustments or replacements may be necessary as a result of errors in the work of assembly must be more or less affected by the presence of the complete mechanism of the vehicle.

With the method above described, there is the advantage that the engine and transmission mechanism are perfectly accessible. This facilitates the location of any knocks or pounds, and assists in the work of remedying their causes, also permitting any errors to be corrected before there is opportunity for them to work any damage. Naturally when a car is being tried out on the road there is little or no opportunity for examination of the parts while in operation, and the tester ordinarily trusts to the performance of the machine in gauging



## CONTROL FOR COMMERCIAL CARS

**Its Additional Automatic Requirements over that for Pleasure Vehicles—Mechanical Substitutes for Skill.**

Figured from one point of view, it should be possible for the commercial vehicle manufacturer to save each and every one of his customers something like \$13 a week merely by installing suitable automatic control on his product. With it, according to this line of reasoning, the owner could get the same sort of results by employing an ex-teamster at \$12 a week that he could obtain with a trained chauffeur for whose services he would have to give at least \$25. What is required is an operating system as simple to work as the combination of controller and hand brake on a trolley car. But because it is not easy to develop such a system, building on the experience gained in the manufacture of pleasure cars, commercial vehicle manufacturers have been a little slow in coming to the point.

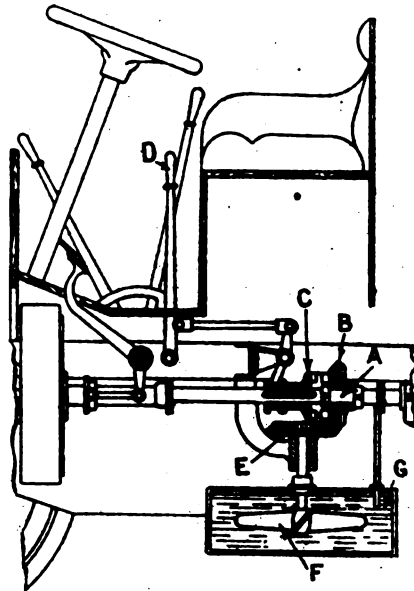
As in nearly every other respect, the commercial branch of the industry suffers from too intimate contact with the conditions which have given birth to the pleasure vehicle. The original impression that the difference between a passenger car and a freight car is a matter of weights and speeds alone still clings, despite the evolutionary efforts of the past two or three years. And the merchant who vainly expects the unmechanical driver of the \$1,500 delivery wagon to produce as many hours of uninterrupted service as his chauffeur produces with a \$3,000 touring car may not encounter very strong contradiction even when he carries his troubles to the man from whom he purchased the commercial car. Perhaps if the trade and industry had gained a better appreciation of the essential distinction between the operating conditions surrounding the two classes of machine, the commercial vehicle user would gain more sympathy than ordinarily falls to his lot at the present time.

The ideal control system would be one which equalled in simplicity the controlling arrangements of the electric vehicle. And it is not too much to say that almost any manufacturer well could afford to spend a considerable amount of money in producing a method of governing the gasoline car which would meet this requirement without at the same time introducing embarrassing first cost or unreliable mechanism.

The great difficulty lies in the choice of a suitable method and one free from complications. As is true in all mechanical matters, the accomplishment of any given operation involves a stated number of steps; reducing the number of manual impulses required to accomplish the operation

consequently involves a corresponding increase in the complexity of the machine movements. The designer's problem is to seek a successful compromise between the extremes of mechanical simplicity and functional complexity, on the one hand, and functional simplicity with involved mechanical arrangement on the other.

With the pleasure vehicle, the problem is relatively simple because the designer seeks the best results obtainable regardless of cost of production, and with the question of simplicity as a secondary consideration. The first thing to do is to produce a successful handling gear. Economy, simplicity and appearance are less important.



HYDRAULIC SPEED GOVERNOR

The commercial vehicle problem, however, raises to a position of first importance a number of these secondary considerations. In order to be successful, the commercial car must be as simple and inexpensive to operate as it is possible to make it. Without these advantages, its ability to haul stated loads and to withstand long periods of service is not sufficient to render it a worthy competitor against the horse. Appreciation of this principle is of immeasurable importance to the industry.

So the commercial vehicle designer is compelled to begin at the beginning and reconstruct his ideals almost without regard to the conclusions which may have been reached in the pleasure car field. The utility of the engine governor is an important point in question. Attention already has been called more than once to the need of a governor on business wagons; several manufacturers already are using them, and it is probable that others will install them in the course of a year or two.

The need for the governor is two-fold. In the first place, it protects the motor from strains which might result from racing under careless handling; in the second place, it relieves the operator of the bur-

den, however small, of attending to the motor in addition to looking after the other matters which are involved in vehicle management. The governor further is useful in limiting vehicle speeds to a safe maximum. Thus, as advocates of a general return to the old principle of keeping the motor under automatic regulation practically all the time are at some pains to point out, the careless operator, who might be inclined to speed his machine when returning light after delivering a load, is prevented from doing so. Thereby the vehicle is safeguarded against the unnecessary stresses resulting from high speeds.

The principle is carried further in providing a safeguard against excessive vehicle speeds under load on down grades, thus eliminating the possibility of the machine's running away.

Here enters the question of proper correlation between the driving and retarding mechanism. What may be termed standard vehicle control provides only one interconnection between the power plant and the brakes, as a rule, that is to say, in the interconnection between the clutch and the emergency brake lever, and rarely between the service brake pedal and the clutch. In foreign commercial vehicle practice, however, several other methods of speed control have been employed in which tendencies to excessive speed may be checked without the necessity of declutching.

Apart from the governing facilities offered by the electric transmission, the engine itself is employed in at least one case. In this the carburetter is provided with means for shutting off the fuel entirely and opening an air port, the effects in question being secured when the throttle lever is placed in the neutral position. Further movement of the throttle lever serves to displace the exhaust cam shaft, thereby causing the exhaust valves to open, for a short time only, at the end of each up stroke of the piston, remaining closed for the balance of the two strokes. At the same time, the inlet valve operation is altered in such a way as to permit the pistons to induct pure air on each down stroke, the result being that the engine temporarily is transformed into an air compressor. The general effect is to cool and scavenge the cylinders, at the same time producing a braking effect equivalent to about three-quarters of the maximum engine power. This braking effect, needless to say, is secured without changing gears, releasing the clutch, or otherwise manipulating any of the control mechanism except the throttle lever.

With the object of securing an equally smooth acting speed regulating system, another foreign designer recently has produced a water brake controller, in which, as is the case with the engine compression brake, the retarding effect is proportional roughly to the speed. The device in question, however, is designed chiefly to pre-



vent dangerously excessive speeds, rather than to act as a positive brake.

As the accompanying illustration shows, the device consists merely of a small paddle wheel mounted horizontally in a casing beneath the driving shaft and directly in front of the gear box. By means of the lever D, the operator may engage the bevel driving gears B-E, thus causing the paddle F to be driven from the main shaft A. The churning of the liquid in the tank G produces a resistance which, while of relatively small effect at very low car speeds, rises to great power as the speed increases.

Any mechanism of this class, it must be admitted, would seem to defeat the real purpose of the designer in securing the desired mechanical results at the smallest possible expenditure of materials. The possibilities residing in the engine itself as a braking medium, especially when coupled with the certainty of restarting which magneto ignition affords, would seem to be all that is required under the circumstances.

Still considering the pure ideal type of vehicle, it appears that there is no real difficulty in the way of applying an automatic governing mechanism to such a control system, thereby insuring the vehicle against excessive speeds under any and all circumstances. For simplicity's sake, the full compression cycle might be dispensed with on medium powered and light vehicles, and the retarding effect automatically secured through the compression of pure air handled in the sequence of the regular cycle. To accomplish this, it would be necessary only to provide a tight closing throttle in the induction pipe, and a supplementary air valve in the upper part of the pipe, or preferably in the manifold itself, which would be opened upon progressive movement of the engine control beyond the position of full throttle closing.

As for the control itself, by the use of the "set spark" form of magneto, it is possible to eliminate one lever and to reduce the engine controlling devices to the single throttle lever and the indispensable accelerator pedal, interconnected with it. The lever-pedal mechanism, of course, can be interconnected with the automatic governor in such a way as to permit the operator to control the action of the engine up to safe speeds, but to allow the governor to close the throttle and open the air port as soon as the safe limit is exceeded. Such an arrangement could be made perfectly satisfactory in its action and shielded from the tampering fingers of the operator by means of seals; its accomplishment would require but little experimentation, since it involves merely the application of certain familiar principles.

Another important point in connection with the mechanism of control is the arrangement of the handling gear. In a number of vehicles at present in use, it is apparent that the range of physical effort required of the operator is greater than it

might be. While primarily consideration for the driver's bodily comfort would seem to be of no very material importance, second thought makes it apparent that it is. As the simplicity of the controlling operations is increased and their range reduced, the amount of mental and physical effort involved in manipulating the vehicle is rendered suitable to be placed in the hands of the driver of limited attainments—which is to say, the cheap and unskilled man. The less there is about the machine to puzzle and worry the driver or to render him liable to make expensive mistakes, the simpler becomes the labor problem and the lower the labor cost.

To take a single, rather significant example, the French 'bus chassis which are extensively used by the Fifth Avenue Coach Co., in New York City, are so constructed that the two principal running speeds are obtained when the gear shifting lever is at the extremes of its rather long movement. The result is, that the operators constantly are forced to bend close down over the wheel in order to reach the slow speed, which is used for starting under heavy loads and for taking the steeper grades encountered, the genuflexion being repeated many times in the course of each trip. While this is seemingly a trivial matter, it is evident that were the gear so arranged as to make these important changes possible without bending or stretching the arm to its full length, the day's work would be less fatiguing and the driver would be able the better to attend to the essential matter of guiding the car.

On many motor cabs, inconvenient arrangements of the control mechanism are found which, seemingly unimportant in themselves, are magnified when it is considered that the driver must repeat certain movements endlessly in the regular routine of his work. Simplifying that routine likewise simplifies the exactions of the job and enables the employer to get better results at the same cost or the same results for less. In heavy commercials the mere range of movements is less important, but the question of simplicity of movement is no less important than it is with the more rapid moving passenger cars.

Recognizing that the simplification of the handling mechanism has a direct bearing on operating costs, it will appear that the mere reproduction of the arrangement which obtains under the more advantageous conditions of pleasure car practice is not doing full justice to the business wagon. It is necessary that conditions should be studied with regard to the skill and convenience of the operator quite as much as in respect to purely mechanical phases of its use. High mechanical and thermal efficiencies will reduce operating costs, but not as rapidly as will low labor charges. Every detail of the commercial car must be considered in the light of a business problem as well as an engineer-

ing problem. Only when treated on that basis can there be much chance that progress will be as rapid and certain as external conditions will warrant.

#### Why Strained Fuel for Steel Tanks.

Although considerable advantage may result from the use of steel gasoline tanks, of the type which several manufacturers have adopted on some of their models, there is one possible source of danger in their use which should be carefully guarded against. That is the risk of corrosion resulting from water in the fuel. Despite the fact that the interior may be thoroughly tinned there is some chance that if water is allowed to remain in the tank for any length of time, rusting may begin, in which case the life of the metal will be surprisingly short. As the water always settles to the bottom of the tank, the points to be guarded are those around the lower part which are so shaped that they form pockets in which such accumulations might remain. As a means of prevention it is well not only to make sure that no unstrained gasoline is permitted to go into the tank, but also to see that the receptacle is cleaned out periodically.

#### Attentions that Keep Cars Looking Fresh.

Proper maintenance of the appearance of the car depends not so much upon the frequency with which the body and gear are "done over," in the language of the paint shop, as upon the thoroughness of the daily attention which it receives. If care is taken to see that all dents and chipped spots in the paint are covered immediately with suitable patching paint mixed with varnish and turpentine; if the muffler and exposed parts of the exhaust line are kept well blacked with stove polish; and the floor mats, running boards and fenders kept in proper condition, the machine will retain its fresh look much longer than naturally would be expected. Because these are little attentions which are not included in the average garage service, the average chauffeur is pretty apt to overlook them too.

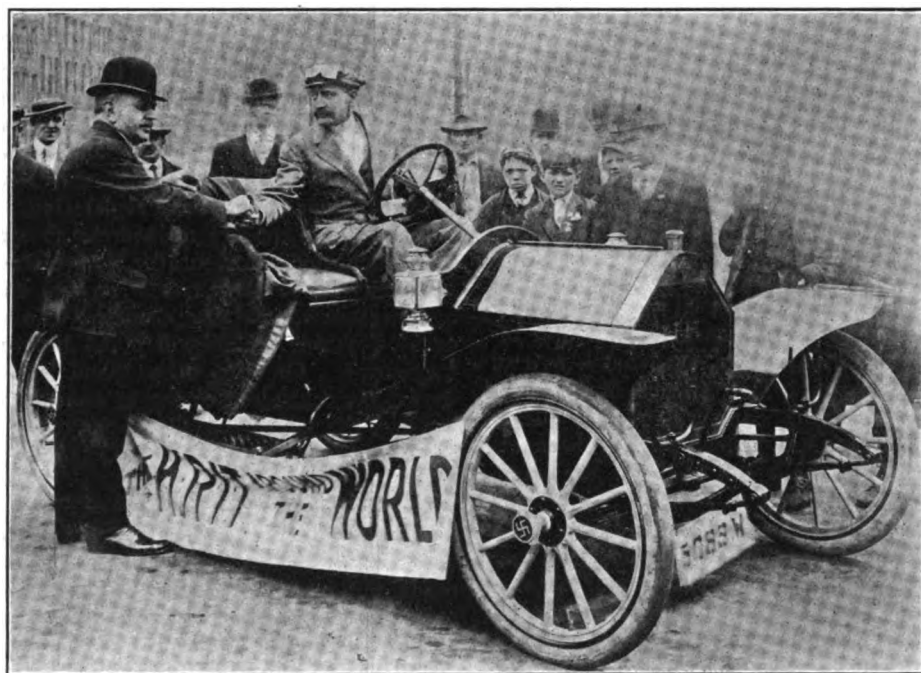
#### Selecting Horns by Telephone.

Assisting customers to choose automobile horns by telephone represents one of the most advanced phases of motor accessory merchandising. No small part of the retail business of most automobile accessory and supply houses comes in the form of telephone orders, since owners now have a great familiarity with the different brands of goods and are able to indicate their wants with precision over the wire. In choosing a horn, however, the customer generally desires to select a tone which pleases him. Enterprising accessory salesmen have discovered that it is a simple matter to bring the different horns to the telephone and sound them, so that the customer easily can make a selection that will be satisfactory when the horn is delivered.

**BARON TO TRY GLOBE-GIRDLING**

**Belgian Nobleman Starts to Tour World in American Car—May Cross Behring Straits on Ice.**

On Monday last, 6th inst., Baron Van der Noot de Vrokom de Moorsel, a member of the Belgian consulate at Detroit, started from that city on what is described as an around the world tour, which is far more ambitious in its nature than any venture of the sort yet undertaken. Other globe-girdling tours have been launched with great flourish of trumpets and much preparation in the way of locating supply sta-



DEPARTURE OF BARON VAN DER NOOT FROM DETROIT

tions, arranging for relays of spare parts and the getting together of special equipment, but the Baron apparently purposes taking "pot luck." As the picture shows, the Baron will travel in a Krit car, which is a regular stock model. His departure was marked by an informal farewell from Mayor Breitmeyer.

It is Baron Van der Noot's plan to proceed at once to Brussels, where he will represent the Krit Motor Car Co. at the forthcoming industrial exposition. Afterward, he will continue eastward through Germany, Russia and Siberia and will make an attempt to reach Alaska by crossing Behring Straits on the ice. In following the route already outlined, much of the distance will be covered on the course of the New York to Paris race of two years ago. The Siberian-Alaskan part will be new.

**"Automobilitis" Claims Youthful Victim.**

"Afflicted with automobilitis" was the excuse given by Douglas Gensinger, fifteen

years old, when arrested by the police of Chicago, Ill. The boy asserts that the mania for stealing automobiles has grown so strong upon him, that it is irresistible. During the last month, the police say, the boy confessed to having stolen and abandoned half a dozen machines.

Gensinger was arrested in company with Philip Kane, also fifteen years old, charged with stealing an automobile. The boys had just "taken" a car, and after a lengthy joy ride abandoned the machine. "I just can't resist the temptation to jump into every machine I see standing, and ride away with it," Gensinger is said to have told the police. "I never meant to steal them; I always left them after a short ride. Ever since I first rode in a machine I have been

afflicted with the mania. I did not mean any harm." Gensinger had been arrested on a similar charge three weeks before, but allowed to go home with a warning. Now both he and his companion were sent to the juvenile home.

**Motors Replace Horses on Famous Route.**

Motor cars carrying 20 passengers have taken the place of the old horse-drawn coaches that ran for years on the famous scenic routes from Bantry to Glengarriff, Kenmare and Killarney; also from Kenmare to Parknasilla, Waterville and Cahirciveen, as well as the longer route from Macroom to Glengarriff. Passengers can now leave Cork in the morning and get through to Killarney in one day, the route being by way of Bantry, Glengarriff, Kenmare, Parknasilla and over the mountains by a place called Windy Gap into Killarney. The new route gives 20 miles more of charming Irish scenery as compared with that taken by the old coaches.

**RAIN SPOILS ST. LOUIS SCORES**

**No Clean Sheets Left in 100 Miles Endurance Run—Seven of the Nineteen Fail to Survive.**

If it had not rained last Saturday, 4th inst., it is likely the third annual reliability run of the Automobile Club of St. Louis might have provided a few perfect scores and some pleasant hours on the road. But it did rain and consequently not a single one of the 19 contestants that started the 109 miles course in the morning brought home a clean card at night. To be sure, only seven cars fell by the wayside and actually withdrew from the contest, and some of them returned with the others after more or less protracted delays. The ranks of the round dozen survivors were further depleted later when the technical committee made its critical rounds. Fred H. Semple, who drove a Locomobile, won the James Hagerman, Jr., silver cup for touring cars.

Five controls were located on the circuit from St. Louis to St. Charles and return, at Fenton, Byrnesdale, Pond, the luncheon stop and the only point at which engine shut downs were permitted, Creve Coeur and Florissant. A driving rain delayed the start and furnished the hazards which put out five of the cars before the first half of the trip was over.

Two machines, William H. Boehmer's Buick and J. L. Adrien's Fal, were ditched at the same spot, a mile on the near side of the Byrnesville control. The second machine had to be rescued with a team of horses, so deep and adhesive was the mud. But that same plastic mixture served a useful purpose in the case of the Stearns car driven by Charles W. Wall, Jr., which also went into the ditch and incidentally took fire. Handfuls of the mud dashed into the flames soon extinguished the blaze and the machine went on, only to take fire a second time. It was then withdrawn.

A. B. Byrd, Jr., had the misfortune to break the driving shaft of his Marmon soon after leaving Eureka, and he dejectedly went home by train. The White steamer, entered by P. D. C. Ball, suffered through the poor adjustment of something that had gone wrong before the start and trailed along in tribulation for three hours and a half before the difficulty was located and remedied. It was reported withdrawn at the first control.

Miss Ida Britton, the only woman driver in the run, had nervous trouble after skidding into a wagon around which she was endeavoring to pilot her Pope-Toledo touring car, and after being delayed on account of the slight damage done to the wagon, withdrew. The Packard car, driven by Joseph Dixon, Jr., suffered from a heated

bearing as a result of a broken oil pipe.

One of the conditions of the event, which proved conclusively that the management had not played in close touch with the weather gods, provided that any contestant who was forced to drop out after leaving the first control should have returned to him one-half of his \$5 entry fee. This served as a partial consolation to several of the contestants.

The survivors of the run were the following: L. Boland, Jr., Cadillac; C. M. Barnard, Mitchell; Fred H. Semple, Locomobile; W. A. Meretio, Marmon; Ralph H. Smith, Matheson; S. E. Wolff, Hudson; A. A. Kelley, Cadillac; Dr. O. T. Upshaw, Kisselkar; Frank H. Pingree, Cadillac; Samuel J. Pingree, Chalmers; John, H. Flachmann, Cadillac; C. H. Albers, Locomobile.

#### When the Chauffeur Fell Asleep.

When a chauffeur in charge of a taxicab falls asleep while the latter is going at a good rate of speed, something is bound to happen. That's what a Chicago policeman said after he had been dumped into Lake Michigan. The cop was sitting as "protection" alongside a very tired chauffeur during the present strike in Chicago, when the taxicab was hailed by a passenger who desired to go to a yacht club on the lake shore. There is a rather steep incline towards the water near the club and the taxicab was making fast time. When within a hundred feet or so of the water, the policeman was wondering why the chauffeur did not slow up and turn parallel to the shore, when suddenly he noticed that the driver was sound asleep. Before he could jump or awaken the man, the taxicab ran full speed into the lake, spilling policeman, chauffeur and passenger into the water. Luckily nothing worse than a thorough soaking happened to the trio.

#### Neglected Roads Cause Suit for \$10,000.

Claiming that the miserable state of the roads of Shawney county, Kansas, was responsible for the death of her husband, Mrs. Ada E. Scott has filed suit in the United States Circuit Court against Soldier township, Shawney county, asking for \$10,000 damages. In her petition Mrs. Scott asserts that the accident to her husband and a party of friends, who were out driving in an automobile, was due to the neglect of the township to keep the roads in good condition.

#### 400,000,000 People Use London 'Buses.

According to the latest statistics obtainable, the automobile 'buses of London carried during the fiscal year 1909-1910 400,000,000 passengers, or 1,100,000 per day. The total number of motor 'buses in use there is 1,180, while there are still 1,771 horse-drawn 'buses rolling over the streets of the English capital. Seventeen thousand six hundred horses had to give way to the motor "stages."

## CAN'T ESCAPE SECOND OFFENSES

Higher Court Holds it Proper to Present Proof of Previous Convictions—Sustains New York's District Attorney.

The District Attorney's office of New York county scored a victory on Tuesday, June 7th, in its fight against the judges of the Court of Special Sessions in automobile speeding cases. In the Reppin case some few weeks ago, Justice Olmsted decided that the District Attorney could not prosecute as a second offender a driver who had not been specifically so charged in the Magistrate's court, a decision which threw into confusion the established procedure of that court. To meet this situation, C. S. Whitman, the District Attorney, devised the plan of rearresting the chauffeurs and recharging them before the magistrates whenever a consultation of the records showed a previous conviction.

This procedure brought a protest from the drivers themselves, and a test case was arranged for. Joseph B. Burns, a driver who was arraigned as a second offender after he had been once held as a first offender by a magistrate, sued out a writ of habeas corpus before Justice McCall, declaring that the commitment was illegal and void because he had already been arraigned and held for trial on the same charge of speeding.

"The proceeding was justifiable and legal," says Justice McCall in declaring that the writ of habeas corpus cannot be sustained. "While it is true that practically all the features of the first offence charged are present, constituting in large part the basis of the proceeding on the second arraignment, there is injected into the latter the question of the second offense, which if sustained, aggravates the charge and carries a much heavier penalty. This is sufficient to differentiate between the two and determine the validity of the second arraignment.

"One added reason which should carry force is that if the contrary be held the situation would be presented that the established fact was recorded that the relator was a second time offender and through the attitude assumed by the Court of Special Sessions in its ruling the District Attorney could not bring that fact to the court's attention, and if this writ were sustained he would be powerless to take any steps to establish the fact by an arraignment for a second offence; a condition which established technically would simply be intolerable."

The Court remarks that it makes no difference whether the second arraignment be before the same magistrate as the first or before another magistrate.

The hundred-odd cases of speeding that have been held up in Special Sessions pending the decision in the Burns case now will be pressed to immediate disposition.

The new law which goes into effect August 1 will put an end to such cases.

#### Striking Chauffeurs Discover New Trick.

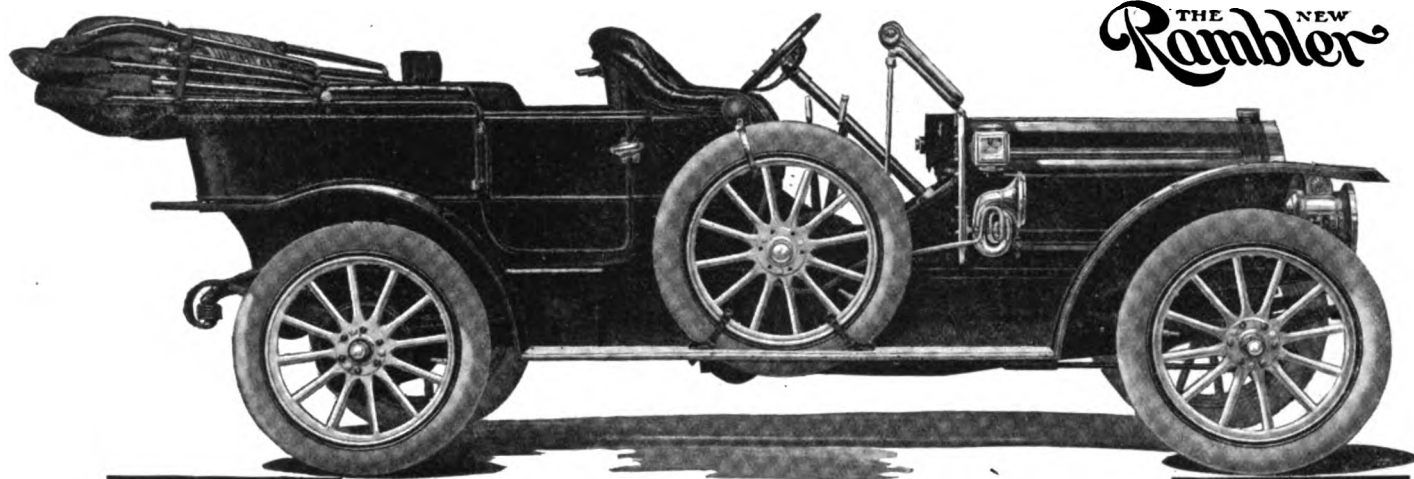
Some ingenious taxicab chauffeur who has been out of work ever since the long-drawn-out Chicago strike started, has discovered a trick which causes much financial embarrassment among the men who have taken the striking chauffeurs' places, without running the risk of interference by the police. It consists of flipping down the little flag on the taximeter whenever it can be done unobserved, with the result that the unlucky driver of the cab finds himself several dollars shy in his account at night. On the morning of Decoration Day several union sympathizers walked along a row of non-union cabs standing at the curb in front of one of the big hotels and turned down four of the flags. It was more than an hour before the chauffeurs discovered that their meters were registering. At present there appears no redress in sight for the cheated chauffeur, for it an offender is caught in the act, there is no real damage occasioned and the chauffeur can not press a charge which will stand before a magistrate. On the other hand, if the meter has registered owing to some interference, the culprit usually is far away by the time the trick is discovered.

#### Motorists Wield Picks and Shovels.

Although theoretically every automobile club expresses itself as in favor of good roads, not many have taken up good road work in such a practical and unique way as the Austin Automobile Club, of Austin, Minn. Every Thursday afternoon the entire club takes a run into that section of the county in which roads need repair and tackles the repair job on the spot. Each member is provided with a pick and shovel, and a generous lunch basket. A pilot car runs ahead with an abundance of stakes; at every rough place and depression in the roadway, at every culvert or bridge approach where the filling has settled, stakes are driven at the side. The fleet of automobiles following the pilot car stops at each stake, fills in the ruts, smooths the road, and then hurries on again. The sixty members of the club are keeping the roads in splendid condition.

#### Cost of Motor Service in London.

What it costs to maintain a high-class automobile in London may be calculated from the advertisement of a garage which offers a complete motor service for \$2,000 per year, if customers will take it for three years. Or they may pay \$2,500 the first year, \$2,000 the second, and \$1,500 the third year, with the option of discontinuing the service at the end of each year.



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Rambler Fifty-five, 45 H. P., \$2500  
with Magneto, Lamps, Presto-Lite Tank and Tools.



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indicator which registers  
any variation between  
gear centers.*

Service depends upon the quality of steels used in vital parts such as transmission gears and the accuracy attained in the making. Every Rambler gear is subjected to most exacting tests, the most delicate instruments being used to detect the slightest variation which might, by increasing friction, detract from the smooth running qualities of the car.

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## RECENT PATENTS.

956,324. Timer for Combustion Engines. Paul B. Fant, Newark, O. Filed Nov. 29, 1909. Serial No. 530,389.

1. A timing device of the character described, comprising a stationary crucible-shaped support, contacts increasing in width toward the upper ends thereof arranged within said first named support, a contact element pivotally mounted upon one arm of said approximately U-shaped support, the other arm of said U-shaped support serving as a guide for said contact element, and said contact element being adapted to be actuated by centrifugal force.

956,405. Internal Combustion Engine. Abner W. Nichols, Augusta, Me., assignor to Cushnoc Motor Company, Augusta, Me., a corporation of Maine. Filed Oct. 28, 1909. Serial No. 525,151.

1. In an internal combustion engine, the combination of a crank casing, a main shaft having a cranked portion mounted therein, a charging cylinder in said crank casing, a piston in said cylinder, a piston rod rigidly connected to said piston and guided by a part of said crank casing, an explosion cylinder located on top of said crank casing, a valve cylinder connected to said explosion cylinder and to said charging cylinder, a valve in said last named cylinder, a piston in said explosion cylinder, and connections between said pistons and said main shaft, including a connecting rod running from the piston in the explosion cylinder to the cranked portion of the main shaft, said connecting rod being provided with a triangular extension, and a connecting rod pivoted to said extension and to the piston in the charging cylinder, said last named connecting rod extending across and above the main shaft, whereby accurate timing is attained, substantially as described.

956,587. Roller Bearing with Angular Rolls. Charles S. Lockwood, Newark, N. J., assignor to Hyatt Roller Bearing Co., Harrison, N. J., a corporation of New Jersey. Filed Sept. 22, 1909. Serial No. 518,927.

1. In a roller bearing, the combination, with a hub having a conical seat and a collar at the smaller end of such seat, of a series of conical rolls fitted to the conical seat and having their ends fitted to the said collar, each roll having a neck at the larger end, a cage with pockets fitted to the sides of the several rolls, a casing having tapering seat to embrace the said rolls and an annular recess at the larger end of such seat, and a clamp-ring fitted to turn in such recess and fitted to the necks of the said rolls and operating to confine the rolls in contact with the collar.

956,588. Combined Roll and Ball Bearing. Charles S. Lockwood, Newark, N. J., assignor to Hyatt Roller Bearing Co., Harrison, N. J., a corporation of New Jersey. Filed Nov. 1, 1909. Serial No. 525,609.

1. An anti-friction bearing having a hub with doubly conical seats and a casing with tapering seats opposed to the seats on the hub, and two series of balls and rolls adapted and arranged to roll between the seats upon the hub and casing, the balls of the two series and the rolls of the two series being arranged in pairs with the members of each pair in contact.

956,592. Tire Inflator for Automobiles. Hiram P. Maxim, Hartford, Conn. Filed July 13, 1909. Serial No. 507,432.

1. The combination with an internal com-

bustion engine for an automobile having a plurality of cylinders, of means for conducting the burned gases from one of said cylinders to one or another of the tires to inflate the same, and means for cutting out ignition in all of the other cylinders of the engine during inflation.

956,611. Automobile Wheel. Will Tischbein, Hanover, Germany. Filed July 29, 1908. Serial No. 446,017.

1. A wheel provided with a main rim having an aperture, an auxiliary rim circumferentially spaced therefrom, means for detachably securing said auxiliary rim in position on the main rim, projections on one of said rims in the circumferential space between said rim located on either side of said aperture, a single projection on the other rim also in said circumferential space adapted to enter the space between said two projections to prevent creeping of the auxiliary rim, said single projection being provided with an aperture arranged to align with the aperture in the main rim for the accommodation of the valve stem.

956,676. Separator for Anti-Friction Bearings. Fred E. Bright, Philadelphia, P. Filed June 9, 1908. Serial No. 437,546.

1. A separator for anti-friction bearings comprising a spherically formed separating element and a lateral retaining element connected thereto, the said retaining element being distinct and independent from the retaining element of any other separator.

956,735. Vehicle Wheel Tire. Antony T. Scaramozzi, Paterson, N. J. Filed Sept. 18, 1909. Serial No. 518,368.

The combination of the rim of a vehicle wheel, a tire proper having its lateral edges interlocked with the rim and spaced continuously from each other, an inner tube arranged in the tire proper, and a puncture-resisting medium interposed between the tire proper and the inner tube and comprising an endless series of puncture resisting devices articulatively connected with each other and arranged in the tread portion of the tire between the tire proper and the inner tube and stiff flexible strips receiving between them said devices and each having its lateral edges abutting against each other opposite the space between the lateral edges of the tire proper, both edges of the outer strip engaging the rim between said lateral edges of the tire proper, substantially as described.

956,882. Floatless Carburetter. Martin C. Bright, Indianapolis, Ind., assignor of one-half to Charles W. Meikel, Indianapolis, Ind. Filed July 23, 1908. Ser. No. 444,955.

1. A carburetter of the above specified class comprising a body portion provided with a primary and secondary air intake and a gas outlet port, an auxiliary oil reservoir arranged adjacent to said body, a valve to admit oil to said reservoir, an oil spraying valve communicating with said oil reservoir, an oil spraying valve communicating with said oil reservoir, means adapted to maintain a uniform oil level within said oil reservoir, a throttle valve within both the primary and secondary air intakes, means for applying tension on the valve in the secondary air intake, a throttle valve within the gas outlet port, and a single means for imparting synchronous movement to actuate the aforesaid oil admission valve, the valve in the primary air intake, the valve in the said gas outlet port, and to relax the tension on the valve in the secondary air intake.

956,884. Inner Tube for Pneumatic Tires.

John H. Brown, West Hoboken, N. J., assignor to Brown Perfection Tube Co. Filed Nov. 24, 1909. Serial No. 529,738.

1. In combination, a restraining casing, an inflatable tube within the casing and a substantially non-yielding strip of material permanently secured to the inflatable tube along peripheral lines spaced apart, the portion of the inflatable tube between said peripheral lines being normally in a non-compressed condition and having a greater normal width than the width of the non-yielding material between said lines and adapted to be forced into the circumferential plane of the tube when the tube is inflated.

956,906. Muffler. Edward D. Sizer, Sizer-ville, Pa. Filed Jan. 24, 1910. Serial No. 539,737.

1. A device of the class described comprising a spiral casing and said casing having a spiral slot co-extensive with the length of said casing.

956,952. Automatic Stopping Device for Motor Vehicles. Victor Emden and Frank H. Dearborn, New York, N. Y. Filed Feb. 16, 1910. Serial No. 544,180.

1. In an apparatus of the class described, the combination with a motor vehicle, of a guide carried thereby, a contact device having a rod fitting said guide and provided with a circuit controller arranged to normally occupy a closed position, and a locking device arranged to co-operate with said rod when the circuit-controller is in open position and maintain said parts in condition to prevent the operation of the motor until said parts are restored to normal position by manipulation of the lock by the operator.

956,954. Spare Tire Holder for Automobiles. John E. Fahlstrom, Bridgeport, Conn., assignor of one-half to Clifford B. Hickox, Bridgeport, Conn. Filed Oct. 15, 1909. Serial No. 522,736.

1. A spare tire holder comprising a back bar having its outer end terminating in a hook, a collar slidable on said bar, a latch bar having one end pivoted to said collar and having its opposite end formed with a hook, a locking lever having a handle at one end and a hook at the other, the back face of said hook being extended to form a cam face which conformably engages in said hook of the back bar, and a link connected with the hook on the latch bar and the hook on the locking lever.

956,967. Internal Combustion Engine. James H. Hopkins, Manchester, England. Filed Aug. 31, 1909. Serial No. 515,535.

1. In an internal combustion engine, a pair of cylinders of integral twin formation and differential bores, a charge admission port in the wall of each large and an exhaust port in the wall of each small bore cylinder, means for linking the said two charge admission ports and exhaust ports respectively together, a joint charge admission pipe and a joint exhaust pipe connecteppd with the respective linking means, a charge outlet port in the wall of each large and a charge inlet port in the wall of each small bore cylinder superposed above the said charge admission ports and means for crosswise connecting the said charge outlet and inlet ports and thereby transferring the charge from the large to the small bore cylinders, all combined substantially as and for the purpose set forth.

957,010. Means for Automatically Con-



trolling Lamps on Vehicles. Roy C. Stanley, Cloyde, Ohio. Filed Aug. 14, 1909. Serial No. 512,834.

In devices of the kind described, a vehicle frame having forwardly projecting portions at its front and concave sockets immediately upon the top thereof, in combination with lamp supporting yokes provided with substantially semi-spherical balls seated in said sockets and one of said yokes having an arm extending beneath and within the sides of said frame, operating connections with the said arm, and a link connection between said yokes.

957,109. Internal Combustion Engine Timer. Joseph A. Schneider, Lakeport, Cal., assignor of two-thirds to Andrew A.

Brown, San Francisco, Cal. Filed June 29, 1909. Serial No. 505,078.

1. In an electrical timer, an exterior annular casing, a shaft revoluble about the common center, a pin fixed eccentrically to the end of said shaft, a hub revoluble upon the pin, widely separated contact points projecting inwardly from the interior of the case, and widely separated points projecting outwardly from the circumference of the revoluble hub and coacting with the first-named points to impart an intermittent rotation to the hub.

957,253. Automobile Heating Appliance. Charles A. Prescott, Brooklyn, N. Y. Filed June 17, 1909. Serial No. 502,788.

1. In an automobile provided with the

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**Do you know what trouble is? Get a Kline-Kar**  
**and know what trouble is not.**

Kline-Kars represent the ultimate in motor car satisfaction, not only in efficiency, but in smoothness of operation, cleanliness of condition, and attractiveness of appearance and design.

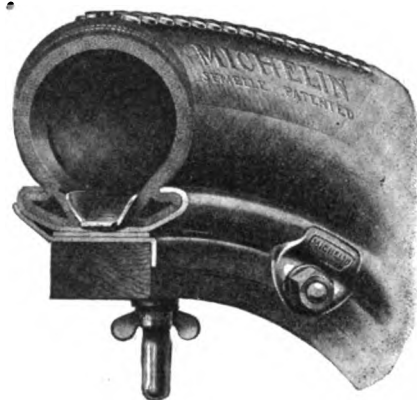
**Kline-Kars have no superiors at any price.**

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Our 1911 line will be unusually complete and our agency proposition decidedly interesting. Write us.



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*The Original Type*

**Simplest  
in Construction  
Lightest in Weight  
Easiest to Operate  
Absolutely Secure  
No Lugs  
nor Security Bolts**

**MICHELIN TIRE CO.  
Milltown, New Jersey**

usual body and internal combustion engine, the combination of an exhaust conduit for such engine, an air pipe surrounding said conduit, means for placing said pipe in communication with the automatic body, a tube extending through said exhaust conduit with its respective ends in free communication with said pipe, and means for forcing air through said pipe and tube, substantially as described.

957,263. Transmission System. John Schlig, Chicago, Ill. Filed Jan. 10, 1908. Serial No. 410,157.

1. In a transmission system, the combination of an axle to be driven, a main gear on said axle having gearing surfaces, a main shaft, driving pinions on said main shaft meshing with gearing surfaces on the main gear, means for independently connecting any one of said driving pinions with the driving shaft, an additional driving pinion always meshing with another gearing surface on the main gear; a counter shaft supporting said additional pinion, gearing mechanism on said driving shaft, gearing mechanism on said counter shaft, and clutch mechanism associated with said gearing mechanisms for connecting said main shaft with the counter shaft to cause either forward or reverse rotation of the counter shaft and of the additional pinion to thereby cause either forward or reverse rotation of the main gear.

957,285. Valve for Gas Engines. Robert White, Beaver Falls, Pa., assignor of one-half to E. S. Burns, Beaver Falls, Pa. Filed May 19, 1909. Serial No. 496,976.

1. The combination, with a cylinder and a valve casing having a main port between them, the said valve casing having also an inlet port and an outlet port on the opposite side of it from the said main port and at different levels from the main port and from each other; of a hollow rotary valve journaled in the said valve casing and provided at opposite sides with ports which place the main port in communication with the said inlet and outlet ports alternately as the valve is revolved.

# REISSUES.

13,108. Rotary Valve. Lee A. Frayer and Charles O. Howard, Columbus, Ohio, assignors, by mesne assignments, to The Kouns Manufacturing Company, Detroit, Mich., a Corporation of Michigan. Filed April 22, 1909. Serial No. 491,657. Original No. 908,656, dated Jan. 5, 1909, Serial No. 392,548.

1. In an explosive engine a rotary valve journaled adjacent its ends in bearings whereby it is maintained out of contact with the valve chamber walls, said valve having a passageway therethrough adapted at one point in each half revolution to admit a charge to the explosion chamber, and at another point in each half revolution to permit the discharge of the burned gases therethrough, and means for driving said valve.

13,111. Carburetter. William H. C. Higgins, Jr., Laporte, Ind., assignor, by direct

and mesne assignments, to M. Rumely Company, Laporte, Ind., a Corporation of Indiana. Filed Jan. 10, 1910. Serial No. 537,367. Original No. 856,638, dated June 11, 1907, Serial No. 326,021.

1. A carburetter comprising a mixing chamber provided with a fuel inlet, two air admission ports, and a delivery port, means actuated externally of the carburetter for varying simultaneously the effective area of all of said ports, and independent means also actuated externally of the carburetter for varying the effective area of one of the air admission ports.

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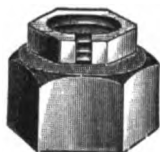
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SOLE IMPORTERS

TIMES BUILDING NEW YORK



Volume XXIII.

New York, U. S. A., Thursday, June 16, 1910.

No. 11

## STODDARD-DAYTON IS MERGED

Officially Taken Over by the United States Motor Co.—Courier and an Engine Plant Also Acquired.

Not only did the United States Motor Co., at the special meeting of the stockholders yesterday (Wednesday), announce officially the acquirement of the Dayton Motor Car Co. and the Courier Car Co., of Dayton, O., but it transpired that the merger corporation also has acquired the Providence Engineering Works, of Providence, R. I., an engine building concern with an annual capacity of between \$2,000,000 and \$3,000,000 in motors, steam engines, turbines and automobile parts. The meeting effected the scheduled raise of United States Motor capitalization from \$16,000,000 to \$30,000,000, divided equally between the common and preferred.

That the merger company will now cease for some time the taking in of new units was brought out in the report of Benjamin Briscoe, the president, to the stockholders. He declares that the company has reached the proportions deemed best for it at present, and is well rounded out in its ability to supply all of its own manufacturing needs. Net earnings for the first six months are several times enough to pay preferred stock dividends for the whole year, with a substantial overflow available for common stock dividends, which appear to be justified on a regular basis in the very near future. The expected business for the year is approximately \$51,000,000, largely of the 48,700 cars which are to be represented in the year's total. The raise in capitalization will provide a large fund of ready cash for operation and for plant improvement and extension, in addition to taking care of the purchase of the Dayton and Providence properties.

Previous to the stockholders' meeting, it was announced that F. D. Dorman, former secretary of the Maxwell-Briscoe Motor

Co., and more recently secretary of the United States Motor Co., has been elected vice-president and general manager of the Maxwell-Briscoe company, with headquarters at Tarrytown, N. Y. Plans also have been announced for doubling the capacity of the Alden Sampson Mfg. Co.'s plant at Pittsfield, Mass., by the addition of a number of new buildings and the installation of \$125,000 worth of new machine tools.

### Thomas Report is "Unauthorized."

All the way from California comes a report to the effect that E. R. Thomas, the veteran motor car manufacturer, is withdrawing from the E. R. Thomas Motor Co., of Buffalo, N. Y., to join more fully in the affairs of the Chalmers Motor Co., of Detroit, Mich., in which he has had an interest from the time the concern started as the Thomas-Detroit Co. Telegraphic inquiry by the Motor World brought from Mr. Thomas the following reply: "The statements are totally unauthorized." Again the Motor World wired, to ask if "totally unauthorized" meant that the reports were untrue, but no further response was vouchsafed.

### Owen to Become a Chalmers Manager.

Percy Owen, vice-president and general manager of Carl H. Page & Co., the New York distributors of Chalmers cars, is to resign these connections on July 1 to become Eastern sales manager for the Chalmers Motor Co., of Detroit, Mich. He will make his headquarters in New York.

### Fire Destroys a Wheel Plant.

The plant of the Ames Bending Co., of Celina, O., making wheels and wood rim parts for automobiles and wagons, was destroyed by fire on the 7th inst. The loss was \$50,000.

### Midland Enters Licensed Fold.

The Midland car now is a licensed product. Its makers, the Moline Motor Co., Moline, Ill., have been granted a Selden franchise by the A. L. A. M.

## WHY THEY "KNOCK" THE INDUSTRY

Investigation of the Animus Actuating its Critics—Suspensions of a Plot—Shrewd Words from Bankers.

Suspicion has arisen that certain financial interest, having quantities of "undigested securities" to dispose of to the large class of moderately wealthy investors and being peevish because the latter are putting an immense aggregate of money into motor cars instead of into the bonds and stocks that are offered, have instituted a concerted "knocking" attack on the automobile business with a view to discouraging automobile buying on the part of the public. In consequence of this suspicion, the grounds for which are numerous, the Motor World has done a little probing of its own among the Wall street haunts where definite knowledge of any such a campaign might be found.

Among the indications pointing to efforts toward checking the impetus of the popular movement for automobile purchase there have been the speeches of the venerable railroad magnate, "Jim" Hill, and the recent outpourings of the ready phials of wrath of the famous Syracuse scold, Chancellor Day. In addition to this, Joseph T. Talbert, vice-president of the National City Bank, of New York City, in a speech before the Texas Bankers' Association, at El Paso, Tex., on May 10, made reference to the magnitude of the automobile business as an evidence of what he described as the "national vice of extravagance," and this incidental reference obtained a wide publicity in newspapers throughout the country.

Far greater in persistence and volume than the speech-making, however, has been a recent flood of formal articles, interviews, editorials and stray paragraphs, dealing with unpleasant aspects of the motor car industry and accusing it of more or less blighting effects on other lines of

business. Bank officials have been quoted at length on the menace of "automobile paper," in the sense of notes or mortgages incidental to people raising ready cash to buy cars, while the trade papers for the different lines of industry have seriously inveighed against the automobile as accounting for whatever slackness or falling off in business their constituencies may be experiencing.

Supplementing this, the traveling men for bond houses and other concerns that find their patronage among those who at times have respectable sums of money at personal disposal, are extremely energetic in urging against the "folly" of buying a car, and where they cannot dissuade, they gravely counsel for postponement until some time in the far distant future. In fact, the attack on the industry has been so widespread and through so many means and channels, as to suggest a combined movement having a possible powerful origin in the financial centers.

"It is not impossible that the automobile industry is being made the subject of deliberate attack by some of the so-called financial interests," declared the first New York bank official whom the Motor World man consulted. "Everybody in the financial district is aware that a large list of securities are being supported in price, not by bonafide investment purchasers, but by banks and others who are responsible for them, and that it must be somewhat galling to see money flowing so readily into the coffers of the automobile manufacturers while it is so scarce, comparatively speaking, in the investment field.

"The interests that are sufficiently powerful to make savings banks reduce their interest rate in order to coax depositors to take their money out and invest it in bonds and other securities, where the return is greater," he continued, "might reasonably be supposed to be capable of wielding considerable influence elsewhere, and of being highly resourceful in their methods. Personally, however, I have no reason to believe that there is any definite campaign on foot, or that there exists any compact of any kind among those whom the automobile business is supposed to be affecting adversely."

Horace M. Kilborn, vice-president of the National City Bank, who is the moving spirit in a concern which is to build the Orson car in Springfield, Mass., is not impressed with the idea that there exists any "conspiracy or general financial antagonism against the automobile industry. His close associations with Mr. Talbert, whose El Paso speech has so aroused the automobile manufacturers, qualify him to disclaim for Talbert any enmity or ill feeling against the motor car makers, and to explain that Talbert's remarks concerning the heavy purchases of automobiles were only intended to indicate one of many items in which Americans evince extravagant tendencies,

in the same way that attention was called to the \$200,000,000 that Americans spend each year in traveling abroad.

"If I thought that the financial interests of the country were against the automobile industry," said Kilborn, "do you suppose for one minute that I myself would go into the building of cars? As a matter of fact, I find that the men with money are more than anxious to go into the automobile industry, and even our modest enterprise has brought offers of far more capital than we want to use for it, from men who are eager to place money in the manufacturing end of the motor car business.

"All the speeches that can be made about the economic wrong that is wrought by people who buy cars when they cannot fully afford to do so, will not change any man's determination to get an automobile if he really wants one. He will regard it as a matter entirely personal with himself, and will not bother about the violations of the broad principles of economics that may be involved. There may be people who feel that they or their interests are being injured by the diverting of so much money into this new and striking industry, and who give expression to their complaints. Others may be struck with certain alarming economic phases of the situation. But I know of absolutely no large endeavor or plot to embarrass or impede the automobile industry.

"When I moved to the country last week for the summer," he continued, "I was given occasion to think that perhaps some of this economic reasoning about motor cars is a little wide of the mark. Seven automobiles followed us from the railroad station to our home, and it developed that they belonged to grocers, butchers and other tradesmen, not to mention some farmers, all of whom were seeking our patronage and all of whom made great capital out of the fact that they could give us immediate delivery by automobile, of such things as we might order by telephone. They all use touring cars, putting the stuff in the tonneau, and the utilitarian value of the machines apparently more than justifies the supposed extravagance in the use of them as pleasure vehicles."

#### Five Men in Legal Fight for Drawings.

In consequence of difficulties arising over the promotion of an automobile manufacturing concern in Toronto, Ont., the police of that city on the 8th inst., arrested Julius Holtenberg, Charles Preston, Arthur J. Greenaway and John Atkinson, all of Detroit, on the joint charge of conspiring to defraud William Midgeley Campbell of Toronto of a number of automobile drawings. The complainant had put \$1,000 in the enterprise and had secured a provincial charter for it as "The Motors, Limited." He claims that while Atkinson engaged him in a conference elsewhere, the other three men called at his office and secured possession of the company's drawings, which were his property. The four men were held in \$500 bail each, the case being remanded until the 16th inst. They claim that Campbell failed to fulfill an agreement to supply \$9,000 more capital in a stipulated time, and that because Holtenberg was the owner and originator of the drawings, the latter were taken to prevent Campbell making duplicates.

**Boston Dealers Select their Show Dates.**

#### Dates have been selected for the Boston automobile show next March, by the Boston Automobile Dealers' Association, which held its annual meeting on the 11th inst. The show is to be in the Mechanics building, as heretofore, and will take place March 4 to 12, 1911. The deliberations of the dealers also resulted in the adoption of a uniform and general rate of 75 cents per hour for repair work on motor cars. At the meeting the old board of officers was re-elected in its entirety, as follows: J. H. MacAlman, president; J. H. Hathaway, vice-president; F. A. Hinchcliffe, treasurer, and Chester I. Campbell, secretary.

**Demotcar's Creditors Favorably Inclined.**

#### Creditors of the Demotcar Co., of Detroit, Mich., who recently appointed a committee of three to investigate the company's affairs and determine the judiciousness of granting time extensions that were asked for, held a second meeting on the 7th inst., to receive the committee's report. As a result of the meeting the creditors have indicated a disposition to grant extensions. A stockholders' meeting was called on the 8th inst., at which \$25,000 is said to have been subscribed to provide further working capital for the concern.

**Paterson Establishes a Canadian Plant.**

#### Lured by the prospects of Canadian business, another Michigan automobile company has arranged to open a factory in Windsor, Ont., which is across the river from Detroit. The Paterson Automobile Co., of Flint, Mich., has secured the Ferriss livery stable buildings, at Pitt and Ferry streets, which will be remodeled as an assembly plant and sales headquarters. T. G. Ferriss will become sales manager of the company for Canada.

**Hupp Reaches Out for Export Trade.**

#### The Hupp Motor Car Co., of Detroit, Mich., is furthering its export campaign by sending abroad Calvin H. Dunlap, assistant sales manager, who sailed from New York on the 11th inst., and who will remain in Europe six months or more. He took with him a Hupmobile which is to be staged at several industrial and trade expositions in European countries during the summer. The trip also will result in the establishment of a number of Hupmobile agencies.

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## PURSuing THE PRICE CUTTERS

**Klaxon Makers Get Injunctions Against a Big List—Nine Offenders in Toils, Some for Offering "Premiums."**

Offering the most convincing kind of proof that patents, when their full rights are exercised, are an adequate weapon against price cutters, a list of no less than eight recent permanent injunctions against concerns who have indicated a disposition to cut prices on Klaxon horns has been obtained by the Lovell-McConnell Mfg. Co., of Newark, N. J., which for some time figuratively has been "setting pace" for the accessory trade in regard to price maintenance. These injunctions not only forbid the cutting of prices on Klaxon horns, but forbid the defendants from handling the goods at all, even at full list prices.

Because of the success which has been met with in other lines of manufacturing in the maintenance of prices through the power that is given every patentee to control the vending of the subject of his patent, various makers of automobile accessories have tried, from time to time, to embody the "license" plan in their selling scheme, in order to compel a holding to the prices set. Most of these attempts, however, have been rather half-hearted and have been so loose and incomplete in their application as to have little or no effect.

That the fault has been not with the principle but with the manner of its application is clearly indicated by the continuing series of victories which the Klaxon makers have to their credit, the most recent of which was won last week, and which are having the actual practical effect of keeping their goods free from the depressions of cut-price influence. Since April 6 last the company, through its attorney, George Cooper Dean, 149 Broadway, New York City, has obtained decisions in no less than nine cases, as follows:

Suit vs. Kaufman Bros. of Pittsburg, Pa., terminated April 21, 1910, by a final decree in favor of the complainant, the Lovell-McConnell company, and a permanent injunction against handling the goods was issued on April 23.

Suit. vs. Max Zeisler of New York City, doing business under name of the Imperial Automobile Supply Co., was filed April 23, a final decree signed April 27, and final injunction issued the same day.

Suit vs. American Auto Supply Co. of New York City was filed April 30, preliminary injunction issued May 9, a final decree signed May 23, and a permanent injunction issued May 23.

Suit vs. David E. Hydecker of New York City, doing business under the name of the Empire Auto Supply Co., was filed April

30, preliminary injunction issued May 9, final decree signed May 31, and a permanent injunction issued June 1.

Suit vs. Moto Bloc Import Co. of New York City was filed May 7, preliminary injunction issued May 13, final decree signed May 26, and a permanent injunction issued May 27.

Suit vs. Thomas H. Ramsdell and Edward R. Wood of New York City, doing business under the name of the National Trading Co. jointly with the National Association of Automobile Owners, was filed May 7, a final decree signed May 26 and a permanent injunction issued May 27. In this case the infringement consisted in selling to a member of the owners' association a \$35 Klaxon for \$24. This sum, even with the membership of \$6 added, was only \$30 total cost to the member buying the horn.

Suit vs. National Auto Supply Co. of New York City was filed May 20, final decree signed May 26, and a permanent injunction issued May 27. In this case the Klaxon was sold for the full sum of \$35, but a premium was given in the form of a Thermos bottle, valued at \$4.75, according to the catalog, and also a racing automobile cap valued at \$1.25, giving a total of \$6 to the premium.

Suit vs. Lowe Motor Supplies Co. of New York City, filed May 7, with final decree and injunction on June 6.

In addition to these cases the company has obtained judgment by default, against John J. Tracy of New York City, doing business under the name of the Universal Auto Supply Co., in a suit filed May 30, 1910.

What might be termed the "keystone" of the Lovell-McConnell plan is the comprehensive and rigid license form, details of which were given in the Motor World, issue of December 23, 1909. The license has recently been amended by the addition of the following paragraph: "(4) No license whatever is granted for purchase or sale by anyone who has been notified that he is objectionable to makers; nor for purchase to or through, or sale by or to any person, company, concern or association which offers or affords purchasers or users any membership, profit sharing or co-operative right or privilege."

### Canary Taxicab in Receiver's Hands.

The Dan Canary Taxicab Co., of Chicago, Ill., has been placed in the hands of a receiver by Judge Baldwin in the Circuit Court. The petition of John F. Meyer, a printer, to whom the company owes \$95.95, recites that the company was incorporated on Jan. 7, 1910, with a capital stock of \$10,000, and ceased doing business on June 7, after its capital had been raised in March to \$30,000. It is stated that the company owes \$23,000 and that the assets amount to only \$1,500. John Frady was appointed receiver.

## "RUBBER KING" GOES TO JAIL

**Came from Venezuela, Bought Automobiles and Gave Bad Checks for Them—Steamship Accident His Undoing.**

Employing the magic name of "rubber" to further his operations, an alleged "rubber king" who imposed on two New York automobile dealers might now be safely out of the country except for his bad luck in the choice of a steamer on which to sail. The boat on which he took passage, the Carolina, of the New York and Porto Rico line, hit a barge as she was going out of New York harbor on Saturday, the 11th inst., and was obliged to come back to her dock in Brooklyn, and the "rubber king," instead of journeying away, has had to face a charge of grand larceny.

The "king," Rafael Aranga Morales, of Port of Spain, Trinidad, came to New York City about two months ago, with 28 square miles of rubber plantation in Venezuela to sell. Through acquaintances on the boat he found a prospective customer, who during the wait until Morales could secure from Venezuela the deeds to property, acted as his friend and adviser in personal matters. When the Venezuelan expressed a desire to buy an automobile, his customer, William J. Morrison, referred him to George T. Eastment, an automobile dealer on West 35th street. There Morales picked out a \$1,250 car and ordered it put in shape for him. While he was waiting for the car and Eastment was waiting to see a check covering the value thereof Morales ran up \$150 in automobile hire and then Eastment lost track of him.

Harry E. Phelps, who is the president of an automobile concern at 1937 Broadway, was the next person with whom the rubber planter did business. Morales looked over Phelps's stock and picked out an \$1,100 car on June 7. He ordered it painted another color and his order was followed. On Monday of last week Morales visited Phelps and paid him on account a check for \$600 on the Trust Co. of America and borrowed \$35 in cash from Phelps. On the following day Morales dropped in on Phelps and asked if he had already cashed the check given to him the day before. When Morales learned that Phelps still had the check he asked that it be returned to him and one for \$300 be accepted instead. Phelps agreed to this and after Morales had torn up the first check and written the second, also on the Trust Co. of America, Morales borrowed \$45 more from Phelps.

Phelps sent this second check to the trust company on Wednesday and it was returned stamped "No Funds." That was the last the automobile man saw of the rubber planter for a few anxious days.



**THE WEEK'S INCORPORATIONS.**

Detroit, Mich.—Triumph Motor Car Co., under Michigan laws, with \$100,000 capital.

Sauk Center, Minn.—Sauk Center Garage, under Minnesota laws, with \$50,000 capital.

Erie, Pa.—American Motor Sales Co., under Pennsylvania laws, with \$10,000 capital, to deal in automobiles.

Chicago, Ill.—Calumet Motor Club, under Illinois laws, no capital. Corporators—R. J. Ton, G. H. Sternberg, Ernest Biehl.

Chicago, Ill.—Shaw-Merillat Co., under Illinois laws, with \$10,000 capital. Corporators—H. I. Shaw, E. R. Bliss, Jr., Lloyd Merrillat.

Beaumont, Tex.—Standard Auto Co., under Texas laws, with \$3,000 capital. Corporators—C. J. Chaise, Harry McKee, C. W. Putnam.

Denver, Col.—Denver Regal Auto Co., under Colorado laws, with \$10,000 capital. Corporators—J. E. Lambert, C. R. Lambert, F. N. Haines.

St. Louis, Mo.—Maefor Motor Car Co., under Missouri laws, with \$15,000 capital. Corporators—R. L. Maefor, W. T. Little, Geo. S. Foster.

Denver, Col.—U. S. Puncture-Proof Tire Co., under Colorado laws, with \$50,000 capital. Corporators—Gustav Fuenfstueck, Jos. Halbekann, L. Frisch.

St. Louis, Mo.—Beguelin-Buschart Motor Co., under Missouri laws, with \$5,000 capital. Corporators—Charles and Edward Buschart and Henry Beguelin.

Worcester, Mass.—D. A. Baldwin Automobile Co., under Massachusetts laws, with \$10,000 capital. Corporators—D. A. Baldwin, A. O. Wheeler, Wm. Woodward.

Watertown, N. Y.—Gray Automobile Co., under New York laws, with \$500 capital; to deal in automobiles. Corporators—C. W. Gray, Carrie Gray and Florence Gray.

Milwaukee, Wis.—W. S. Seaman Co., under Wisconsin laws, with \$50,000 capital, to manufacture automobile bodies. Corporators—H. H. Seaman, I. Seaman, K. D. Seaman.

Detroit, Mich.—Evans Motor Car & Parts Co., under Michigan laws, with \$30,000 capital, \$15,000 of which is paid in. Corporators—R. H. Evans, W. A. Farlinger, S. E. Lockwood.

Camden, N. J.—Lorraine Motor Co., under New Jersey laws, with \$60,000 capital, to manufacture automobiles, motorcycles, etc. Corporators—F. H. Hansell, J. A. McPeak, W. F. Eidell.

Nashville, Tenn.—Southern Motor Works, under Tennessee laws, with \$400,000 capital, to manufacture automobiles. Corporators—A. H. Robinson, E. Burkitt, H. Buttorff, and others.

Buffalo, N. Y.—Clark Motor Co., under New York laws, with \$50,000 capital, to manufacture automobiles, motors, engines,

etc. Corporators—S. B. DeLong, J. W. Van Allen, H. J. Rente.

Atlanta, Ga.—Primo Motor Co., under Georgia laws, with \$200,000 capital, to manufacture motor cars. Privilege of increasing capital to \$500,000. Corporators—E. Van Winkle and others.

Binghamton, N. Y.—Binghamton Taxicab Co., under New York laws, with \$5,000 capital, to do general automobile and transfer business. Corporators—E. V. Dunn, A. L. Dunn, W. O. Boughton.

Brooklyn, N. Y.—Mack Brothers Motor Car Co., under New York laws, with \$25,000 capital, to manufacture and deal in automobiles and accessories. Corporators—Wm. C. Mack, W. J. Groves, W. F. Buchheit.

New York City, N. Y.—Car Makers Selling Co., under New York laws, with \$10,000 capital, to manufacture and deal in automobiles and appliances. Corporators—George L. Dorr, Jas. L. Clark, Donald M. Miller.

New York City, N. Y.—Autofactors Corporation, under New York laws, with \$2,000 capital; to manufacture and deal in automobile specialties and accessories. Corporators—E. J. Forhan, G. F. Martin, H. P. Jones.

Lewiston, Mo.—Warning Signal Lamp Co., under Maine laws, with \$500,000 capital, to manufacture and sell automobile vehicles and all parts and accessories thereof. Corporators—R. S. Buzrell, M. M. Farrar.

New York, N. Y.—Bushey Demountable Rim Co., under New York laws, with \$20,000 capital, to manufacture and deal in automobiles, parts and accessories. Corporators—G. B. Lambert, E. J. Bushey, F. J. McCoy.

New York, N. Y.—Auto Trunk Rack Mfg. Co., under New York laws, with \$900 capital, to manufacture and deal in automobile trunk cases, racks, and accessories. Corporators—Hyman and Chas. Goldstein, Benj. J. Laxer.

Rochester, N. Y.—Campus Auto Garage, under New York laws, with \$10,000 capital, to manufacture and deal in automobiles, bicycles and supplies. Corporators—E. A. Stein, James Barry, H. B. Shield, all of Rochester, N. Y.

Rockland, Ill.—John Deere Plow Co., under Illinois laws, with \$250,000 capital, to deal in implements, vehicles, automobiles. Corporators—Wm. Butterworth, Schiller Hosford, Geo. W. Mixer.

Detroit, Mich.—Detroit Airless Tire Co., under Michigan laws, with \$1,500,000 capital, successor to Dayton Airless Tire Co. New corporators—S. O. Johnson, W. Brotherton, F. C. Van Dyke, Geo. C. Clark, C. McMillan, and Col. J. C. Hooven.

Flint, Mich.—Fleetwood Engineering Co., under Michigan laws, with \$30,000 capital, re-organized and articles of incorporation amended. C. W. McClure, J. D. Mershon,

and W. T. Foley, all of Saginaw, Mich., have entered the company.

Mt. Clemens, Mich.—Mt. Clemens Garage & Auto Sales Co., under Michigan laws, with \$25,000 capital, to operate and sell automobiles. Corporators—C. S. Ferrin, R. J. Stewart, S. J. Dalby, B. R. Erskine, O. C. Lungerhausen, A. W. Schott, S. C. Price.

Detroit, Mich.—Automobile Mfg. & Engineering Co., under Michigan laws, with \$1,000 capital, to manufacture automobiles and self propelled vehicles, "both on land, water and air, or either of them." Corporators—C. M. Miller, H. L. Booth, S. S. Allen, all of Plattsburgh.

**Increases and Decreases of Capital.**

Pontiac, Mich.—Oakland Motor Car Co. increases capital from \$200,000 to \$800,000.

Saginaw, Mich.—Marquette Motor Co. increases capital from \$300,000 to \$800,000.

Detroit, Mich.—Detroit Auto Specialty Co. increases capital from \$50,000 to \$75,000.

Cleveland, Ohio.—Cleveland Electric Vehicle Co. reduces capital from \$300,000 to \$50,000.

Detroit, Mich.—Detroit-Dearborn Motor Car Co. increases capital from \$100,000 to \$250,000.

Grand Rapids, Mich.—Sintz-Wallin Co., manufacturers of gas engines, increases capital from \$60,000 to \$90,000.

Milwaukee, Wis.—Briggs & Stratton Co., manufacturers of automobile specialties, increases capital from \$25,000 to \$50,000.

**Twenty New Members on Engineers' Roll.**

Twenty new members have been added to the Society of Automobile Engineers, according to an announcement this week by Coker F. Clarkson, the recently appointed general manager of the organization. The new members are as follows: David Dwight Rowlands (Rider-Lewis Motor Car Co.), Clarence W. Spicer (Spicer Manufacturing Company), Christian Girl (Perfection Spring Co.), Arthur Holmes H. H. Franklin Manufacturing Co.), Marcus Thompson Lathrop (Halcomb Steel Co.), Henry C. Wilson (Sub-Target Gun Co.), C. E. Reddig (Columbia Motor Car Co.), Joseph P. Lavigne (Lavigne Mfg. Co.), Edward R. Hewitt (Hewitt Motor Co.), Tracy Vere Buckwalter (Pennsylvania Railroad), H. P. Dodge (Ohio Electric Car Co.), H. C. Colburn (Colburn Automobile Co.), Irving W. Adams (High Frequency Ignition Coil Co.), John A. Mathews (Halcomb Steel Co.), W. H. Cameron (Willys-Overland Automobile Co.), Charles Archibald Ward (Pittsburg Motor Car Co.), Lars G. Nilson (Nilson-Miller Co.), Hugo C. Gibson (Requa-Gibson Co.), George Kearney Bradfield (Vacuum Oil Co.), and William Fleming Abel (Halcomb Steel Co.).

## IN THE RETAIL WORLD.

T. T. Brown, of Lulig, Tex., is building a garage. J. H. Appelt is doing likewise in Hallettsville, Tex.

Lawton, Okla., is to have another garage on D avenue where the McDuffy Co. is building a one-story establishment, 140 x 50 feet.

Harvey C. Garber is building a garage at 1509 East Broad street, Columbus, Ohio. It will be of brick, one story high, and cost \$1,000.

The Hermitage Auto Co. has established a garage and salesroom at 145 Third avenue, north, Nashville, Tenn. Cole cars will be sold.

The Wear-Mulvane Motor Car Co. has moved into new salesrooms at Kansas avenue, Topeka, Kas. The new store is 125 feet deep and 25 feet wide.

Edgar Ely, a hotel proprietor of Elgin, Ill., has opened a garage and repair shop for automobiles in Kirkland, Ill. He will not act as agent for any car.

Edward J. Welch is building a two-story cement garage at Lunenburg and Compress streets, Fitchburg, Mass. It will be 60 x 80 feet and will cost about \$5,000.

Cummings & Eddings, Marlin, Tex., carriage and implement dealers, have "taken on" automobiles. They are handling E-M-F, National, Knox and Pullman cars.

John Proctor is the projector of a garage which is being built at the corner of Chapel Hill and Foster streets, Durham, N. C. The building will be one story, of brick, and will cost \$2,500.

The Fulton Motor Co., with headquarters at 34 Auburn avenue, Atlanta, Ga., has changed hands. J. B. McCarthy, for six years connected with the Fiat agency in New York, is the new owner.

The Eureka Motor Car Co. of St. Louis, Mo., has changed its name to Eureka Auto Parts Mfg. Co., and will manufacture radiators. It will, however, retain the agency for the Empire "20" runabout.

D. Rees Davis has purchased an interest in the Houseman-Blake Automobile Co., at 5037 Delmar avenue, St. Louis, Mo. The name of the company in the future will be the Davis-Blake Automobile Co.

The Sweet-Edwards Co. is the style of a new concern which has invaded the automobile field of Omaha, Neb. Ernest Sweet, the senior partner, is a real estate man. R. A. C. cars form his "stock-in-trade."

The corner of Market and Church streets, Poughkeepsie, N. Y., has been purchased by John Van Benschoten, the veteran dealer, who will erect a garage thereon. The building, when completed, will cost about \$45,000.

The Imperial Motor Co. is the style of a new concern composed of J. S. Frazer and Banks Bennie which has opened up at

112-114 Third avenue south, Nashville, Tenn. Packard automobiles are to be handled.

Under the style the Chisholm Sales Corporation, a number of prominent men of Buffalo, N. Y., have opened a large automobile salesroom and garage at 730 Main street. National, Speedwell and Locomobile cars will be handled.

J. C. Ross, J. E. Ross and E. G. Oppen have leased the Martin building on East Main street, Independent, Kan., and opened a garage. The members of the firm are in the plumbing business and will conduct the automobile garage as a side line.

The Toledo Garage and Supply Co. has entered the automobile business, with headquarters at 713-715 Jefferson avenue. Renting and accessory supply departments will be conducted in connection with the general work of a garage and repair shop.

A. Kuhnelt and F. W. Martin have opened a repair shop, under the style of the Toledo Auto Tire Repair Co. at 240 Erie street, Toledo, Ohio. Martin has been connected with the Morgan & Wright Co., while Kuhnelt formerly was on the Firestone staff.

Accessories and supplies will be featured by the Merriman Brothers Automobile Co., Memphis, Tenn., which just has been formed. The company has the agency for the Thomas Flyer and National cars, and intends to establish a mail order accessory business.

The W. M. P. Motor Co. has begun business at 1993 Broadway, New York. L. R. Walton, former president of the Standard Auction Co., is president, while L. R. Moody, formerly with the Mercedes Direct Agency, is general manager. Abbott-Detroit cars will be featured.

At Fifth street and Seventh avenue, Minneapolis, Minn., N. M. Majerus is building an automobile garage to cost \$20,000. The building will be two stories in height, of reinforced concrete with pressed brick and plate glass front, 95 feet wide and 170 feet long, and will accommodate 120 cars.

What is heralded as "the finest garage in the Northwest" has been opened at 13th street and Nicollet avenue, Minneapolis, Minn., by the MacArthur-Zollars Motors Co. The concern is the northwestern distributor of Everitt "30," Anhur "6," Black Crow, Amplex, Corbin and the Babcock electric cars.

Two new links in the chain of garages which the Kingsboro Co. is establishing in Brooklyn have been finished, one at 109 Sterling Place, and the other at 396 Fifteenth street. F. W. Heinmann is president of the company, while his son, C. L. Heimann, is in charge of all the mechanical departments.

What is claimed by its owner, W. J. Tynan, to be the most up-to-date garage

in New Jersey just has been opened at 175-177 Van Houten street, Paterson, N. J. The building, which is 100 x 50 feet, embodies a novel idea in ventilation which is said to greatly lessen the danger of gasoline vapor explosions.

The New Amsterdam Motor Co., of 152 West 56th street, New York City, is in financial straits, Judge Hough having named Jesse Watson as receiver in bankruptcy. The assets are estimated at \$10,000, but no estimate is given as to the liabilities. It is stated that on June 6 the Crawford Automobile Co. took away several cars, claiming they were its property.

Gilmour & Fear, automobile dealers at 846 Woodward avenue, Detroit, Mich., have dissolved partnership by mutual consent. Charles G. Gilmour, who is the Mitchell agent, bought out C. B. Fear's interest in the concern and will continue the business at the same location under his own name. C. B. Fear, who has the Krit agency for the city of Detroit, has not decided as yet where he is going to locate.

The Genesee Garage is the style of a new establishment which just has been opened at 364 Genesee street, Utica, N. Y. It is 72x100 feet, built of artificial stone, electrically lighted, steam heated and contains a repair shop, 28x72 feet. Walter E. Johnson, the owner and manager, formerly was manager of the Oneida Garage. He handles the Whiting, Oakland, Marmon and Royal Tourist products.

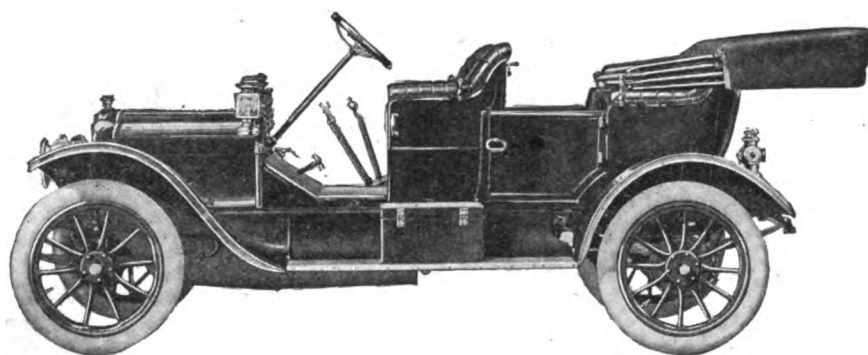
Fire originating in the garage of the Central Automobile Co., on South Main street, Dayton, Ohio, caused \$3,000 damages before it could be extinguished. The building sheltered, beside the Central company, the Dayton Taxicab Co., the E-M-F agency, Blackburn agency and the J. R. Reedy Repair Co. The forty automobiles stored in the building were removed in time, and only a few of them suffered slight damages. Explosion of gasoline vapors is given as the cause of the fire.

## San Francisco Dealers Again Get Together.

After a long period of suspended animation, the organization of automobile dealers in San Francisco, Cal., has been rejuvenated with a view to bringing all of the local trade into full harmony. At a meeting held in the rooms of the San Francisco Motor Club, on the 2d inst., the old officers resigned, and a new board of directors chose officers as follows: L. V. Lynch (Speedwell), president; John F. McLain (Franklin), vice-president; C. S. Richardson (Knox), secretary; W. L. Hughson, (Standard), treasurer. The name is to be changed from the Automobile Dealers of California to the Automobile Dealers' Association of San Francisco. "We have all had our lesson," the retiring president explains, "and the thing to do is to work in harmony."

# WHITE GASOLINE CARS

## for 1911



**SIZE AND POWER**—moderate, therefore, most economical to maintain.

**PRICE**—moderate, therefore, easy to buy.

**DESIGN**—includes many advanced features not found in any other American car.

**QUALITY**—The only moderate sized car wherein every part is just as well built as in the highest-price, high-powered cars.

**DELIVERY**—Very few open dates. First come, first served.

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Write for descriptive matter

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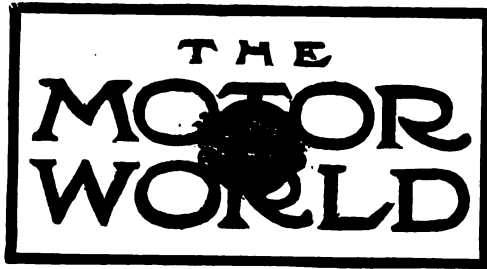
## THE WHITE COMPANY

Licensed under Selden patent.

New York, Broadway at 62d St.  
Boston, 320 Newbury St.  
Philadelphia, 629-633 N. Broad St.  
San Francisco, Market St. at Van Ness Ave.

**830 East 79th Street**  
**CLEVELAND, OHIO**

Chicago, 240 Michigan Ave.  
Pittsburg, 138-148 Beatty St.  
Atlanta, 120-122 Marietta St.  
Toronto, 170 King St., West.



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"Enclosed find draft for the renewal of my subscription for the Motor World. I regard it as one of the best publications on motor subjects."—Austin McMichael, M.D., Rock Port, Mo.

#### Effects of the Bogus Stock Car Rule.

It is not strange that the American Automobile Association's half-hearted effort to define a stock car has not only met with failure but given rise to ill-feeling and opposition.

The very rules themselves constitute a gross contradiction. In one breath they state that "it is the intention of the rules relating to stock cars and stock chassis competitions that such competitions shall be restricted to those cars identical in specification, materials and design with the manufacturer's product which is manufactured in quantity and is offered for sale and sold in a bonafide manner to the public through the regular selling agen-

cies of the manufacturer." In another breath and putting the word "identical" to rout, the rules catalog a long list of "Options Permitted," which are so remarkably generous as to sanction and encourage, if they do not actually invite, the alteration of everything save valves, frames and wheels, and leave all manner of loopholes through which anyone so disposed may crawl. It is not wholly an unnatural order of things that there should be those who have accepted and made the most of the invitation. The "doctored" cars that have resulted are in such a degree identical with those "sold over the counter," so to speak, that purchasers of the latter scarcely can be blamed for not recognizing them when they see them.

In a sport so thoroughly commercialized and having permitted commercial interests to dominate its actions, it is in no wise remarkable that the A. A. A. should have difficulty in shaping a straight course and should so often be forced to steer into the harbor of expediency which notoriously is full of rocks and shoals and which is the usual refuge of all who fear or desire to escape fulfillment of a plain duty.

If, as they state, it is the intention of the rules that a stock car shall be identical with those purchasable by any person, let the intention be adhered to and without such subterfuge as is afforded by options of any sort which give the lie to the "intention." If desire to enforce the rule truly exists, let the most be made of the suggestion that any car competing in a stock car event shall be purchasable at the list price fixed by the catalog. If it truly is "identical in specification, material and design" with his other cars, the manufacturer should be as willing and as anxious to sell it on the track or road as in his salesroom.

#### Concerning the Convertible Body.

Despite the great amount of attention which has been paid to every factor in the construction of the modern motor car it is a somewhat curious fact that the truly convertible body has not attained the popularity that so frequently has been predicted for it. This is not because of any apparent misconception of its value in a theoretical way. There is every reason to believe that for a large class of users, the car which could be applied either to two or four passenger carriage and to enclosed and open

use, and also could be adapted to the transportation of small amounts of luggage would be extremely useful; that once its construction has been rendered practical and reasonably low-priced, a considerable demand would arise for it. The real reason for its slow development is to be found, in all likelihood, in the absorption of practically all automobile manufacturers in the business of production rather than of development along radical lines. For this circumstance, obviously, no one is to blame.

Nevertheless the desirability of the convertible vehicle for certain uses remains an undisputed fact. Several builders realizing this now are engaged in producing machines which answer to one or two of the demands which the idea of convertibility so readily suggests. Nor is there any great difficulty in achieving fairly satisfactory results where the effort is outlaid along the lines of the cheaper grade of product. With a simple tray body, suitable for hauling trunks and other light loads, one or two cross seats may be employed, while a demountable top for such a vehicle readily may be fashioned. Such machines are to be found on the lists of a number of builders, and there is reason to believe that their judgment in producing them is both sound and wise.

It is the owner of more ample though not unlimited means, who sometimes would prefer to drive his own car, sometimes would prefer to travel in state with a paid driver, who on certain occasions desires an open conveyance and at others one which affords ample protection from the elements; who really is in need of a form of car which at present the market does not afford. In the two-passenger inside-driven coupe is found an ideal rough weather car, which appears to be gaining in vogue. In a few foreign designs the idea is carried even further in employing a form of folding top, closely resembling in purpose that of the landaulet. This is well enough in its way, though it still lacks the ideal of convertibility, while it affords no means for adding to the passenger carrying capacity. In the conventional runabout and roadster is another approximation to the ideal of flexibility in accommodation, though the desirable feature of flexible protection against changing weather conditions is not readily achieved.

So although practically all the elements which it might be thought would be de-

sirable in combination are found singly or in pairs, the successful combination of them all yet remains to be developed in a single body. That it is a practicable undertaking to design such a body is a matter of no question. The thing to be deplored is that so few makers have the leisure to devote the necessary time to its evolution. It is practically certain that there would be a good market for such a vehicle if well put together and up to the mark in chassis construction.

#### Dealers' "Gifts" Cause of Evil.

Those who concern themselves with the stopping of waste in the trade machinery are beginning to take note of the evil effects of the habit of patronage into which many retail dealers are falling. In some cases even the practice has gone beyond the limits of the individual offense and degenerated into a custom; occasionally to be miscalled a bright and clever method of business getting. But whether regarded in the light of a personal matter between seller and buyer, a productive investment or a necessary evil, the fact remains that the element of personal graft extorted from the dealer under pretext of accelerating trade amounts, in the aggregate, to a good round sum and spells net loss to the industry.

It is a pleasant custom to add a bit of extra discount, throw in an ounce or two of some commodity over and above the exact requirement or pass out a "sample" spark plug or a wrench in recognition of an unusually large sale. It pleases the customer, tends to make him come again, and reflexes warmly back upon the salesman, who is made to feel that he has accomplished a worthy deed. The logical extension of the principle is not foreseen ordinarily, however. What brings the customer back the second time is quite as likely to be the prospect of a souvenir as any particular appreciation of the merit of the goods. As naturally is to be expected, the ultimate result of the practice may be to induce the first "friend" made in this way to bring other "friends" until the dealer's entire trade calls him by his first name and looks for excuses to come in and gather the easy plunder.

Expanded into the form of a system, the practice may be dignified by the title of a premium scheme and may verge pretty closely upon the legitimate, if sometimes

## COMING EVENTS

June 14-30.—American Automobile Association's seventh annual national touring and reliability contest for the Glidden trophy, starting from Cincinnati and finishing at Chicago.

June 16-22, Albany, N. Y.—Albany Automobile Club's sixth annual tour to Atlantic City, N. J., and return.

June 17, Memphis, Tenn.—Automobile races at Tri-State fair grounds; postponed from May 21.

June 17-18, Buffalo, N. Y.—Automobile races at Fort Erie track.

June 18, Newark, N. J.—New Jersey Automobile and Motor Club's 280 miles reliability run; postponed from 11th.

June 18, Wilmington, Del.—Delaware Automobile Association's roadability run.

June 18, Ossining, N. Y.—Upper Westchester Automobile Club's annual hillclimb.

June 18, St. Joseph, Mo.—Automobile Club of St. Joseph's sociability run.

June 18, Baltimore, Md.—Automobile Club of Maryland's hillclimb.

June 18, Philadelphia, Pa.—Quaker City Motor Club's race meet at Point Breeze track.

June 20-23, Des Moines, Ia.—Iowa Automobile Club's endurance run.

June 22-25, Minneapolis, Minn.—Automobile races at state fair grounds.

June 25, Port Jefferson, N. Y.—Automobile Club of Port Jefferson's hillclimb on East Broadway hill.

June 25, Yonkers, N. Y.—Upper Westchester Automobile Club's race meet at Empire City track.

June 28-30, St. Louis, Mo.—St. Louis Manufacturers' and Dealers' Association's endurance run for "Star" trophy.

June 30, Winnipeg, Man.—Winnipeg Automobile Club's annual tour; 455 miles.

July 1, 2 and 4, Indianapolis, Ind.—Grand Circuit meeting on Motor Speedway.

July 2, Wildwood, N. J.—North Wildwood Automobile Club's roadability run from Philadelphia to Wildwood.

July 2-4, New York City—Touring Club of America's sociability-guessability run to Waterbury, Conn., and return; 200 miles.

July 4, Wildwood, N. J.—North Wildwood Automobile Club's annual beach race meet on Ocean Drive.

July 4, Indianapolis, Ind.—Chicago Automobile Club's second annual race for the Cobe trophy on Motor Speedway.

July 4, Muskegon, Mich.—Gentlemen's Driving Club's automobile race meet at Driving Park.

July 4, St. Paul, Minn.—Minnesota State Automobile Association's race meet.

July 4, Cheyenne, Wyo.—Cheyenne Motor Club's race meet on motordrome.

July 4, Auburn, N. Y.—Auburn Automobile Club's hill climb.

doubtfully productive, method of the advertising competition. More commonly it does not progress beyond the stage of pure graft; the bonus offered for influence or fancied influence and entailing no fixed or commensurate reward. Thus dealers in some localities are offering sets of tires in return for the introduction of new customers by their old ones; accessories pass lightly across the counter in the same free and easy manner, while in other cases the inducement takes the form of credit memoranda for the repair account, good for surprisingly large amounts.

Just what the aggregate loss to the trade from this cause amounts to cannot be told. In England, where the dignity of the peerage cloaks many a barefaced holdup, the evil has assumed proportions which are recognized as dangerous. Because of the big outlay in rakeoffs to titled "touts," who claim their commissions as brazenly as does the American chauffeur, dealers in some cases have been forced to raise the prices to almost prohibitive amounts. In others, they have been forced to suffer the

loss in silence, on penalty of losing prestige with the more or less influential hangers-on. It is only a few days since S. F. Edge, who seldom is silent on any topic even remotely connected with motoring, voiced the opinion that about four million dollars has been spent in needless commissions out of a yearly total profit of fifty-five millions.

Though lacking any organized method of kowtowing to patronage in this country, it is a deplorable circumstance that through misconception of the principle, laxity or fear of the consequences, a large number of American dealers in one branch of the industry or another are submitting to a needless drain upon their resources. Whether in the friendly extension of credits beyond reasonable limits, the offering of premiums to individuals, the tendering of costly favors or the giving of out and out commissions, the net result is a shrinkage of profits. To the extent that it represents an outlay for which there is no justly recognizable offset, it is indefensible.



# ONLY 24 STARTERS IN GLIDDEN TOUR

Four Late Withdrawals Reduce the Already Small Number—Long Journey Begins Auspiciously but a Fatal Accident Mars First Day and Vile Roads on the Second Day Cause Wholesale Penalizations.

## THE 24 COMPETITORS THAT STARTED.

### For the Glidden Trophy.

Car No.	Name of Car	Price	Driver	Observer
1	Premier	\$3,400	Ray F. McNamara	Robt. A. Hamilton
2	Premier	\$2,500	Chas. L. Ballinger	Walt. W. Lorenz
3	Chalmers 30	\$1,600	Joe Gardham	H. E. Frederickson
4	Chalmers 30	\$1,600	Joe Matson	Joe Mahl
5	Chalmers 30	\$1,600	Bill Bolger	F. J. Regner
6	Cole 30	\$1,500	Harry Knight	R. A. Dewit
7	Maxwell	\$1,500	H. E. Walls	A. D. Rea
8	Cartercar	\$1,800	W. C. Mahoney	C. M. Babbitt
9	Parry	\$1,485	L. M. Dull	J. J. Towers
10	Glide	\$2,500	Fred Castle	L. C. Wheeler
11	Ohio 40	\$1,850	J. W. Stockard	Sidney Black
12	Ohio 40	\$1,850	Ben Hillock	B. D. Arthur
14	Pennsylvania	\$4,500	Morris O'Donnell	
15	Cino	\$2,250	Walter Donnelly	Wm. F. Meyer

### For the Chicago Trophy.

100	Moline	\$1,600	C. H. Van Dervoort	Geo. Means
101	Moline	\$1,600	J. A. Wicke	R. C. Toms
102	Moline	\$1,600	F. G. Salisbury	James G. Blaine
103	Lexington	\$2,880	J. C. Moore	V. K. Dodge
104	Cole 30	\$1,800	A. L. Martin	John Hanauer
105	Parry	\$1,285	Geo. Neff	H. Knippenberg
106	Falcar	\$1,750	C. F. Van Sicklen	
107	Maxwell	\$1,575	J. Illingworth	W. A. Hamilton
108	Cartercar	\$1,150	Ray Landsheft	Thos. B. Malone
109	Cartercar	\$1,300	F. R. Pendleton	H. K. Summers
110	Lexington	\$2,880	E. O. Hays	Geo. O. Tebbis
111	Westcott	\$1,900	C. C. Bevington	Fred. Weiser

The non-contestant division is made up of two Cadillac gun-carriages or "balloon destroyers" entered by the Northwestern Military Academy of Highland Park, Ill., a Westcott "40," entered by the Henderson Motor Sales Co.; a Rapid truck and two tire cars, one each from the Diamond Rubber Co. and the B. F. Goodrich Co.

The official cars are a Columbia, occupied by Referee Whiting, Chairman Butler and M. C. Reeves; a Reo, occupied by Secretary Ferguson and J. W. Gogarn; a Chalmers, occupied by D. H. Lewis, as pilot, and James Riker, and five press cars—a Chalmers, a Great Western, a Halliday and two Cuttings.

## THE DAILY ITINERARY OF THE CONTEST.

Departure Dates	Night Stops, Official Hotels and Mileages.	Noon Stops, with Mileages from Night Stops.
June 14—	Cincinnati, Ohio ..... Gibson House.	Lexington, Ky.... 83.3
June 15—	Louisville, Ky, ..... The Seelbach.	Bowling Gr'n, Ky. 130.0
June 16—	Nashville, Tenn..... The Maxwell.	Columbia, Tenn.. 41.5
June 17—	Sheffield, Ala..... Sheffield Hotel.	Corinth, Miss.... 62.1
June 18—	Memphis, Tenn..... Gayoso House.	Clarendon, Ark... 112.2
June 19—	Little Rock, Ark..... Hotel Marion.	Prescott, Ark.... 84.0
June 20—	Hot Springs, Ark..... Arlington Hotel.	Rest Sunday afternoon.
June 21—	Texarkana, Ark..... Huckins House.	Paris, Tex..... 97.2
June 22—	Dallas, Texas..... The Oriental.	Terral, Okla..... 130.1
June 23—	Lawton, Okla..... Midland Hotel.	Chickasha, Okla... 64.6
June 24—	Oklahoma City, Okla..... Lee-Huckins.	El Reno, Okla.... 112.4
June 25—	Wichita, Kan..... The Eaton.	Enid, Okla..... 100.1
June 26—	Day of rest at Kansas City.	Emporia, Kan.... 108.8
June 27—	Kansas City, Mo..... The Baltimore.	
June 28—	Omaha, Neb..... The Rome.	Maryville, Mo.... 126.5
June 29—	Des Moines, Ia..... The Savery.	Guthrie Center, Ia. 105.3
June 30—	Davenport, Ia..... The Kimball.	Marengo, Ia..... 96.2
June 30—	Arrive Chicago, Ill.....	Rochelle, Ill.... 102.8
		179.9

## Gathering of the Clan at Cincinnati and Some of the "Doings"

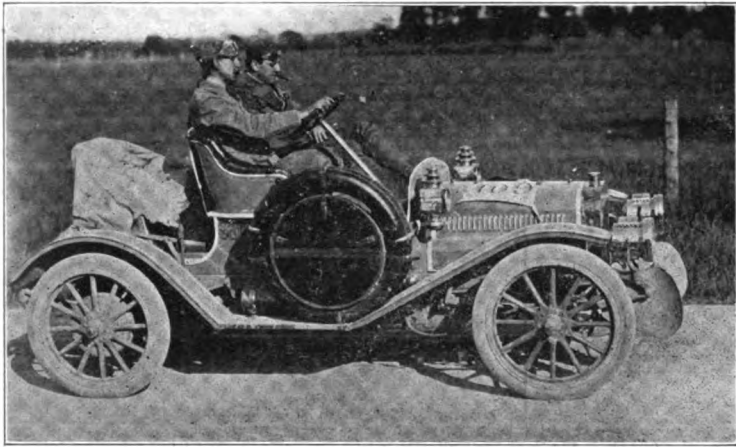
Cincinnati, O., June 13.—Old Cincinnatus hardly looked up from his plow to notice the presence "in his midst" of the 1910 National Reliability Tour of the American Automobile Association, more commonly known as the Glidden Tour. Flags were out and "Welcomes," but they were for the United Commercial Travelers, lately in convention here. But for the cars parked in Government square and more cars lining the curbs before the Gibson House, the official headquarters of the contest board, there was little to indicate that the seventh tour and sixth annual contest for the Glidden and Chicago trophies was assembled here preparatory to the start of the longest tour and by far the hardest test ever attempted under the auspices of the A. A. A.

The Automobile Club of Cincinnati endeavored to make the Gliddenites feel at home, and gave an informal reception at the club rooms in the Gibson House Saturday evening. President Charles L. Bonifield, M.D., and his associates on the board of governors served the early arrivals with a Dutch lunch and a vaudeville entertainment, and there were things doing until morning. But the officials of the tour had not arrived, and not more than a score of the entrants, so it was not regarded as a function for the entire tour. And last night the Cincinnati Automobile Dealers' Association entertained the visitors with a special concert at the Zoo. This noon the Automobile club took charge of the visitors again and entertained them with a barbecue at Coney Island. The crowning

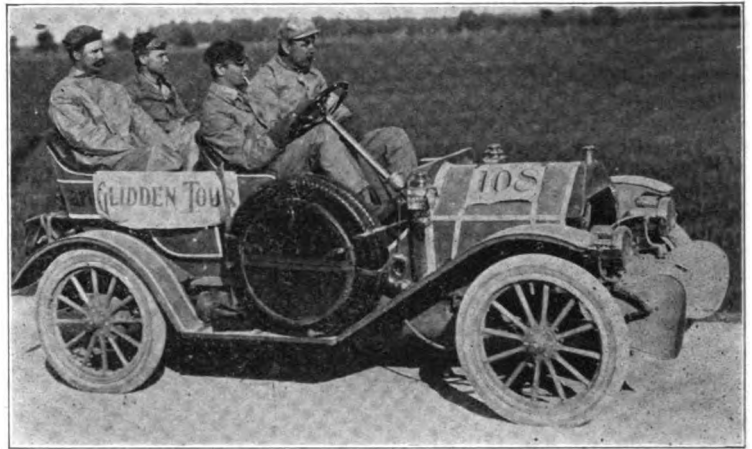
function was the banquet at the Automobile Club rooms this evening.

F. E. Edwards, Berne Nadall and David Beecroft, Chicago, and A. L. McMurtry, New York, began the technical examination of the cars in Government square yesterday morning. They inspected the tools, inventoried the spare parts, checked up the sag of the springs and axles, and noted whether the tires were of the regulation size advertised for stock cars. Today they completed the task, and affixed the stamp to the cylinders.

At 4 o'clock yesterday afternoon referee A. H. Whiting expounded obscure points in the rules for the benefit of the drivers. The principal points made clear were that tackle, axe and shovel may be carried; that motors may be stopped at any time without penal-



PENDLETON'S CARTERCAR CONTESTING CHICAGO TROPHY



LANDSHEFT'S CARTERCAR ALSO PURSUING CHICAGO TROPHY

ization except when changing tires; that covers of gasoline tanks and radiator caps will be sealed; that controls shall close one-half hour after the time scheduled for the arrival of the last car, and cars arriving after that time must report an hour before starting time in the morning; that drivers must not rely upon observers for information as to routes or penalizations; that in case of the involuntary stopping of a car on account of mechanical or ignition troubles, the penalized time shall begin upon the stopping of the car and shall continue until the car is again in motion, and that in case of a voluntary stopping for the purpose of doing work, the penalized time shall begin upon the breaking of the seal of the tool bag by the observer and shall continue until the tools are replaced in the official bag; that an overtaking car which is traveling faster than a car overtaken may not drop into a slower pace after passing the other, but must continue at the pace by which it passes until it is a reasonable distance beyond the overtaken car; that extra supplies of oil and gasoline may be carried, but that such supplies may not be used without penalization until after the car has covered one hundred miles on a control; that recharging or replacing of storage or dry

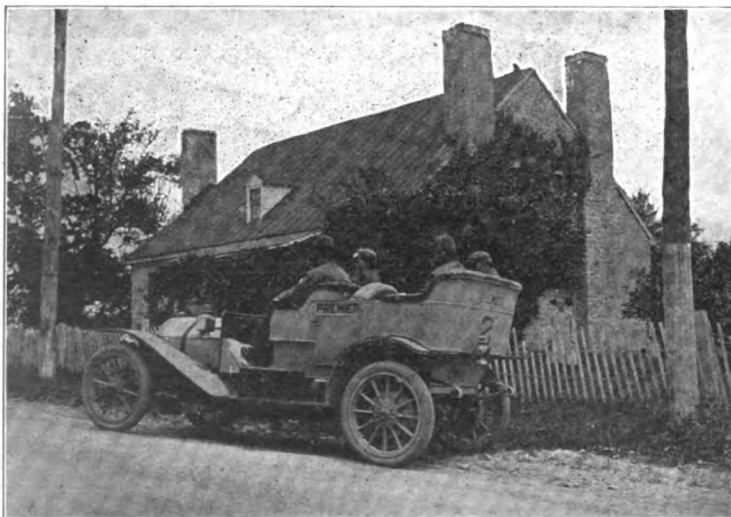
batteries will be allowed at any time without penalty, but all work done in connection with this must be done in the presence of the observer; that only such adjustments of carbureters may be made as can be accomplished without removing or disassembling the carbureter; that special mud aprons may be repaired, renewed or replaced during running time without penalization, and that spring windings and shock absorbers may be used without penalization for trouble with them.

That this is to be a Gliddenless tour, with all the absence of the wonted formalities and functions incidental to all former tours when Charles J. Glidden was present, was realized when a telegram arrived yesterday announcing to Chairman Butler that Mr. Glidden could not go on the tour this year. Business reasons were assigned as the cause of his absence. Mr. Glidden had made the usual arrangements to accompany the tour, even to reserving a seat in Chairman Butler's car, and it was accepted that he would be on hand to receive the yearly tribute of plaudits from the populace like a Mandarin progressing through Mongolian provinces. The telegram yesterday was the first intimation that the wonted kowtows will be cut out. The little levees

and receptions at village and crossroads stopping points, the waving of the flag to applauding multitudes in speeding through large cities, and the addresses and interviews at night controls were picturesque features of former tours that will be missed, and besides, it is generally appreciated that Mr. Glidden was everywhere a strong influence for good roads.

The end of what they facetiously term the "despotism" of Hower was celebrated by the "insurgents" yesterday. The comparative mildness of Chairman Butler in handling all matters under his charge, his deference to the suggestions of others, and his willingness to let others monopolize the spotlight are commended highly by the "insurrectos," but at the same time they have called a meeting for today at which they will demand that reports of each day's run shall be given out daily within a half hour after the scheduled time for the last car to arrive.

Chairman Butler may have felt like a hen with only one chicken when he looked over the caravan of cars that are to follow him through this long tour this afternoon. The Buick and Oakland entries have been withdrawn, leaving 26 contestants to make the journey of 2,851 miles—14 in the Glidden



BALLINGER'S PREMIER AT AN "OLD KENTUCKY HOME"



McNAMARA'S PREMIER "SIX" AT LEXINGTON

division and 12 in the Chicago; there also are six cars in the non-contesting division and eight in the official "retinue," a grand total of 40. In this day when there are about 150 cities producing about 300 makes

of cars distributed among 24 states, the array for the tour could not have impressed the chairman of the contest committee as very impressive or even representative for the classic American touring event. And

of the entries but two are eastern brands—the Maxwell and the Pennsylvania, not to mention the Columbia, which will serve as an official car. Even the Pierce-Arrow, the trophy holder, is among the missing.

## First Day—Good Roads and Picturesque Scenes in "Old Kentucky"

Louisville, Ky., June 14.—The Gliddenites are on their way. They arrived here tonight, but not all of them with perfect scores.

The penalizations of the day as far as made up to the scheduled hour of closing are as follows: Chalmers No. 4, two points for adjusting a brake rod; Cole No. 6, 30 points for cleaning a clogged gasoline feed pipe; Parry No. 9, 3 points for taking gasoline after leaving Lexington; Pennsylvania No. 14, 72 points for solder and pump and late arrival at Louisville; Falcar No. 106, 60 points for replacing magneto; Lexington

miles of Louisville, in essaying to pass the Moline, No. 100, driven by C. H. VanDervoort, Martin crashed in to a horse and buggy, driven by Dr. L. D. Mason, of Middletown. The Cole wrecked the buggy and broke its own right wheel, putting it out of the contest at the very start. Martin and had to pay for the damage to the doctor's rig and saw himself forced out of the tour without a run, so to speak, for the \$300 entrance fee.

This was a small matter, however, in the day's story, in comparison with the death resultant from an instance of apparently

pavements made driving slow and hazardous. Immediately upon gaining Covington, across the muddy Ohio, the roads improved, and the Gliddenites verified for themselves the poet's statement that "the sun shines brightly on our old Kentucky home," and the darkies were apparently gay. Thirty of them were counted around one small muddy pond fishing for bullheads. Curiously enough, the name of the place was Walton.

The roads were strewn with loose rubble, and in many instances with sharp broken stone that cut the tires. This caused a lot of tire trouble during the day's run. Five cars sustained punctures in their right rear wheels. The Maxwell had to change all four of its tires.

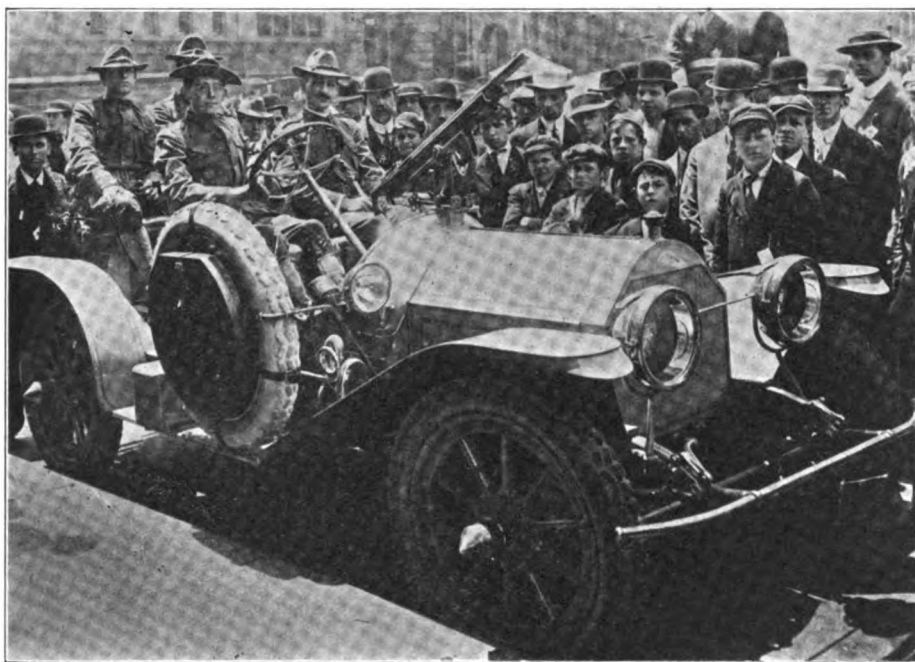
In general, however, the roads were good. The Georgetown pike, built before the civil war, and recently sprayed with oil, was splendid and afforded a chance to try out what speed was in the machines. The Frankfort pike was another delight. It was as smooth as ribbon in the midst of a characteristic Kentucky landscape. The odors of locusts and rambler roses in every dooryard allured those on the tour accustomed to city smells. There were little log cabins in the lanes and the dells just as the songs have described them. Old women sat in the doorways and smoked pipes. Historical interest abounded in passing through the points famous in the civil war and retraced the routes of the armies struggling for the possession of Cincinnati, Lexington, Frankfort and Louisville.

It was a holiday along the route through all Kentucky. The cities were filled with people assembled to see the caravan.

The country roads also mustered groups at every cottage and cross roads. Quaint vehicles drawn by quainter animals were in the fence corners. A mule in the highway paced the Moline driven by C. H. VanDervoort two miles at a rate of nearly twenty miles an hour before he was headed.

At the start from Cincinnati the tourists were presented with bottles of whiskey. At the noon stop at Lexington each tourist received another small bottle from the automobile club of that place. Versailles had a banner across the entrance of the town "Welcome, Glidden Tourists," and another at opposite end, "Good Luck."

The students of the Northwestern Military Academy accompanying the tour with balloon destroying guns mounted on the Cadillac cars are doing routine work except in a little different form. They are



THE NORTHWESTERN CADETS AND THEIR "BALLOON DESTROYER"

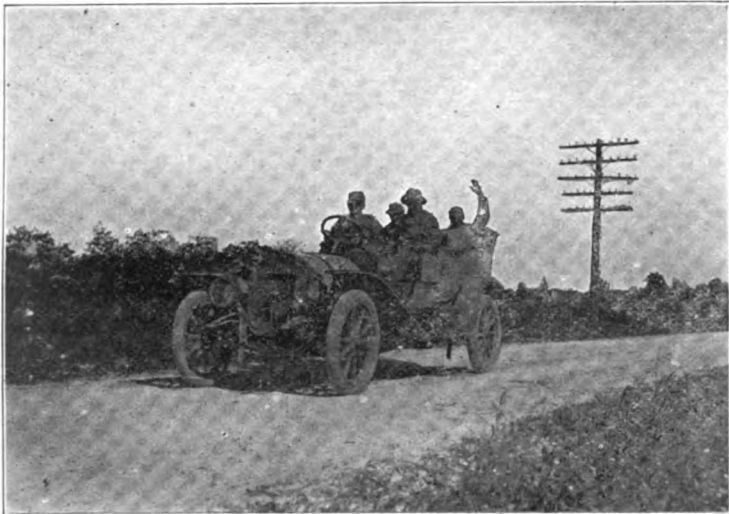
No. 110, 4 points for replacing a brake rod pin, and Westcott No. 111, 6 points for three different adjustments of the carburetter.

Cincinnati turned out so strong to see the start of the tour that the police had difficulty in keeping a way open for the machines. It was 8:30 o'clock before Starter Ferguson sent the first car off. L. R. Speare, president of the A. A. A., was present to lend his official dignity to the occasion. The morning was fair and the auspices generally were all that could be desired.

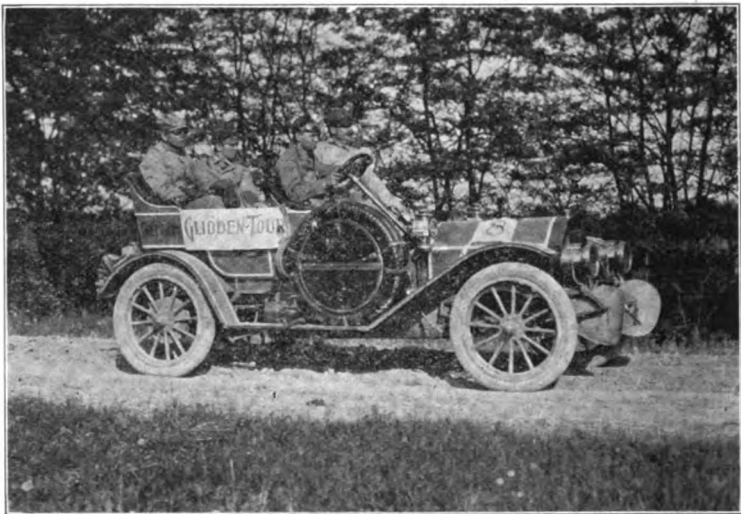
A. L. Martin, driving the Cole runabout, No. 104 in the contest for the Chicago trophy, met a hearse this morning while leaving Cincinnati and observed that it was a hoodoo and betokened bad luck, and so it proved. Later in the day when within 8

careless driving. Some member of the tour driving one of the cars struck a buggy and a woman was thrown out and sustained a fractured skull which later resulted in her death. She was driving at the time of the accident to get a doctor for her husband who was dying, and who since has died. The accident happened seven miles the other side of Frankfort, on the famous Georgetown Pike. The identity of the driver of the car is unknown. He drove away immediately after the accident and there were no witnesses to take the number of the car. The driver and other occupants of the car alone know who caused the woman's death. The management of the tour disclaims responsibility, but the natives generally blame the Gliddenites.

The worst roads encountered in the day's run were in Cincinnati, where holes in the



PREMIER NO. 2 ON A STRETCH OF REAL ROAD



THE CARTERCAR ENTRY WHERE THE GOING WAS GOOD

wont to make summer trips and are with the tour to demonstrate to the government how quickly a car with a light gun could be sent in pursuit of an army balloon and perhaps destroy it. The cadets sleep in tents and live on army rations while on this tour of duty. They guard the cars nights in regulation sentry duty, and generally are taking their pleasure picturesquely and rather seriously.

The running time for tomorrow's run will be nine hours 42 minutes.

Second Day—Vile Roads and Much Woe Enroute to Tennessee

Nashville, Tenn., June 15.—There was the loudest howl from the Gliddenites this evening that has been heard since the run from Toledo to South Bend in 1907, in which T. J. Clark was killed and several others injured. It was complained then that the day's schedule was too stiff for the muddy going following an all night rain, and tonight's protest is that the schedule of 20 miles an hour for touring cars and 18 for runabouts was too swift for the nature of the roads.

It is the consensus of opinion that the roads encountered today were the worst ever encountered in any former tour, barring none. Old Gliddenites say they never have seen such soul-trying roads for motor cars as they were forced to travel over at an average speed of 18 and 20 miles an hour. For about 90 miles the cars were forced to go over decayed pike serrated every foot of the way with sharp rocks. It was as if a telford base laid years ago was exposed, every inch of top dressing and filling being scraped from between the crevices. For about 30 miles more the going was slow by reason of water bars and sloughs, so that there were only about 70 miles of good and fairly good roads in which to make up the schedule.

The havoc on tires was appalling. Even the pacemaker's car exhausted all of its inner tubes in a series of 100 punctures and blowouts and had to borrow from other cars to get in. Cars were stuck in the mud and had to be hauled out by others, and while the majority arrived here tonight without penalization it is recognized that it was at the expense of a fearful strain which will tell upon them later on in the tour.

The effects of the day's run were reflected

in the day's score of penalizations which are as follows:

No. 3 Chalmers, 20 points for ignition troubles and new spark plug; No. 4 Chalmers, 6 points for adjusting carburetter; No. 6 Cole, 75 points for clogged gas pipe and new steering knuckle; No. 9 Parry, 3 points for new spark plug; No. 11 Ohio, 100 points for soldering leaky radiator; No.

12 Ohio, 104 points for replacing a valve; No. 14 Pennsylvania, 94 points for engine and steering troubles; No. 15 Cino, 20 points for ignition trouble; No. 105 Parry, 6 points for leaking radiator.

No. 104 Cole and No. 109 Cartercar had not checked up to 10 o'clock tonight.

These penalizations leave but six clean scores in the Glidden contest and eight in the Chicago contest.

Tire troubles played such hob with the official car that Chairman Butler was obliged to transfer his flag to the Premier, driven by McNamara. The military cadets in the two "balloon destroyers" also had their troubles and had a whole day's drill in removing and replacing tires; they used up all their spares and had to borrow tires to reach the night control. Two other of the non-contestants fell on evil times. The acetylene tank on the Reo exploded and the car did not reach here until 10 o'clock tonight, while the Rapid truck ran into a sinkhole and had to be pulled out. Matson's Chalmers ran into the same hole and was "rescued" by the Cutting press car.

The route today followed the historic Bardstown pike from Louisville. The first part, as far as Ferncreek, 11 miles out, was good and the drivers hit it up at 30 and 35 miles an hour to gain time for the bad going to follow. Early in the succeeding stretch they became acquainted with the peculiarity of southern roads in the absence of culverts. Somebody ought to send road commissioners south of Mason and Dixie line a picture of a culvert so they might gain an idea of what it is like. Streams and creeks flow across the highways, and there was nothing for the motor cars to do but play submarine and dive in.

STANDING AT END OF SECOND DAY.

No. Car		Glidden Trophy.		
		—Penalizations—		
		1st Day	2d Day	Total
1	Premier	0	0	0
2	Premier	0	0	0
5	Chalmers	0	0	0
7	Maxwell	0	0	0
8	Cartercar	0	0	0
10	Glide	0	0	0
9	Parry	3	3	6
4	Chalmers	2	6	8
3	Chalmers	0	20	20
15	Cino	0	20	20
12	Ohio	0	104	104
6	Cole	30	75	105
11	Ohio	0	150	150
14	Pennsylvania	72	94	166

No. Car		Chicago Trophy.		
		1st Day	2d Day	Total
100	Moline	0	0	0
101	Moline	0	0	0
102	Moline	0	0	0
103	Lexington	0	0	0
107	Maxwell	0	0	0
108	Cartercar	0	0	0
110	Lexington	4	0	4
105	Parry	0	6	6
111	Westcott	6	0	6
106	Falcar	60	0	60
109	Cartercar	0	‡	
104	Cole	*		

\* Disqualified; lost 1,042 points for time and labor replacing new wheel broken in collision.

‡ Not reported.

In some instances the water was as high as the running board. There were many of these streams encountered in the day's run, and every time the cars had to wade through.

At Thixton the cars encountered the first of the rocky pike. The people patronizing the highway wouldn't stand for toll gates and abolished them. In this way they also abolished whatever work was done for the maintenance of the pike and for miles and miles it was worn down to the original rock paving. There was a stretch of good road from Saltriver to Bardstown and there was another from Athertonville, with the school house which Abe Lincoln

in progress and the factionists were waving the bloody shirt at one another, and calling upon the old confederates and sons of confederates to stand by the Democracy.

#### Reveals Glidden Route Hazards.

So that all who follow the fortunes of the Glidden tour, whether from the tonneau or the clubhouse chair, may be well posted on the hazards to be taken, the Mitchell-Lewis Motor Co., Racine, Wis., has issued a sort of unofficial guide book. It is reminiscent of the impulsive tour of the Mitchell Ranger early in the spring when it not only covered nearly 3,000 miles on the roughly indicated route of the tour,

150 marks (\$35) or with imprisonment. The slow speed and other restrictions are demanded by the extremely dangerous mountain roads of that district, where deep ravines and precipices abound. On the level roads of Bavaria a speed of thirty kilometers (18 miles) is permitted.

#### Use of Motor Cars Nullifies Election.

Motor cars have become such an established feature of American politics as to make surprising the decision of an English court that the election of Frederick Edward Guest to the House of Commons is void because automobiles were used in "getting out the vote." The special election court declared against him on the ground that the candidate's expenses were excessive and that a full return concerning them had not been made by his agents, it being shown that Henry Phipps, the steel manufacturer of Pittsburgh, who is Guest's father-in-law, had hired a number of motor vehicles on his behalf on election day. The hiring of vehicles for getting out the vote is not permissible under the British laws.

#### Motor 'Bus Line Over Mont Cenis Pass.

In connection with the reported opening of the Mont Cenis pass over the Alps to automobiles, it is now announced that an automobile 'bus service is to be inaugurated shortly between St. Michel and Susa over this pass. Members of the European touring clubs, while elated over the opening of the pass to touring cars, are somewhat nettled over the fact that a permission to use the pass should have been withheld from them until a commercial enterprise entered the field and obtained a concession from the Italian and French authorities.

#### Turning a Theft to Advantage.

In discovering a means to turn an unhappy event into advertising capital, a rather high mark has been established in Indianapolis. Following the theft of a motor car belonging to an Overland official, the local newspapers contained a column advertisement in sensational type, reading as follows: "Wanted—To meet the man who stole Will H. Brown's automobile from in front of the Columbia Club Tuesday noon. Liberal reward paid for information as to why he selected an Overland from the great array of other makes."

#### Traveling Bookshops in Great Britain.

Traveling bookshops are a new development in the literary trade. Automobiles stocked with the new productions are scouring the country districts of England, where bookshops are few and far between. The cars, which are specially constructed for rapid conversion into shops, cost about \$3,000 each. Besides the indispensable chauffeur, a salesman and porter are traveling with each car. At present there are three of these cars in operation traveling from London west, northwest and northeast.



MAP SHOWING THE ROUTE OF THE GLIDDEN TOUR

attended, according to tradition, and which was pointed out in its present capacity of a hen house. The Green River, near Bowling Green, was approached by a splendid smooth highway and beyond, to Franklin, it ran smoothly. But over the mountains to Goodlettsville stone corduroy occurred again.

It was a continuous ovation and a carnival of flowers all the way from Louisville to the Kentucky boundary line where a fat colored woman sat upon the stone that separated the states, just beyond Franklin. The Kentucky girls, pronounced the handsomest ever seen, pelted the occupants of the cars with flowers. The bouquets generally contained the address of the sender. The colored people were out in hordes, but gazed at the parade meekly. Those white men had no waves of the hand for them! Twice the confederate flag appeared. At Magnolia a small boy ran out and waved the emblem of the lost cause. At Franklin, when the Gliddenites reached the Maxwell House, a political caucus was

but did some pathfinding for the real pathfinder which followed it sometime later. "Way down South in Dixie," the booklet is called, and besides giving the full itinerary of the Ranger's trip, it has a running story of the rather adventurous journey, plentifully embellished with pictures.

#### Road Rules at Oberammergau.

In connection with the opening of Oberammergau to motor vehicles, attention is called to the strict rules of the road in force, which expressly forbid any automobile to overtake and pass any other automobile going in the same direction, excepting in the event that the latter breaks down or is compelled to stop. Horse-drawn vehicles traveling in the same direction may be passed only when the road is absolutely free from vehicles traveling in the opposite direction. Under no circumstances may any automobile or other vehicle travel at a greater speed than fifteen kilometers an hour (9 miles). Violators of any of these rules will be punished by a fine of



## FOUR HARD DAYS FOR RICHMONDS

**Endurance Run to Raleigh and Return Leaves but One Perfect Score—Officials in an Accident.**

Mechanical troubles and bad roads were the chief conspirators against perfect scores in the Richmond (Va.) Times-Dispatch's four days' endurance run to Raleigh, N. C., June 7 to 10, but despite this handicap at least one of the 14 starters survived the four days' struggle with roads and weather without penalization. The lucky one was L. M. Foster, Buick, who came through without any hieroglyphics on his score sheets, and by his performance was a double winner, capturing the Sweepstakes cup in addition to his class trophy.

Twelve contestants survived the test, although all but Foster were assessed for various causes, some of the penalizations being exceedingly heavy. The other class winners were Edgar Hicks, Maxwell; E. C. Pelouze, Chalmers, and Howard Wagner, Speedwell, the latter having the second best score among those who finished. Not satisfied, however, he entered a protest against the penalties inflicted, but it was not sustained. The starters were the following: Rufus Williams, Buick; Howard Wagner, Speedwell; B. D. Daniels, Hupmobile; J. R. Williams, Buick; Dr. Samuel McAnally, Maxwell; J. J. Tignor, Overland; J. T. Palmatory, Chalmers; E. C. Pelouze, Chalmers; E. J. Allen, Rambler; S. Stagg, Regal; T. E. Williams, Buick, and Edgar Hicks, Maxwell.

The two delinquents who failed to finish were D. McAnally, Maxwell, and S. Stagg, Regal. McAnally struck a plank on a dilapidated bridge near Petersburg and ripped a hole in his crankcase, while Stagg bent an axle and got water in his gasoline from the heavy rain on the last day. The total distance was 300 miles, the daily stages being as follows: First day, Richmond to

Littleton, 107 miles; second day, Littleton to Raleigh, 83 miles; third day, Raleigh to Clarksville, 90 miles; final day, Clarksville to Richmond, 110 miles.

Owing to the heavy roads, mechanical troubles were numerous, and only two cars went through the technical test without penalization. These were the ones driven by Foster and Wagner, but the latter already had incurred road penalties, so the winner had clear sailing to the trophies. The penalizations were heaviest on the last day's run, which was the longest and was over execrable Virginia roads.

The contest was marked by one serious accident, which occurred on Tuesday, the first day, and came near to having a fatal termination. Singularly enough, it was the officials who were concerned instead of a contestant as usually is the case. When a few miles from Littleton the night control, Coleman Cutchings, who was driving the White official car, had a fainting spell, the wheel slipped from his nerveless fingers and the car dashed over a 35-foot embankment onto the tracks of the Seaboard Air Line which run close by the scene of the accident. All of the occupants were thrown out by the terrific impact when the car struck. Aid soon arrived from cars which were following close behind, and the occupants of which witnessed the disaster. Cutchings was found with his head completely buried in the mud alongside the embankment. R. B. Tellport, observer, and W. B. Nelson, checker, were found unconscious and bleeding from wounds about the head, while Allen Potts, managing editor of the "Times-Dispatch" was found half conscious, suffering intensely. The injured men were placed on stretchers and taken to Littleton to a hotel where physicians attended to their hurts. Potts and Cutchings were able to continue with the run, but the other two sustained serious though not dangerous injuries which will incapacitate them for a time before they fully will recover.

The results are given in the following table:

Division 1.						
	1st Day	2d Day	3d Day	4th Day	Technical	Total
Edgar Hicks, Maxwell.....	0	0	0	77	46	123
B. D. Daniels, Hupmobile.....	0	6	85	142	10	243
Division 3.						
E. C. Pelouze, Chalmers.....	2	1	0	25	7	35
J. T. Palmatory, Chalmers.....	89	2	0	3	102	196
Dr. Samuel McAnally, Maxwell.....	*					
S. Stagg, Regal.....	*					
Division 4.						
L. M. Foster, Buick.....	0	0	0	0	0	0
E. J. Allen, Rambler.....	0	0	13	0	30	43
Rufus C. Williams, Buick.....	0	0	0	50	48	98
J. R. Williams, Buick.....	12	0	2	150	60	224
T. E. Williams, Buick.....	5	30	3	586	—	624
Division 5.						
John B. Alsop, Speedwell.....	0	0	1	19	0	20

\* Disqualified; did not finish; did not take technical examination.

## ELECTION AFFECTS SAVANNAH RUN

**Jacksonville Club's Contest Suffers from Heat of Politics—Trip Proves Easy and Uneventful.**

That election day is not an auspicious date on which to hold an endurance contest if a large field of starters is desired, was convincingly impressed on the officers of the Jacksonville (Fla.) Automobile Club on Tuesday, 7th inst., the occasion of the club's first endurance run to Savannah, Ga., to attend the good roads convention. Instead of the expected two score and more starters which advance prognostications had indicated would be on hand, only a lean dozen cars came to the scratch when the starting hour arrived. With one of the hottest political campaigns in the history of the state reaching its zenith, the large large defection strikingly illustrated that the average Southern motorist prefers the excitement incident to the battle of the ballots to the doubtful thrills of an endurance contest. Even the expensive \$300 trophy offered by the club and the "Times-Union" and Savannah A. C. cups did not serve to attract a big field.

Each car bearing fluttering pennants with the word "Jacksonville" thereon, and witnessed by hundreds of spectators, the start was made at 8 o'clock, Tuesday morning, 7th inst., from the city hall, the contestants being the following: Dr. W. M. Stinson, Oldsmobile; L. C. Oliver, Ford; W. E. Sloan, Overland; Herbert B. Race, Ford; Hobart C. Hare, Buick; O. S. Albritton, Cadillac; P. A. Holt, Cadillac; Forrest J. Hyde, Jr., Cadillac; George F. Bessel, Cadillac; M. D. Johnson, Oldsmobile; D. H. McMillan, Oldsmobile, and B. A. Coleman, Hudson.

All of the cars reached Brunswick, Ga., early in the afternoon and the party put up there for the night. The excellent roads encountered made the run akin to a pleasure jaunt, and beyond a few tire troubles no mishaps occurred. The second and final day's run of the 176 miles trip was equally uneventful, and 11 cars finished with perfect road scores. The unfortunate was W. E. Sloan, Overland, who experienced trouble near Savannah and arrived late. The tourists were escorted into the city by a delegation of motorists from the local club.

### Springfield Club Elects Officers.

Springfield (O.) Automobile Club—President, Frank R. Packham; vice-president, C. W. Arbogast; secretary-treasurer, George Mentel. Committees also were appointed: Membership, R. A. Worthington and Charles Winkler; Runs and Tours, George Limbocker and Foster B. Houston.

### ALL OLDFIELD AT KANSAS CITY

**"The Greatest Ever" has Easy Pickings at Postponed Meet—Thurman Takes All that he Left—A Handicap.**

After no less than four postponements on account of the rain that has deluged almost the entire country for the past two or three weeks, Barney Oldfield and his racing stable, reinforced by several local drivers and cars, were able to carry out a part of their program at the Elm Ridge mile track near Kansas City, Mo., on Saturday last, 11th inst. A two days' meet originally had been scheduled for June 3 and 4, but the constant wet weather made several postponements necessary. A clear day finally broke on Saturday, but the soft track prevented any remarkable performances, though it did not prevent Oldfield from having the usual spotlight turned full in his direction. Because of a feeling against Sunday racing the program was compressed into one day, and 5,000 persons saw Oldfield do his usual stunts.

Both Kerscher and Oldfield tried for mile records in their racing mastadons, but neither was successful in shattering previous "dirt track records," although the times were not by any means slow. Oldfield made three attempts, his first trial—52½ seconds—being the fastest.

The feature event of the afternoon was a 50 miles stock chassis race in which Oldfield entered with his fast Knox car. Strang was up in a Jackson, LaRoche and Clarke piloted Cuttings, Miller handled a Warren-Detroit, and Thurman started in an Auburn. Oldfield soon assumed the lead and had no trouble in lapping the other contestants about as he pleased. In the first four miles Strang and Thurman had a pretty duel. Up to the 28th mile Oldfield had lapped every other car except the Auburn, which then was compelled to withdraw with a leaky radiator. It resumed the running after two laps, but could not make up the lost ground. Strang also lost a lap through tire trouble. Oldfield finished in 56:07 and LaRoche and Clarke followed, respectively, in 59:04 and 1:00:04.

In the 5 miles free-for-all stock chassis Oldfield and Strang gave the crowd its money's worth by running neck and neck until the last few yards, when Oldfield unloosed another notch and won out by a length. The free-for-all handicap was won by Thurman, in an Auburn, who had no trouble in keeping considerable distance ahead of the remainder of the field. The real fun was in the fight for second place, Clarke defeating Miller with nothing to spare. Two motorcycle races completed the program. The summary:

Five miles for motorcycles, 30½ cubic

inches—Won by Norton, Merkel; second, Saufley, Excelsior. Time, 6:44.

One mile motorcycle exhibition—By Norton, Merkel. Time, 1:09.

One mile against time—By Kerscher, Darracq. Time, 0:53¾.

One mile against time—By Oldfield, Benz. Time, 0:52½.

Five miles free-for-all stock chassis—Won by Oldfield, Knox; second, Strang, Jackson; third, Miller, Warren-Detroit. Time, 6:02½.

Five miles handicap, free-for-all—Won by Thurman, Auburn (1:10); second, Clarke,

### DE PALMA TOPS GIANT'S DESPAIR

**Makes Record-Breaking Flight up Wilkes-Barre's Mountain—Belcher Leads Two Classes—Honors Well Distributed.**

Undismayed by the rain, which caused a postponement of the fifth annual national hill climb on Giant's Despair from Saturday last, 11th inst., the Wilkes-Barre (Pa.) Automobile Club managed to hold the event on Tuesday, June 14th, and the affair did not lose a great deal by the postponement. It



GENERAL VIEW AT FIRST "S" TURN ABOVE DEVIL'S ELBOW

Cutting; third, Miller, Warren-Detroit. Time, 5:48¾.

Five miles motorcycle handicap, 61 cubic inches—Won by Lindle, Merkel; second, Norton, Merkel. Time, 5:55.

Fifty miles free-for-all stock chassis—Won by Oldfield, Knox; second, LaRoche, Cutting; third, Clarke, Cutting. Time, 56:07.

#### Horse, Motor Car and Aeroplane to Meet.

A race between the speed marvels of the past, present and future, viz., the horse, automobile and aeroplane, is the rare offering with which the promoters of the Twin City aviation-automobile meet, to be held at the state fair grounds, St. Paul, Minn., June 22-25, have arranged to thrill the spectators. Minor Heir, a fast harness stepper, will uphold the prestige of the equine on a half mile dirt track, while Barney Oldfield will drive a Benz car on the outside mile oval and Glenn Curtiss in a biplane will endeavor to outdistance his earthly rivals. Each contestant will make two circuits of the course, the horse traveling only half as far as the others; Curtiss, of course, will endeavor to follow an approximate course above.

was eminently successful and was witnessed by an immense crowd, which, however, scarcely was as large as the crowd which saw the event in previous years when it was held on a holiday. The spectators as usual were treated to some dare-devil driving, and saw Ralph DePalma lower the record for the course.

In the free-for-all climb DePalma was at the wheel of his famous Fiat, and when he thundered up the long winding mountain road the spectators that fringed both sides of the road gave him a wide berth. With a noise like a big gatling gun, this intrepid Italian shot up the slight rise to the dangerous Devil's Elbow, hurtled around the crook like a frightened hornet and plunged upward and around the famous double "S" curve to the Mountain House turn, seemingly gathering speed with every explosion of the giant motor, until he darted across the finish line at Prospect Rock, like Hamilton making one of his famous dips. The crowd yelled its approval of the magnificent performance, for intuitively they realized a record had been shattered, and they had but a moment to wait for verification. The megaphone men simultaneously gave out the news:

"DePalma's time was 1 minute 28 $\frac{3}{4}$  seconds!"

Then the crowd cheered and gave DePalma an ovation when he passed the Mountain House on the way back to the starting point, with the blue flag of victory in his hand. DePalma earned the plaudits, for he had traveled up Giant's Despair mountain faster than any man ever had traveled it before. The record for the course stood at 1:31 $\frac{3}{4}$ , made last year by David Bruce-Brown, in the 120 horsepower Benz; on that occasion DePalma finished second. The same Benz car, with E. A. Hearne as pilot, started in the event Tuesday, and after a false start began again, but stopped half way up the incline. Zengle, in the big Chadwick, was a not dangerous

fortunately, was without serious results. Tom Berger's Warren-Detroit car overturned at the Mountain House turn. Berger was thrown out, but escaped injury, although the car was not so fortunate.

The first driver to cover the course in less than two minutes was Ray Harroun, the well known Marmon crack, who won the 231-300 cubic inches class in the record time of 1:50 $\frac{3}{4}$ , Robert Johnston running second in his Pope-Hartford in 2:05. The succeeding three events resulted in a clean-up for Knox cars, Belcher winning the 301-450 class and the Hollenbeck Trophy event, while L. A. Disbrow took the honors in the 451-600 class. Honors in all these events were closely won and the interest therein consequently keen.

Stock Chassis, 451-600 Cubic Inches.

- 1 L. A. Disbrow, Knox.....1:47 $\frac{3}{4}$
- 2 John Aitken, National.....1:55
- 3 William Tousey, National.....1:58 $\frac{1}{2}$

Fully Equipped Stock Cars, \$2,000-\$3,000, for Hollenbeck Trophy.

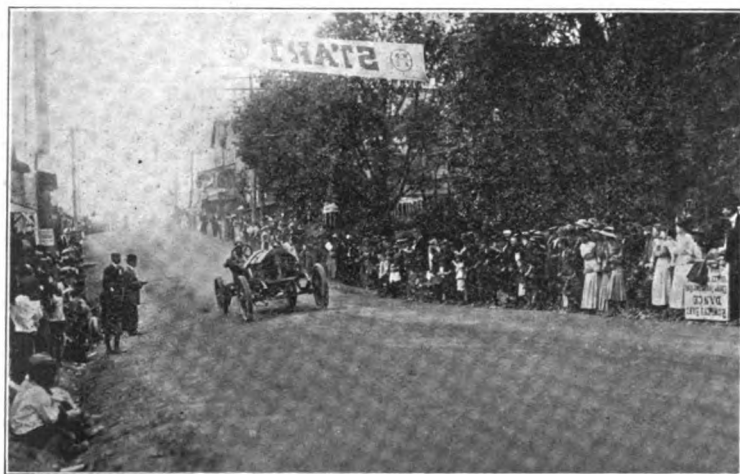
- 1 Fred Belcher, Knox.....1:53 $\frac{3}{4}$
- 2 Guy Reynolds, Matheson.....2:00 $\frac{3}{4}$
- 3 Thomas Kincaid, National.....2:01 $\frac{3}{4}$

Free-for-All.

- 1 Ralph DePalma, Fiat.....1:28 $\frac{3}{4}$
- 2 Len Zengle, Chadwick.....1:37 $\frac{1}{2}$
- 3 L. A. Disbrow, Knox.....1:45 $\frac{3}{4}$
- 4 Fred Belcher, Knox.....1:45 $\frac{3}{4}$

Invitation Free-for-All.

- 1 Len Zengle, Chadwick.....1:37 $\frac{3}{4}$
- 2 L. A. Disbrow, Knox.....1:44 $\frac{3}{4}$
- 3 John Turner, Matheson.....1:48
- 4 Thomas Kincaid, National.....1:53 $\frac{1}{4}$



DISBROW (KNOX) MAKING A GOOD GETAWAY



HOLT (POPE-HARTFORD) DRIVING HIS OWN CAR

second, his time being nearly 10 seconds slower than DePalma's.

The Giant's Despair mountain is, perhaps, the most famous automobile hill climbing course in America, and any car must be a good climber to reach the top. The length of the course, from start to finish, is exactly 6,000 feet, and at the steepest point the gradient attains a slope of 22 per cent. In addition to its steepness there are innumerable twists and turns, and at one point a slight deviation from the course means falling 100 feet to a quarry below. The driver has ample use for all his nerve and skill.

Although he made a magnificent run and broke the record for the course, DePalma was not the only hero of the occasion. Several prominent drivers and cars were on hand, and there was not a walkover in any event. Faster times than last year prevailed in all the events, and a great deal of the success of the meeting was due to the excellent policing by the Pennsylvania State Constabulary—that excellent body of police whose command is heeded as readily as the upraised hand of the London "bobby."

The only accident of the day occurred in the first event, for stock chassis within the 161-230 cubic inches category, but this, for-

John Turner came in for a large share of applause when he won the class for cars owned by members of the Wilkes-Barre A. C., and costing over \$2,000. Turner's Matheson covered the course in 1:46 $\frac{3}{4}$ , and he had the distinction of defeating such well known cracks as Belcher, Aitken and Johnston.

In addition to the free-for-all which DePalma won, there was a consolation free-for-all, from which DePalma was barred. Len Zengle, who ran second in the first event, had no trouble in winning the consolation, his time, 1:37 $\frac{3}{4}$ , being three-fifths second slower than in the free-for-all. The summary:

Stock Chassis, 161-230 Cubic Inches.

- 1 H. A. Bauer, Oakland.....2:17 $\frac{3}{4}$
- 2 Frank Martz, Reo.....2:21 $\frac{1}{2}$
- 3 F. M. Costello, Maxwell.....2:55
- 4 M. S. Donnelly, Maxwell.....3:03 $\frac{3}{4}$

Stock Chassis, 231-300 Cubic Inches.

- 1 Ray Harroun, Marmon.....1:50 $\frac{3}{4}$
- 2 Robert Johnston, Pope-Hartford..2:05
- 3 H. P. Hardesty, Pullman.....2:05 $\frac{3}{4}$
- 4 Emil Holt, Pope-Hartford.....2:12

Stock Chassis, 301-450 Cubic Inches.

- 1 Fred Belcher, Knox.....1:52
- 2 Ray Harroun, Marmon.....1:54
- 3 John Aitken, National.....1:54
- 4 Thomas Kincaid, National.....2:00

Wilkes-Barre A. C. Members, \$2,000 and Under.

- 1 Ed. Hablett, Marion.....2:19 $\frac{3}{4}$
- 2 M. S. Donnelly, Maxwell.....2:46
- 3 T. M. Costell, Maxwell.....2:55 $\frac{3}{4}$
- 4 W. C. Moore, Regal.....3:05 $\frac{3}{4}$

Wilkes-Barre A. C. Members, \$2,000 and Above.

- 1 John Turner, Matheson.....1:46 $\frac{3}{4}$
- 2 Fred Belcher, Knox.....1:51 $\frac{3}{4}$
- 3 John Aitken, National.....1:52
- 4 Robert Johnston, Pope-Hartford..2:04 $\frac{3}{4}$

Amateurs Can't Have Hotel Bills Paid.

Because, it is alleged, of the activities of Caleb Bragg, the contest board of the A. A. has ruled that any driver who accepts payment of his traveling, hotel or other expenses violates the amateur rule which forbids the acceptance of cash or other valuable consideration. Payment of such expenses is interpreted as being a "valuable consideration." Bragg, who generally is touted as the "millionaire amateur driver," had desk room in the office of the importers of the car with which he competes, but apparently the A. A. A. contest board does not consider the fact to be evidence that he is "actually engaged in the automobile or accessory industries," which activity, according to the rules, is sufficient cause for denying amateur registration.

**GAYNOR GREETS GOOD ROADSTERS**

**New York's Mayor Says Nice Things to Atlanta-New York Tourists—Few Finish with Clean Scores.**

Apparently forgetting the temporary animosity which he displayed towards motorists a few days ago when he told a party of them who attended a hearing in his office to protest against the closing of a portion

he had concluded Colonel Gray of the Atlanta Journal responded and presented the mayor with a silver loving cup, the gift of Mayor Maddox of Atlanta.

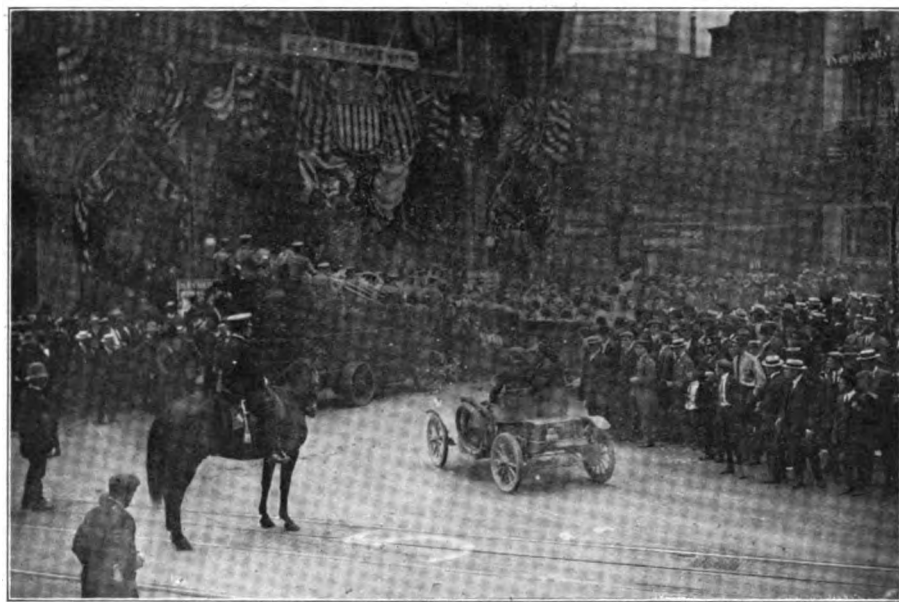
This ended the festivities on the island and the tourists, who included several family parties, embarked for New York, landing at the Battery and proceeding up Broadway past the City Hall—where the mayor again reviewed them—to Herald square, where they were dismissed.

Immense crowds, such as only New York

the run with perfect scores. The honor division were the following: Class 2—E. M. Willingham, Atlanta, Ga., Ford; Class 3—D. K. McColl, Bennettsville, S. C., Cadillac; James A. Gray, Jr., Winston-Salem, N. C., Mitchell. Class 5—Norman Gallatin, York, Pa., Pullman. Class 6—E. H. Inman, Atlanta, Ga., Pope-Hartford. Class 7—E. M. Durant, Atlanta, Ga., Pope-Toledo; Asa C. Candler, Jr., Atlanta, Ga., Lozier.

Sixty-two contesting cars started from Atlanta, Ga., on Monday morning, 6th inst., on the second annual Good Roads tour to New York over the proposed national highway between the two cities, and 48 of them arrived at their destination despite unusual hardships in the shape of bad roads and unfavorable weather. The total distance was about 1,100 miles, and the tour occupied 8 days. The night controls were as follows: Monday, 6th, Anderson, S. C.; Tuesday, 7th, Charlotte, N. C.; Wednesday, 8th, Martinsville, Va.; Thursday, 9th, Staunton, Va.; Friday, 10th, Gettysburg, Va.; Saturday, 11th, Philadelphia, Pa., where the tourists spent Sunday; Monday, 13th, finished at New York.

The 48 survivors were as follows: Asa C. Candler, Jr., Atlanta, Ga., Lozier; Colonel John J. Woodside, Atlanta, Ga., Thomas; W. J. Stoddard, Atlanta, Ga., National; Robert E. O'Donnelly, Atlanta, Ga., Packard; Edward M. Durant, Atlanta, Ga., Pope-Toledo; Regal Motor Car Co., Atlanta branch, Regal; Jackson P. Dick, Atlanta, Ga., American Traveler; Edward H. In-



ATLANTA-NEW YORK TOURISTS ARRIVING AT HERALD SQUARE

of the Coney Island boulevard to motorists, that they were a selfish lot, Mayor Gaynor of New York went down to Staten Island in the harbor on Monday afternoon, 13th inst., to welcome the tourists in the New York Herald-Atlanta Journal Good Roads tour to the metropolis. When the mayor arrived at the Staten Island automobile club house, where he found a majority of the tourists awaiting him, he welcomed them to the city and told them how glad he was to greet them. Immediately after the official "Howdy" had been pronounced the visitors repaired to Hugot's Crystal Gardens for luncheon.

When the mayor entered the dining hall the entire assembly arose and launched a political boom for him by greeting him amid cheers as the next president of the United States. One enthusiastic Southerner even promised him the Georgia vote. Then his honor commenced in his best formal manner with that stock phrase which is so often used that it deserves to be classed as a commodity that he was glad to welcome them and to meet them. Those Southerners with whom he already had come in contact in the city had impressed him as being a pretty good sort all through. Of course he did not forget to commend the enterprise and public spirit of the newspapers which engineered the tour, and after



THE "OPEN AIR GARAGE" AT GETTYSBURG

can furnish on short notice, greeted the tourists as they rolled up Broadway in their mud-stained and pennant-bedecked machines on the last stretch of their 1,100 miles struggles with execrable roads and weather most of the way.

While the official results have not been announced yet, it is stated on good authority that 7 of the 48 surviving cars finished

man, Atlanta, Ga., Pope-Hartford; C. W. DuPree, Marietta, Ga., Maxwell; Charles I. Ryan, Atlanta, Ga., Columbia; W. E. Wimpy, Atlanta, Ga., Buick; J. H. Marsteller, Roanoke, Va., Chalmers; E. M. Willingham, Atlanta, Ga., Ford; Ralph W. Norcutt, Marietta, Ga., Hudson; Arthur T. Smart, Atlanta, Ga., Speedwell; Columbus Buggy Co., Columbus, O., Firestone-Columbus;



W. D. Alexander, Atlanta, Ga., Stoddard-Dayton; Maxwell-Briscoe-Southern Co., Maxwell; T. H. Cooper, Salem, Va., Corbin; C. H. Johnson, Atlanta, Ga., Stevens-Duryea; Georgia Commission Co., Albany, Ga., Halladay; Herman J. Haas, Atlanta, Ga., Winton; S. M. Smith, Bluefield, W. Va., Speedwell; Roy Collier, Atlanta, Ga., Thomas; Mercer Motor Car Co., Trenton, N. J., Mercer; Pullman Motor Car Co., York, Pa., Pullman; D. K. McColl, Bennington, S. C., Cadillac; Marcellus Rambo, Birmingham, Ala., Columbia; Winston-Salem (N. C.) Good Roads Committee, Mitchell; W. A. Gunter, Montgomery, Ala., White; W. H. Peacock, Cochran, Ga., Cadillac; Mrs. Myrtle L. Barnes, Montgomery, Ala., Stevens-Duryea; Charles T. Smith,

## RULES THAT PROMOTE CHEATING

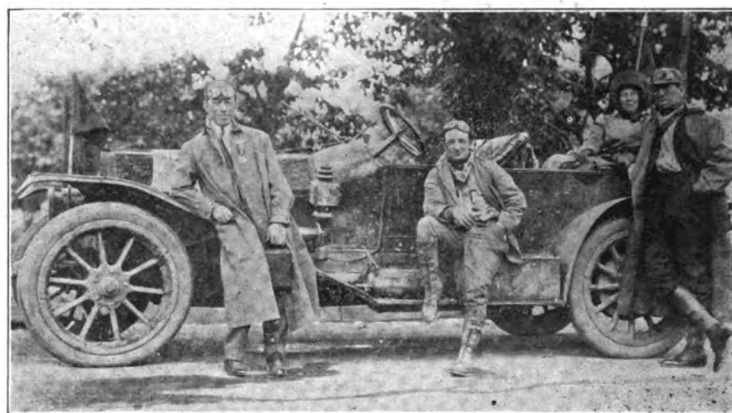
**So Says Flanders of A. A. A. Stock Car Regulations — Remarkable "Options" Discovered by His Investigators.**

Convinced that in operation the A. A. A. stock car rule is largely a joke, the E-M-F Co. this week announced that it had abandoned its previously expressed intention to enter the racing field. Its decision grew out of the visit made to the last racemeet on the Indianapolis Speedway, by James Heaslet, the E-M-F chief engineer, and a corps of technical experts, Heaslet, incidentally, being a member of the rules com-

E-M-F company be glad to enter the lists and pit its stock models against all comers," says President Flanders, of the E-M-F company, in referring to Heaslet's discoveries. "But so long as conditions are as they are it resolves itself simply into a case of who can cheat the most, and who is cleverest at finding loop-holes in the rules or enlisting influence of racing management to evade such rules as confine contestants to fair method; so long will we stay out of these events."

### Bigelow Falls Short of the Record.

C. H. Bigelow, who in a Mercer car left New York on May 16th, intent on breaking the cross-continent record of 362 hours, failed of his purpose. He reached his des-



TWO FAMILY GROUPS OF GOOD ROADS TOURISTS—EDWARD M. DURANT (POPE-TOLEDO) AND JOSEPH F. GATIN (KNOX)

Concord, Ga., Maxwell; N. W. Wallace, Jr., Charlotte, N. C., Hupmobile; Georgia Brush Auto Co., Atlanta, Ga., Brush; Preston S. Arkwright, Atlanta, Ga., Pope-Hartford; John W. Grant, Atlanta, Ga., Locomobile; E. D. Crane & Co., Atlanta, Ga., Hupmobile; John Moore & Co., New York, Brush; J. Epps Brown, Atlanta, Ga., Selden; Dr. E. C. Seawright, Fayetteville, Ga., Ford; Ohio Motor Car Co., Cincinnati, O., Ohio; Carter and Logan Bros., Savannah, Ga., Cole; A. P. Herrington, Atlanta, Ga., Reo; R. D. Apperson, Lynchburg, Va., Palmer-Singer; R. G. Scruggs, Waycross, Ga., E-M-F; Emmett Callan, Washington, Ga., Maxwell; J. W. Mangham, Griffin, Ga., Columbia.

The 14 starters who failed to finish were the following: Beaumont Davison, Atlanta, Ga., Packard; Joseph F. Gatins, Jr., Atlanta, Ga., Knox; W. S. McNeal, Jr., Atlanta, Ga., Lambert; J. T. McNinch, Atlanta, Ga., Lambert; White Star Co., Atlanta, Ga., White Star; Maxwell-Briscoe Motor Co., New York, Maxwell; Kelley-Knight Motor Car Co., Atlanta, Ga., Kisselkar; C. D. Smith, Albany, Ga., Jackson; Julian H. Reynolds, Augusta, Ga., Maxwell; L. C. Brown, Athens, Ga., Mitchell; W. G. Humphrey, Atlanta, Ga., Pullman; Robert Campbell, Cedartown, Ga., Oakland; M. L. Thrower, Atlanta, Ga., Ohio; Lamar S. Collier, Atlanta, Ga., Buick.

mittee of the A. A. A. Their investigations quickly uncovered the startling effects of the rule which permits a car to be subjected to a great variety of mechanical "options" or alterations and yet to remain a stock car.

Mr. Heaslet and his associates found "stock cars" which, to quote E-M-F language, were "simply idealizations of regular models, prepared for racing, in many cases, by months of expert labor." The beautiful workings of the "option" clause in the rules resulted in such departures from "identical specifications and designs" as the following: Special ignition equipment; reduction in the number of piston rings; enlarged lubrication leads, specially constructed camshafts; specially timed valves; systematic lightening until some of the cars varied only a pound or two from the racing minimum of the class; racing rims and tire equipment; radical revision of the system of control and scores of other variations. Mr. Heaslet found also that the rule forbidding the use of adulterated gasoline was wholly forgotten.

"When the rules are such as to eliminate from 'stock car' events all such cars as do not actually represent standard construction—in short the car sold to customers, and when those rules are enforced in the spirit as well as in the letter without favoritism or technical evasion, then will the

tinuation, Los Angeles, on Monday night last, 13th inst., having occupied 28 days, which, nevertheless, was good going. He followed an unusual route, via St. Louis and the old Santa Fe trail, and encountered much hard traveling and suffered many hardships, particularly in crossing the deserts.

### Gives Trophies With Some Cars.

Certain sentimental considerations attach to cars that have won prominent competitive events, inducing purchasers to select those particular machines rather than others of the same pattern. In recognition of the existence of such associations, C. W. Matheson, president of the Matheson Automobile Co., New York, in recent instances has included the trophies that the car won, in making the sale of such machine, giving the purchaser the tangible proofs to support boasts as to what the car has done.

### Bridgeport Climb an All Around Failure.

As the sparsity of contestants would imply, it now develops that the Bridgeport (Conn.) Automobile Dealers' Association's unsanctioned and much opposed hill climb on Decoration Day, not only was a sporting farce but also a financial failure. While all accounts are not yet liquidated, reports indicate that the deficit will amount to about \$200.



**BIG PROGRAM FOR INDIANAPOLIS**

**Motor Speedway Events Scheduled for July 1, 2 and 4—Cobe Trophy Race to be Only 200 Miles Long.**

Entry blanks for the contests for the Cobe, G & J and Remy trophies which will form the nucleus of the second Grand Circuit meeting of the season on the Indianapolis (Ind.) Motor Speedway on July 1, 2 and 4, were issued this week. Interest naturally centers in the Cobe race which under the direction of the Chicago Automobile Club will be staged for the second time on July 4, the final day of the meet-in, and this year will be run under changed conditions, in that it will be contested on a speedway; last year it was a road event, 395 miles, and was run on a 23 miles circuit at Crown Point, Ind.

Contestants in the 1910 race will not travel as far as did the competitors last year, the distance having been reduced to 200 miles. These changes in the race conditions, which are permissible under the deed of gift, are said to be so unsatisfactory to the Buick Motor Co., title holder of the trophy, that it has decided not to defend the cup.

As was the case last year, the second Cobe race will be a stock car event and will be open to cars with a piston displacement not exceeding 600 cubic inches, and a minimum weight of 2,300 pounds. In addition to possession of the trophy until it again is raced for, the winner will receive \$500 in gold, while the second place will be worth \$300 and third will net the holder \$200.

In addition to the Cobe race, the remainder of the Independence Day bill will consist of two 5 miles events for stock chassis under 160 cubic inches, and between 231-300 cubic inches respectively, and a trio of 10 miles races for cars eligible in the 161-230, 301-450 and 451-600 classes; also there will be a 10 miles free-for-all and a 20 miles handicap open to all comers.

On Friday, 1st inst., the opening day of the meet, the premier number will be the race for the G & J trophy, valued at \$1,000. The distance will be 50 miles, and cars in the 231-300 division, weighing less than 1,700 pounds, will be permitted to battle for it. The cash prizes in this race are \$150, \$100 and \$50 respectively. Robert Burman, who captured the Speedway silver helmet last month, and which carries with its possession \$50 per week, will be called on to defend it on this day. The distance will be 10 miles and is an open event. The rest of the day's card consists of the class events and a 10 miles handicap.

Valued at \$2,500, the Remy Grand Brassard and Grand trophy which Ray Harroun in a Marmon captured at the May meeting again will be raced for on Saturday, 2nd,

and will be the feature event. Possession of the Brassard carries with it \$50 per week, which is increased to \$75 if the winning car is equipped with a Remy magneto. The trophy is held by the maker of the victorious car. The distance is 100 miles, and in the coming race the engine limitations have been raised from 231-300 cubic inches displacement, to admit all cars under 450 cubic inches.

**Locomotive is Grant's Mascot.**

Gobbos, gumbos, eagles, bull dogs and other forms of mascots have adorned radiator caps for some time but the most unique form of motor-millinery, or bonnet decoration, as one pleases, appears on Harry Grant's Alco touring car. It has an in-



GRANT'S ALCO CAR WITH LOCOMOTIVE MASCOT

teresting miniature locomotive and tender hauling a miniature Vanderbilt cup, set on the hood of the demonstrating car which he drives around Boston. Of course, it was designed to call attention to his and the Alco's victory in the last Vanderbilt cup race, and so well did it serve the purpose that ever time Grant stopped a crowd collected. In fact, he almost was arrested for obstructing the traffic but escaped incarceration by moving on before the five minutes for stops allowed by law had elapsed.

**Takes Long Journey Toward Home.**

While the practice of purchasers driving their cars from the factories to their homes is a common one, George H. Harter, of Sacramento, Cal., probably is establishing something of a record in that respect. He has purchased a friction-driven Cartecar at the factory at Pontiac, Mich., and is driving it to Chicago, from which place he will go south into Texas, thence across to Los Angeles and up to Sacramento, his home town.

**RUN OLDSMOBILE RACES IN A HAT**

**Owners Gather at Empire Track for Third Annual Reunion—Weather Compelled Lottery for the Prizes.**

One hundred and sixty-nine Oldsmobile owners, under the leadership of Gen. John T. Cutting, braved the inclement weather on Saturday last, 11th inst., and drove to the old Empire track to participate in the third annual reunion of their clan. Possibly their courage was bolstered up to a degree by the announced intention of the Olds-Oakland Co., the local Olds representatives, of raffling off a brand new car

of latest model to one of their number.

The original plans called for a more or less ambitious racing card, interspersed with aeroplane flights, and a picnic fest. But when the party assembled at the grass-grown trackside it was found that the effect of the rain had been to render the course unfit for speeds such as even the curved dash oldtimers were expected to show. Consequently the schedule was modified and so that everybody might be satisfied it was decided that all of the prizes offered should be drawn for. Therefore the "races" were run in a hat, with a merry maiden for time-keeper and scorer. A. C. Stem, a New York real estate man, drew the lucky number which decided the ownership of the new car. The decision of this momentous question was about the only part of the original program that went off according to schedule. Twelve of the little curved dash runabouts being on the spot, their owners raffled for the prize which had been offered them in competition. The same plan was followed by the entrants in each of the other events listed.

## HAD HORSES WAITING FOR THEM

Promoter Made Certain His Contestants Would Reach Montauk Somehow—Annual Visit to Long Island Hotels.

After previously having made a private expedition over the route to consummate the "usual arrangements" with his friends, the bonifaces, the Motor Contest Association which in private life is W. J. Morgan of New York, "delivered the goods" on Tuesday and Wednesday, 14th and 15th inst., when some 50 cars, of which 33 were contestants, unloaded guests at Morgan's "official hotels." This year's "Around Long Island reliability run" officially is styled "Montauk Light or Bust," and certainly is rightly named, for at least one car "busted" on the first day, if destruction by fire is in that category. On account of the hard roads which were included in the first day's run, the start was set for 6 a. m. from the Metropolitan tower at Madison avenue and 23d street.

Shelter Island, 211 miles by the official route, was the objective the first day, and enabled the motorists to liberally distribute their surplus wealth at the numerous hostleries on the way. Crossing the Queensboro bridge the course lay along the famous Merrick road to Southampton, the halfway point and a control station. Seventeen miles further on at Three Mile Harbor the association established the dinner stop, and awarded the contract for it to Ulysses Lee, whose terms undoubtedly were satisfactory to the promoter if not to the diners themselves. Passing through Amagansett, the "Busters" entered the sandy and rocky wastes of Montauk, known as the Bad Lands and rightly named. By advance arrangement teams were on hand here to pull out any cars which might become stranded in the sand and the foresight was justified, for over a dozen cars were mired in the mud, caused by the continuous recent rains, and required to be towed out. Some of the cars sank in the mire until their floors rested on the ground.

On arriving at the Montauk lighthouse the contestants who got that far were held in control to enable a majority of those behind to report, as part of the route doubled on itself here through the sand stretches and narrow lanes where it would be impossible for two cars to pass. After being released at the lighthouse the cars retraced their course over the sandy wastes to Southampton, and it was along this leg that three of the contesting machines got off the course and lost themselves. Scrub oaks dot the desolate wastes thickly, and although searching parties were sent out when the missing ones failed to arrive at the night control within a reasonable time, the searchers were unable to locate the

wanderers, who spent the night on the meadows. The labyrinth of blind roads in the vicinity easily would entrap and bewilder the most familiar with the locality. It also was in this section that one of the cars caught fire and was totally destroyed.

From Southampton the junketers traveled over to the south shore to Good Ground, and thence through Riverhead, Mattituck and Greenport to the night control at Shelter Island. All but the four cars previously accounted for arrived at the night control, where Chequit Inn was the official hostelry.

Leaving Greenport at 8:30 a. m. Wednesday morning, the course lay east to Orient Point, where a control was established to enable those who cared to to inspect the lighthouse. Continuing, the tourists followed the shore to Southold and there crossed the Long Island Derby course, another Morgan enterprise and a lamentable one from a financial standpoint, to Port Jefferson and on to Huntington, where the Motor Contest Association conducted his guests to the elite and aristocratic Cafe des Beaux Arts (it costs real money to dine here). Two hours were allotted for the stay here, in order that those who wished might top off their repast with a dip in the briny. Resuming the trip the route lay through Cold Spring, Oyster Bay and Sea Cliff, along the North Hempstead road to Flushing and thence home.

The contestants were as follows:

Division 1A, \$800 and under—Elmer D. Cutting, Hupmobile; R. E. Gillam, Hupmobile.

Division 2T, \$801-\$1,200—W. A. Starbuck, Ford; D. M. Hasbrouck, Mitchell; E. E. Easter, Buick; W. B. Young, Ford.

Division 3A, \$1,201-\$1,600—George Ainsley, Regal; William Simonson, Mitchell; E. M. Welch, Chalmers; E. A. Taylor, E-M-F.

Division 4A, \$1,601-\$2,000—Lewis Strang, Pierce-Racine; H. F. Earl, Auburn; O. R. DeLamater, Mitchell; John L. Gwyer, Elmore; Thomas Wilson, Westcott; Dr. William H. Nafis, Buick; W. Davenport, Buick; Philip Hines, Buick; Frank Remsen, Buick.

Division 5A, \$2,001-\$3,000—W. E. Shuttleworth, Haynes; Joseph Trehou, Mercer; C. J. Hickman, Franklin; George E. Mack, Selden.

Division 6A, \$3,001-\$4,000—Paul Harvey, Franklin; H. K. Sutherland, Knox; Ward Smith, Welch-Detroit; Arthur Coombs, C. G. V.

Division 7A, \$4,000 and over—V. P. Pisani, Zust; Walter Jones, Amplex; Peter Smith, Fiat; Earle A. Cryne, American; Edgar G. Murphy, Stearns.

### Automobile as a Paymaster.

Hereafter the outside city employees of Oakland, Cal., will be paid their wages at or near their place of work instead of leaving their employment and going down to the treasurer's office in the city hall to get their money. The police automobile takes the salaries for the week, amounting to about \$15,000, and is driven through the outlying districts, paying the scattered employees as it goes along. It is claimed that at least two hours working time for each man thus paid are saved to the city.

## MANY PRIZES FOR PREMIERITES

Premier Owners Again Gather at the Seashore and in Record-breaking Numbers—The Prize-Winners.

Owing to circumstances that the "Knickerbocker" division of Premier motorists, returning from their second annual outing at Cape May, arrived in New York City as an escort to the "good roads" and other things tourists all the way from Atlanta, some little confusion resulted. The combined forces reached City Hall on Monday afternoon, 13th inst., in imposing line, affording the impression that they had all come from the South, or that they had all come from Cape May, according to which brand of signs and banderoles happened to catch the eye. Actually, the Premier contingent numbered some 28 cars and represented the conclusion of one of the largest manufacturers' excursions, if not the largest, ever promoted.

The affair, which by virtue of "secret time schedule," consolation prizes for hard luck participants and other devices known to the kindly disposed organizer, had assumed a mild flavor of competition, centralized in Philadelphia. There delegations from Lancaster, Wilkes-Barre, Scranton, Newark and other eastern cities, joined with the local Premier owners and those who had come from New York, on the run to Cape May. The total number of persons on the four days' tour was more than 700, and despite the rains of the week-end and the muddy roads which resulted, no mishaps were reported. In part, this may have been due to the fact that the secret schedule feature usually results in the development of moderately slow pace. At all events, the only records broken were those for attendance and harmony.

The "guess" of Frank J. Lennon, of Mount Vernon, N. Y., was so good that it brought him the first prize, a chiming Westminster clock. George G. A. von Sholley, of Flushing, received a silver chafing dish in recognition of his, second best, effort at solving the speed riddle, while W. L. Manther, a Bay Port Premierite, received third prize, which was a combined tire case and lunch trunk. A brand new set of tires, a Jones speedometer, and a Mezger wind shield went to John D. Scott, Brooklyn; John Murphy, Mount Vernon; W. H. Ammermann, New York City, respectively. M. W. Coburn, Brooklyn, received the "hard luck" prize, a Thermos bottle outfit. The total value of the prizes was placed at \$3,000. The return of the Knickerbocker division was marked by a luncheon and reception by the Richmond County Automobile Club, at St. George, Staten Island, where Mayor Gaynor gave an address of welcome.

## STUDYING THE FIXED SPARK

Tests Indicate that it Lacks Value for Wide Speed Range—Holds Promise for Commercial Vehicles.

One of the features to which the demand for simplicity of vehicle control has given rise is the so-called "set spark" form of magneto. In this form, as is well known, the increasing voltage as motor speeds are increased is relied upon to produce a higher discharge at the spark gap of the plug.

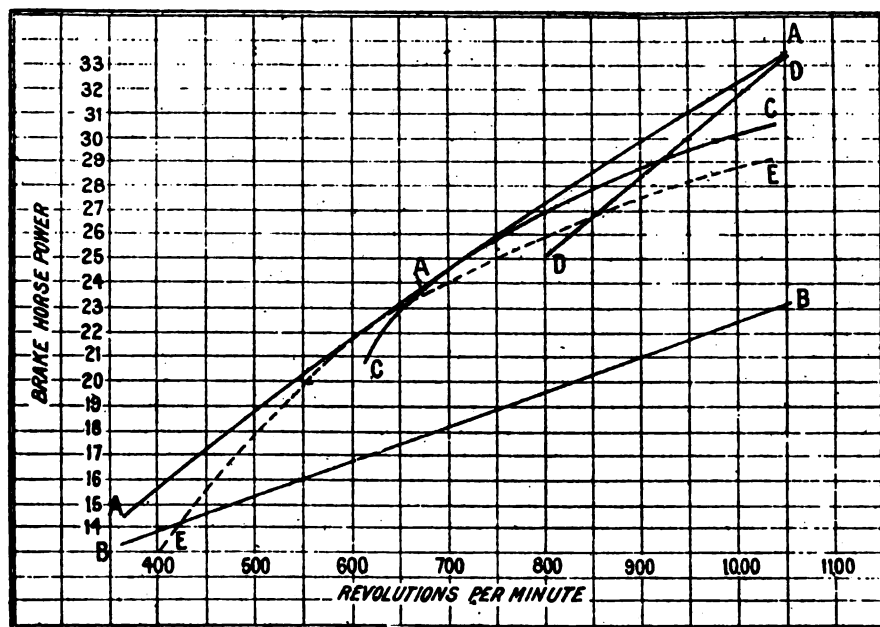


DIAGRAM SHOWING ENGINE ACTION WITH SET SPARK MAGNETO

This, affording a rough equivalent to an advance in the timing of the spark, is found to give very satisfactory results in practice, especially when applied to machines of medium and low power. That such a system is not likely to afford the highest efficiency in service, however, is the general impression, since experience teaches that with the jump spark independent hand regulation of the spark invariably proves so very essential. Such being the case, a study of the matter which is reported by an English expert is informing, particularly since it indicates the particular advantage of the system in question when applied to motors intended to be run at pretty nearly fixed speeds for the greater part of the time.

The engine on which the experiments were made was a well-designed four-cylinder, built for a chassis having an excellent reputation for efficiency," says the authority in question. "It was run on a test bench, with an accurate electric dynamometer attached, the magneto being a Bosch D4 type, suitable for variable ignition. The engine was run at various speeds, and the horsepower very carefully measured under the different conditions of timing.

"In the first test the position of the contact breaker was very carefully adjusted at each speed to give the highest possible horsepower at that speed. The results obtained are given by the curve marked A A A in the diagram. It will be seen that the engine power constantly increased at an even rate.

"For the next test, the ignition was fully retarded and fixed. In this case the engine could be run at any speed between 350 and 1,050 revolutions, but the power given off was far below the first recorded—never, in fact, rising above 23.3 horsepower at the

highest speed obtained. The results are shown by the curve B B.

"In the third trial, the timing lever was placed in the midway position and there fixed. In this case it was found that the engine would not run slower than 600 revolutions per minute without knocking badly at full throttle, nor faster than 1,025 without loss of power. It will be observed from the curve C C that, again, the results obtained by variable timing were not reached.

"For the next experiment the ignition was fully advanced, and two very definite limits were obtained, viz., at 800 revolutions the engine knocked so that a lower speed could not be experimented upon, while at 1,050 revolutions the maximum recorded horsepower was obtained. D D illustrates the results.

"Lastly, a point was selected—625 revolutions per minute—and the position for ignition at that engine speed to give the highest horsepower reading was found. The timing was then locked, and the results of the test are shown by the dotted curve E E.

"Now if these curves be carefully studied, they prove, first of all, what anyone who

has driven a car or ridden a motor bicycle should know, that to obtain the best possible results the ignition must be varied by hand to correspond with the speed. Years ago the Daimler Co. adopted as the first simplification the expedient of linking up the spark lever with the throttle, so that as the latter was opened, the former was advanced, and vice versa.

"The expediency of this need not be discussed here; what we are concerned with is to what losses are we necessarily subjected by the employment of an invariable ignition? The curves B, C and D we may leave out of the investigation, as they show merely the results of an arbitrary setting of the ignition with no particular relation to what is required by the engine. But E and A taken together will tell us all we need to know; by a judicious selection of the point at which E touches A we may fix the sparking lever to give the best horsepower results of the average speed we wish to maintain in the car.

Suppose, to take an example, we assume the car will run generally at twenty-eight miles per hour, taking 880 millimeter tires and a three-to-one gear ratio, the speed will be 825 revolutions per minute. Let the ignition be fixed at the point which will give the greatest horsepower at this speed (825 revolutions per minute); then, when the engine is required for very fast spins on the level, there will be a falling off in power, and also at very slow speeds, but not such as will seriously interfere with its usefulness.

"One important thing must be borne in mind, and that is, that if the point in A at which the ignition is set be near either end of the curve the loss at the opposite end of the curve will be greater than shown in the example. The direction of the curves B and D proves this; for whereas B represents a fully retarded spark, and it very nearly coincides with A at the lower speeds, the difference at the high speeds is enormous, not more than two-thirds of the full power being obtained.

"Again, if the curve D, representing full advance, be produced downwards, although it closely corresponds with A at high speeds, at the low end, the efficiency will have greatly fallen off. Of course, in this case, the excessive advancement of the spark will prevent the engine running at all at low speeds, on account of the knocking which will ensue due to too early ignition of the charge."

While the results of the experiment quoted emphasize the natural conclusion that the invariable spark arrangement does not promote flexibility, they also afford a significant illustration of the utility of the system as applied to vehicles of a limited class. For all commercial cars, the desirability of simplifying the control mechanism to the lowest possible point generally is recognized. Furthermore, with machines of this order, engine flexibility,

while highly desirable, may be sacrificed in favor of other considerations. For example, it may be easier to teach an operator to shift gears than it is to train him to adjust the usual engine controls in such a way as to gain the maximum efficiency from the engine. The mere adjustment of the small levers to secure smooth action in the engine is not sufficient; a certain degree of skill is required which is bred only of close familiarity with the working of the engine.

The requirement of the delivery wagon, light truck and cab engine is for efficiency of two sorts, first the true, thermal and mechanical varieties, and second, that virtue which is called commercial efficiency. Commercial efficiency is not measured in percentages, but rather in terms of direct results; it involves a balance of all possible considerations connected with its use, and rises as general objections to the performance of the machine diminish. As far as operating may be considered in connection with the design of the machine, therefore, it is apparent that the set spark should be advantageous. That by experimental means it may be designed in such a way as to afford practically ideal conditions throughout the average active life of the motor, is sufficient to recommend it to serious consideration, under the governing circumstances.

#### Tire Lugs for Punctured Tanks.

Although it generally happens that a hole knocked in the bottom of an underslung gasoline tank puts an end to its usefulness for the time being, there are times when the puncture is small enough to be repaired by means such as usually are at hand on the car. A very good expedient in this connection is a tire lug, the flanged end of which readily can be hammered down into a shape roughly approximating that of the tank at the faulty point. The lug then can be lowered into the tank through the filler opening, a piece of stout wire being bent onto it so that it can be guided, and the stem forced out through the hole. The flange, being properly protected by means of a rubber gasket, the pressure of the wing nut generally will be found sufficient to draw the surrounding metal into place and close the opening with sufficient permanence.

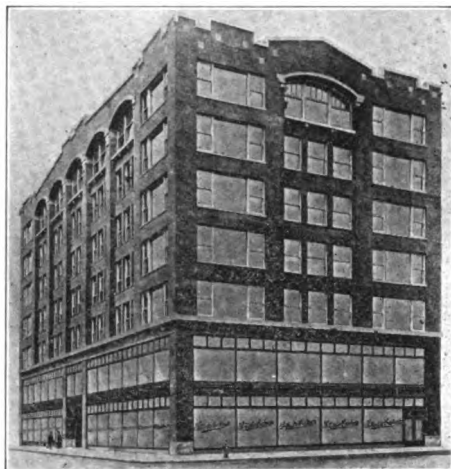
#### Fender Manufacturer Makes Unusual Offer.

As a means of stimulating the sale of its fenders, a Western manufacturing concern has added an "automobile insurance" offer in connection with the devices. Should a car with one of the company's fenders have a head-on collision, the company not only will replace the fender if it be damaged, but will pay up to \$100 for damage to the car, provided a company representative is permitted to make an examination of the car before any of the repairs to it are undertaken.

## MOST MODERN "MOTOR PALACE"

**Studebakers Erect it in Chicago—Its Construction and the Many Conveniences Which it Contains.**

In Chicago the Studebaker interests finally have separated their horse-drawn vehicles from their self-propelled ones, which is to say that the Studebaker Automobile Co.'s branch in that city has been removed from the old location on Wabash avenue to the new building erected for its occupancy at Michigan avenue and Twentieth street, which is in the heart of "automobile



STUDEBAKERS' NEW CHICAGO STORE

row." The horse-drawn rigs will remain at the old place.

The new building, where Studebaker-Garford, E-M-F., Flanders and all other Studebaker cars now will be housed, is claimed to be practically the "last word" in modern automobile establishments.

The structure, which is shown by the accompanying illustration, occupies the northwest corner of Michigan boulevard and 21st street, and is of seven stories, reinforced concrete. Its dimensions are 75 x 175. It is equipped with a passenger elevator, a 16,000-pound freight elevator, and a 250-pound automatic elevator. The automatic elevator is under the control of the storekeeper and is for the purpose of transferring parts to and from various departments.

There are devices on each floor whereby all dirt, refuse, shavings, etc., are transmitted to the basement automatically. There is also a vacuum cleaning system throughout the entire building for cleaning purposes, the equipment including also a duplex air compressor with capacity sufficient to maintain ninety pounds pressure throughout the building.

The entire structure is provided with latest style wash and lavatory fixtures, including shower baths on some of the floors. There has also been installed an autogenous

system for welding and strengthening purposes.

In the basement there has been provided a chauffeurs' room, which contains all conveniences, such as telephone, writing materials and reading matter.

The salesroom is finished in silver oak, with mosaic hexagon tile, terra cotta color, the wall and ceiling decorations being carried out in a warm gray tone.

The furniture throughout the building is silver oak, to match the wood trimming.

The stock room is supplied with all-metal shelving. Some idea of the size of the room may be gained from the fact that it requires 14,000 pigeon holes to care for the various parts. On the ground floor, in the rear of the salesroom, there has been a room provided with 100 compartments large enough to take care of the various accessories of cars which are in the building for repairs, etc. The shop is equipped with all the newest and most improved machinery. Gasoline and oil tanks are entirely enclosed in concrete.

#### Grants Permission to Sell Unclaimed Car.

That a motor car may be sold for storage charges if the owner does not take it within a reasonable time after repair work on it has been completed, has been brought out in a court decision at Wilkes-Barre, Pa., on the petition of the Matheson Car Co., asking permission to dispose of an automobile sent to the company's factory by S. J. Levy of San Francisco, in December, 1907. The machine had been wrecked, and after the factory had made the necessary repairs Levy was notified as to the cost. He made no definite reply, however, and permitted the car to remain in storage ever since, until the storage charges amounted to \$145. The court decreed that the car be sold upon giving notice to Levy and advertising in the newspapers.

#### Special Freight Station for Motor Cars.

Although the railroads for some time have made provision for automobile shipments to the extent of supplying freight cars purposely designed in their dimensions to accommodate them, the Big Four railroad has gone further and is building one part of its new freight station at Columbus, O., with a special view to the handling of motor cars. A depressed track is being placed at the rear of the station, with a platform on the street level, at the foot of Swan street, in order that motor vehicles may be run directly from the street into the freight cars, the floors of which latter will be even with the street level platform.

#### Pay Extra for "Private" Motor Cabs.

Companies operating motor cabs for hire are finding profits in renting so-called "private" cabs, without taximeters or other indications that they are hired machines. Many patrons pay liberally for the "private" effect.

**CARBURETTER WITH THREE JETS**

**Palmer & Singer Employ Triple Jet Idea  
With Separate Venturi Tubes—In-  
genious Control by Cam.**

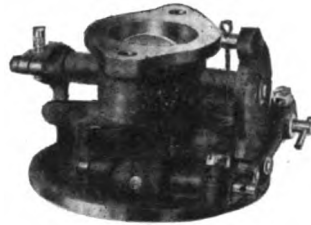
So great a range of demands is made on the carburetter for a large, multi-cylinder engine that the multiple jet type offers certain obvious advantages that are more difficult of ready attainment in the single jet type. The practical application of the multiple jet principle, however, is subject to a wide diversity of forms and methods, as is manifest in the new carburetters which make their successive appearance, each exhibiting an individual ingenuity in attacking the problem of perfect carburation at all speeds.

Of the recent developments in the multiple jet form, a striking and more or less radical example is afforded in the carburetter now employed by the Palmer & Singer Mfg. Co., of New York City, on the larger P-S cars, inasmuch as the device, which was designed by Charles R. Greuter, embodies a blending of mechanical and automatic control of the functioning of the various jets. As the product of a veteran designer and espoused commercially with extremely satisfactory results, the carburetter represents an accomplishment rather than a mere theoretical proposal designed as a possible contribution to the field.

The three main members of the device are shown in the accompanying illustrations, from which it will be seen that three jets are used. From the float chamber attached to the base member, the fuel is introduced into a circular chamber connecting with all three jets, an adjustment being provided for the primary or low speed jet. The three jet stems extend upward into three Venturi tubes correspondingly placed in middle or body section of the carburetter. The lower ends of these Venturi tubes are to be seen in the illustration, through the aperture for the air inlet. By reason of the fact that the tubes terminate at the top integrally with the main body shell, the only course for the air which is drawn in at the sides, is upward through the tubes.

The primary or low speed jet, which in the lower illustration is at the extreme left, is placed in a tube which is unobstructed at the top, but the tubes for the second and third jets are covered with weighted caps, provided with cages holding their stems so that the caps may rise as lift valves, opening with suction. The cap for the second jet is much lighter in weight than that for the third or high speed jet, making it correspondingly more responsive to increased suction. The action, therefore, is such that after the limit has been reached

for the capacity of the low speed jet, the second jet comes into operation to assist it and share the work, and when their combined capacity is exceeded the third jet



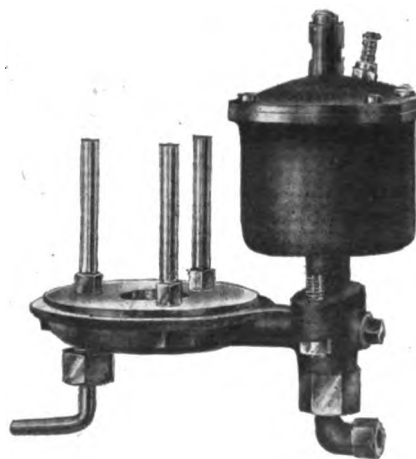
P-S CARBURETTER THROTTLE

also is called into play, its heavy cap being raised by the powerful suction of the engine at high speed. It will be observed that the top part of the carburetter, containing the throttle valve to the engine, bears a large cam attached to the stem,



BODY SECTION AND TUBES

the cam rotating with the valve when the latter is turned. The cam acts on two rocker arms, having roller ends, these arms being directly connected with fingers which rest directly on the tops of the weighted caps of the second and third tube openings.



JETS AND FLOAT CHAMBER

In the closed position of the throttle, the cam holds the rocker arms down, so that the fingers on the inside press rigidly on the cap tops, preventing the caps from

"flopping" either by road jars or momentary suction impulses. In this position only the primary or low speed jet is operative.

Partial opening of the throttle results in sufficient travel of the cam for it to clear the rocker arm that locks the cap over the second or middle speed jet. Thus released, the second jet is available for action when the cap over its Venturi tube is raised by the engine "pull" or suction. A complete opening of the throttle valve to the engine removes the cam face from both rocker arms, permitting all three jets to act. At the engine speed which follows from a complete opening of the throttle, the suction is so great that the caps over the tubes are held rigidly to the tops of the cages, with practically no fluttering.

To preserve the uniformity of the mixture, the openings in the three jets respectively are proportioned to their duties, having in mind the suction conditions under which they act. The first or low speed jet has a comparatively generous fuel opening; the second jet a lesser opening; and the third jet, which is in action when the suction draft through the Venturi tubes is at its greatest, is accordingly limited. Among the advantages claimed for the carburetter, in addition to its providing ample and uniform gas mixture throughout the whole range of regular running conditions, is the fact that in hill climbing, when the throttle is well open but the engine is at a lessened speed because of its extra work, the mixture is free and properly proportioned, the main duty falling on the primary jet with its ample fuel opening, while the air flow through the second and third tube, because of the weighted caps, is permitted only when the suction is sufficiently great to draw the proper proportion of fuel from the jets which they surround. This is an advantage not possessed by many carburetters and one which it is particularly desirable to achieve.

**How Owen Will Cover the Country.**

If at the end of three months there are any motorists or prospective motorists who have not had a practical road demonstration of the Owen car they will have themselves to blame, for in order to better familiarize the motoring public with the merits of their product the Owen Motor Car Co., Detroit, Mich., are planning to send out a fleet of demonstrators to thoroughly cover the entire country. In fact, two of the missionaries already have started—C. E. Wheeler, who will cover the Eastern states, and A. D. Caldwell, whose territory includes the section bounded by Buffalo and Pittsburg on the east and the Mississippi river on the west. The schedules mapped out for these cars calls for over 10,000 miles of travel, while others will leave shortly to visit the south, southwest, middle west, northwest and Pacific Coast sections.



## CONVERTIBLE BODY IN NEW FORM

Private Owner Evolves His Own Design—  
How it Affords the Open and  
Closed Effects.

It continues to be more or less of an enigma that the convertible type of automobile body has not been developed to a greater extent, and, furthermore, that such bodies of this description as have been offered have not proved more popular. Like the family horse, the convertible body is intended for the manifold purposes of domestic service; as such is the case, there is no apparent reason why it should not be in more common use. But since so many of the manufacturers offer nothing in this

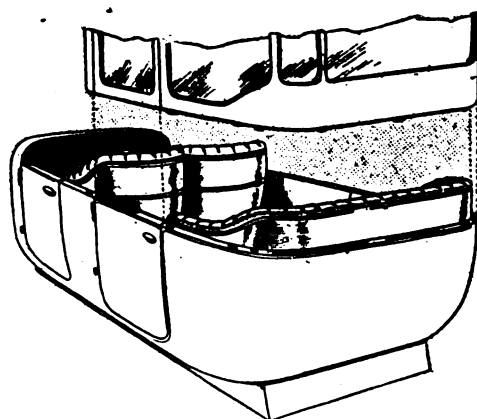
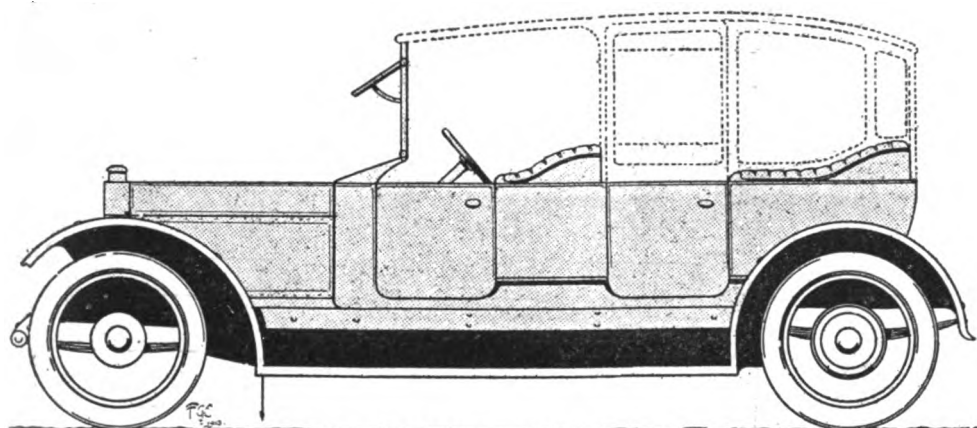
drops on the flat ledge without any difficulty. Of course, if it be desired entirely to enclose the car, it can be extended forward in just the same way without the least difficulty. In fact, one can have any sort of top and any sort of body one likes so long as one preserves the flat edges right around the body.

"It may be said the back would look ugly when the car was used as an open car, but it should be understood that the top of the back panel is entirely hidden by the 'hood' except when the 'hood' is up, and, although I do not claim the ledge as a line of beauty, I think that it is so practical that it will not offend the eye in the least if the design be well carried out by a clever and artistic designer. . . . I think my idea will conduce to lightness because it gives such a good bed for the top to rest

an adjustable sliding member. The result is that when repairs are to be made to the spare tire, it may be swung forward and outward into an accessible position, where it is held securely. Means whereby the rim may be rotated without impairing its fastenings to the carrier are intended to facilitate repair work.

### "Phenomenon" that Fooled Experts.

Much discussion has arisen abroad over the phenomenon discovered by one motorist which took the form of an apparent and very appreciable back pressure issuing from the filler opening of the gravity fuel tank and when the cap was removed and the engine running. It being observed that the little puffs of air, which could be distinctly felt by holding the hand close over the opening, increased in volume and rapid-



SUGGESTIVE METHOD OF MOUNTING ANY FORM OF CONVERTIBLE BODY

line, or only a distant approach in the shape of interchangeable bodies, it follows that the persistent owner sometimes is forced to develop his own convertible shape, as is instanced by the design here illustrated, which represents a foreign notion.

In a general way, the idea used is nothing more nor less than that of the old-time "balloon" top. The general details are altogether different, however, and introduce a desirable feature in the way of strength which is promised in a degree that many of the early demountable tops failed to possess. The essential novelty in the construction is the use of the horizontal molding running entirely around the lower portion of the body. This molding provides a firm seat for the base of the top structure, and is so formed that the securing of the top is assisted very materially by the use of dowels which fit into pockets in the molding and secure positive alignment of the abutting surfaces. Its inventor points out its advantages thus:

"Hitherto these detachable tops have followed the more or less wobbly contour on the upholstery or a ledge at the side of it, and have looked 'make-shifty' in consequence. With my device the top is a workmanlike, flat-bottomed construction which

on, so that it is not strained in any way once it is in position, but I may as well confess I have not designed this thing on account of its practical advantages, but because of its appearance, for, as I have said, the ordinarily convertible body always presents the appearance of being a make-shift."

### New Type of "Spare" Carrier.

One difficulty with the average spare rim and tire carrier is that it is not sufficiently robust in construction to permit replacements to be made without removing the extra rim from the running board. Appreciating the inconvenience of this weakness, a well-known foreign tire builder has developed a special form of carrier which is so designed that tire changes and repairs may be made without difficulty while the rim is still in position and firmly secured to the stand. The supporting device consists of a double circular frame which is provided with quick-acting clamping means for securing the spare rim. Instead of being positively attached to the running board and side of the body, as commonly is done, however, it is mounted on the board by means of a pair of swinging links, and attached to the side of the body by

ity with the increasing speed of the engine, it was immediately conceived that some mysterious relation existed between the engine and the liquid itself. Explanations advanced ranged from the sublime to the ridiculous until one old-time driver came to the front and pointed out that as the tank was unstayed, its walls were subject to vibration. The result of this, as he explained, was that the trembling of the car as the engine was speeded up, caused the contents of the tank to be agitated to such an extent that the air currents observed were produced.

### Irish Cab Drivers Object to Motor 'Buses.

Exciting scenes are reported to have occurred at the town hall in Cork, Ireland, when the town council endeavored to pass a bill granting a franchise for the establishment of a motor 'bus line. Cab drivers and cab owners, brandishing whips, stormed the town hall and cleared it out, chasing the aldermen in all directions. Notwithstanding this violent opposition on the part of the cab drivers, the franchise will surely be granted, as it would be of great value to the community. The entire board of aldermen is said to be in favor of the bill permitting the motor line.

**GREEN THE MOST POPULAR SHADE**

**Pierce-Arrow Statistics Show that it has  
"Nosed Out" Blue—Red Finishes  
Steadily Losing Favor.**

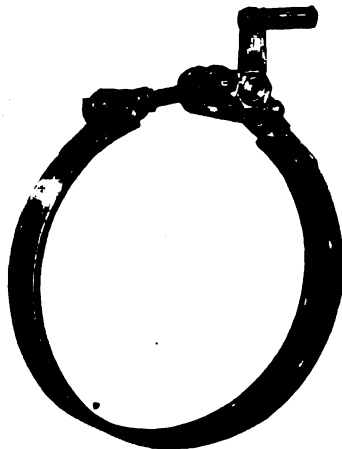
According to statistics prepared by the Pierce-Arrow Motor Car Co. of Buffalo, N. Y., the taste of purchasers in respect to colors has changed since 1909. Blue has been displaced by green as the most popular shade, while red steadily has lost ground.

Most of the manufacturers of motor cars insist that a few "standard" colors be adhered to, but the Pierce-Arrow company encourages each buyer to exercise individuality and to specify the color he prefers. In this manner the company has succeeded in obtaining a fair criterion of the popular taste, and accurate information as to just what the public has demanded in the twelve months just passed. While during the year ending June, 1909, blue cars were most popular, with green a close second, the figures for the ensuing twelve months show green to be the general favorite, 30.42 per cent. of the cars manufactured by this company having been finished in that color. Blue comes next with 28.77, and wine-color third with 17.46 per cent. These figures show a decided gain for the more subdued colors, green and blue, and a corresponding decrease in the red shades. Bright red cars now form only 6.42 per cent. instead of 10.88 last year. Other colors and their percentages are: Brown, 4.96; gray, 4.83; lead, 2.84; black, 1.33; miscellaneous, 2.98. The latter classification includes purple, carmine, yellow and white. In 1909 red and wine combined provided the finish for 31.97 per cent. of all the Pierce-Arrow cars manufactured, while for the 1919 product these colors were used on only 24.86 per cent.

**Features of the New Royal Brake.**

Like other motor car parts, the brakes have become the subject of specialization by manufacturers peculiarly equipped for the task of producing them, and because of this they have been given a development which probably exceeds what would be possible in the ordinary course by any individual automobile maker. As the crystallization of long and broad experience in motor car braking, the present day product of the brake manufacturer is a highly specialized mechanism, the simplicity and efficiency of which is not happy accident. Most recent of the brake products of the Royal Equipment Co., of Bridgeport, Conn., is the new duplex Royal brake, shown in the accompanying illustration, and in which the retarding effect is equal in both directions of rotation of the drum. The wrap-

ping or winding effect of a flexible band surrounding a drum is made use of. One end of the flexible band is fixed while the operating force is applied to the other end in the direction of the rotation of the drum. In order to secure this effect in both directions, means are provided by which



either end of the band automatically becomes the fixed end, depending upon the direction of rotation.

**Hinged Coils for Curved Dashboards.**

Where curved dash construction is used, the quarters for the dash coil are apt to be so cramped as to nullify the advantages ordinarily obtained from the use of the unit coil type, as the space above the coil box may be so limited that the units cannot be removed without taking the box itself off



the dash. As a remedy for such cases, the Connecticut Telephone and Electric Co., of Meriden, Conn., has placed on the market a new type of hinged bracket coil, designed especially for cramped motor car dashes. As shown by the accompanying illustration, which gives a view of the Connecticut hinge bracket coil mounted on the curved dash of a Stevens-Duryea car, the coil box may be swung outwardly from its lower fastening. This permits the easy removal or replacement of any of the individual units, which is one of the most important points in connection with Connecticut coils, as all the coil units are interchangeable without touching a wire connection.

**SMART TRICK OF A MILLIONAIRE**

**How it Enables Him to Obtain Trade Prices  
—Garages and Companies Not Always  
What they Seem.**

Not all ostensible dealers and garaging concerns are exactly what they appear to be on their letterhead, owing to the fact that owners who boast a number of cars have hit upon the scheme of running their own private garages under firm names which would indicate that they are dealers and therefore entitled to dealers' prices. While it is common enough for owners to have two or three cars, there is an astonishing number who have from six to a dozen, and they find it well worth while to operate their garages on the dealer's basis, although they themselves are the only customers they have, with the exception of taking care of the cars of visiting friends.

In visiting the trade, the traveling man for one of the big eastern jobbers was taken to task by a dealer because his house sold goods at dealers' prices to a nearby "automobile company" with a very business-like title. The dealer protested that the other jobber should not grant trade discounts to that particular firm.

"Well, I don't see why we shouldn't sell them," the traveling man declared with some heat. "They certainly do a big business and they buy a lot of goods from us. They pay their bills promptly, too, taking every discount, so I can't imagine why you think we shouldn't sell to them."

"Did you ever try to garage a car there, or to buy any supplies at retail?"

"No," answered the traveler.

"Try it some time," continued the dealer, "and you will find that it is a case of nothing doing. They will turn you away politely but firmly. It is nothing but a private garage, owned by a millionaire sportsman, who has 23 cars of his own right in that garage, not to mention those he may have in other parts of the country and in Europe. Those 23 cars would keep any place busy, and the garage probably buys a great deal more than many legitimate dealers, but if you sell to it at dealers' prices in the future, you will not get any more orders from us."

**Insurance Policies to Emphasize Lock Nuts.**

As a means of emphasizing the dangers attending travel on vehicles and equipment that are not fitted with Columbia lock nuts, the Columbia Nut & Bolt Co., of Bridgeport, Conn., has presented leather bill-folds or purses to various men in the trade, each bill-fold containing a free accident insurance policy. The policy is for \$2,500 and is good for a year, with no payments of any kind by the recipient.

**Pastor's Plea for "Ground-Flying Angel."**

Texas presently may be able to boast of a negro preacher who attends to the wants of his flock from an automobile, if the Columbia Motor Car Co., of Dallas, harkens to the plea of one dusky member of the cloth, who signed his name B. Tyrrell and wrote from Blossomdale, Texas. Here is the letter:

"Please advise me how to buy a motor car. I am a colored pastor, am getting well on in years, have a large congregation, am wearing out getting around to look after them.

"Though I get a very moderate salary, preaching to ex-slaves and the children of ex-slaves, it popped into my mind to write to you and ask you whether you will sell me a second-hand car at the very lowest notch possible.

"Of course, I could not think of trying to buy a new car, nor even so much as dream of it, for my people are poor and I was born some time in the middle of last century—all of us poor.

"At any rate, please quote me the price of one of these ground-flying angels, borne on the wings of our new-dawned century. I would be a flying advertisement for you, for our white people would surely buy if they saw me flying before I die. Help me out if you can. Think and look over your stock, then let your mind be generous toward one of my Master's servants."

**Philadelphia May Have Municipal Garage.**

Judging by the interest being taken in the matter, Philadelphia, Pa., will soon have its official municipal garage, repair shop and storage room. Mayor Reyburn this week transmitted to the City Council a request from Director Clay that the city property at 711 to 715 Filbert street and at 42 North Seventh street be sold, and the proceeds used for the purchase of a site and the erection of a three-story building for municipal garage purposes. A site on Washington avenue, where a railroad switch may be obtained, was suggested as preferable. The property to be sold is valued at \$95,000.

**Cow-Killer Files a Counter Claim.**

An unusual counter claim was made in a damage suit tried in Poughkeepsie, N. Y., this week. James J. Dunbar of Pine Plains has been sued for \$250 for the death of a cow belonging to Harry Gray, which had to be killed after being run into by the former's automobile. Dunbar stated that the accident was unavoidable, as the cow jumped at his car and bent the mud guard and lamp, for which he makes a counter claim for \$10.

**Harris County Owns the Most Motor Cars.**

Harris county, which is in Texas, feels real proud these days. The reason is because that county, according to official re-

turns from the various officers, has been found to possess more automobiles than any other county in the Lone Star state. In round numbers Texas has 5,000 automobiles, and the dealers claim that fully 25 per cent. have been sold since the first of the year. Of the total number of registration Harris county leads with 875 cars; Dallas county is second with 789 cars.

**Post Office Moved by a Motor Car.**

Time was when the moving of a house or similar structure would have necessitated many hours and sometimes even days of arduous labor with a horse and capstan ar-



MOVING THE FALL RIVER (WIS.) POST OFFICE BY MOTOR CAR

range. With an automobile the process is simple, as was recently proved in Fall River, Wis., where, when it was desired to move the postoffice building to a location two blocks distant, T. D. Babcock came to the rescue with his 28 horsepower Franklin touring car. After the structure, which measured 20 by 32 feet in ground dimensions, had been raised and set on rollers, Babcock's automobile was attached to the building by a tackle, and with the automobile pulling steadily the postoffice was rolled up the street and pulled to its new foundations quickly and without mishap. The building contained a safe which weighed nearly a ton, and neither this nor any of the office fixtures were removed during transit.

**Uses Motor Car to Assist Map Making.**

Disclosing a highly utilitarian and commercial use for a touring car, Rand, McNally & Co., the map makers and railroad printers, are using a six-cylinder machine in preparing revised state survey maps. It is stated that by means of the car the cost of obtaining the necessary data is greatly reduced.

**Teamsters' Union to be Motorized.**

Giving evidence of their perception of of the trend of the times, the International Brotherhood of Teamsters has taken steps to change the name of the organization to the "International Brotherhood of Teamsters and Chauffeurs," and to secure alterations in the charter which will permit the admission of chauffeurs to membership. This action follows a vote which was taken at the last national convention of the brotherhood, held in Detroit last September. It was shown that within the last few years large numbers of teamsters and drivers of delivery wagons in the big cities

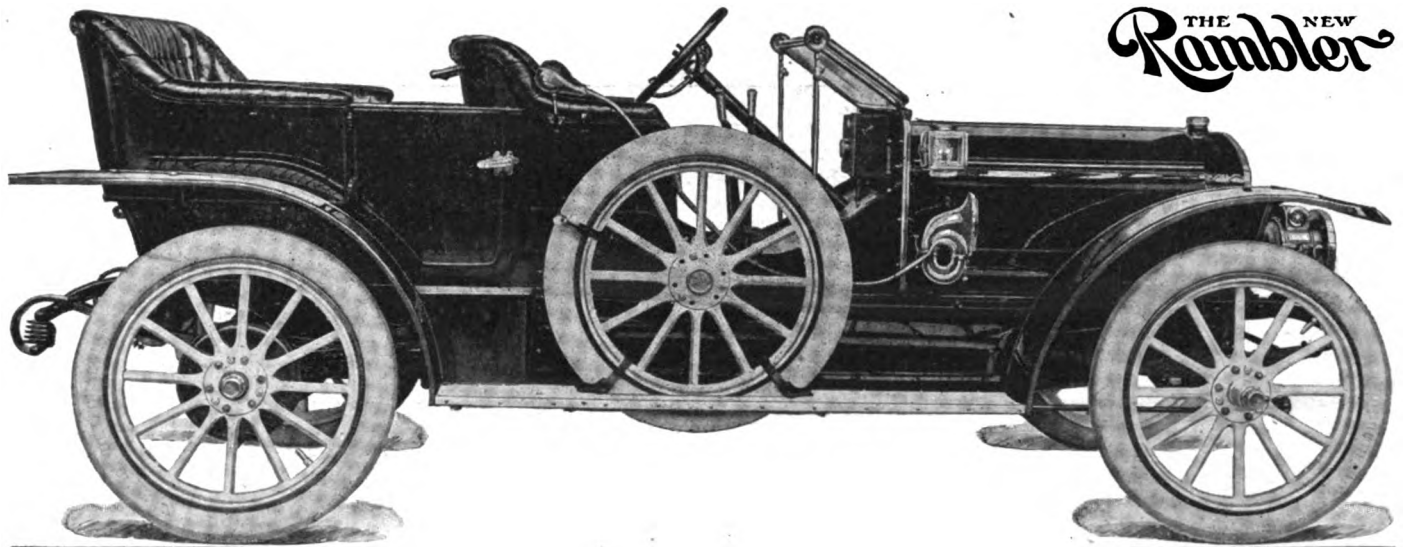
have been "broken in" to the operation of motor wagons, trucks, taximeter cabs and other commercial vehicles.

**Oklahoma Family on Camping Tour.**

Frank Bradfield, who, with his wife, three children and another passenger, left Enid, Okla., a week ago for a leisurely tour to Charleston, S. C., and thence by boat to Galveston, Tex., returning to Enid in the automobile, has evolved a unique appliance that may come in handy in case of breakdown or should the car run out of gasoline between towns. It is a telephone and by means of an extension jointed rod he can tap a telephone wire at any point along the route and call for assistance. The party is carrying a complete camping outfit, as most of their nights will be spent under an oiled silk tent pitched by the roadside. The trip will be completed in September.

**Indiana's Record in Registrations.**

Automobile registrations for April and May in Indiana numbered 3,564. Of the number 1,840 were registered in May, the largest number ever recorded in one month since the registration law was enacted.



THE NEW  
**Rambler**

**T**HE Fifty-four Toy Tonneau is a mid-season New Rambler model. It is an evolution from the Close Coupled model, designed for the same demand, but a little more roomy.

Its advantages are low seats, two inches longer than usual from front to back. Seat cushions tilted and rakish seat-back to correspond. Body smaller and lighter than the touring car but tonneau roomy enough for three people of average size. Three inches more leg room in front than touring car. Rakish steering column.

With five lamps, Prest-o-Lite tank or generator, magneto and storage battery, horn and tools, \$2,250. Top with side curtains, \$100. Wind Shield \$40. Spare Wheel \$85.

**Thomas B. Jeffery & Company**

Main Office and Factory: Kenosha, Wisconsin

Branches: Chicago, Milwaukee, Boston, Cleveland, San Francisco



*Hamilton's New York-Philadelphia flight also made  
on a Bosch equipped aeroplane. Paulhan's records,  
Sommers' and Rolls' also made with Bosch Magneto.*



# Matheson

## "SILENT SIX"

100 per cent.  
of satisfied  
Owners

Licensed under  
the  
Selden Patent

### 1911 Model WINS Another Cup IN GIANT'S DESPAIR MOUNTAIN CLIMB

Wilkes-Barre, Pa., June 14, 1910

up a twisting, tortuous course of 6000 ft. including a hairpin turn and an S-turn, negotiating grades ranging from 10% to 25%, considered the severest hill-climbing course in America, in the remarkable time of 1 minute, 46-2/5 seconds—rate of 42-6/10 miles per hour. This is the fastest competitive time ever made on Giant's Despair course by a strictly stock car.

Another Matheson "Silent Six" finished the

#### ATLANTA TO NEW YORK

road tour of 1063 miles over roads hub deep with mud, clay and water following many days of heavy rain, without a single replacement or adjustment, AND the same car started the very next morning at six o'clock, June 14, in the

#### NEW YORK — MONTAUK LIGHT

400 miles Reliability Contest. This same car won still another Perfect Score in the

#### NEW YORK — ATLANTIC CITY

312 miles Reliability Contest, May 10-11, 1910, in which only 19 cars out of 42 contestants finished perfect.

After its 5,000 miles of demonstrations and contests this same "Silent Six" is as perfect mechanically and as Silent in operation as when brand new.

THE PURPOSE of the above contests is to prove our claims for the absolute Reliability and Dependability as well as the splendid Power qualities of our light "Silent Six" Matheson, all of which virtues coupled with its extreme Silence in operation enables us to cover this car with the broadest and most sweeping guarantee that has ever been offered by any maker, to our knowledge.

**1911 Models—IMMEDIATE DELIVERIES**

**\$3,500.00**

A Wide Range of Body Equipments

**Matheson Automobile Company**

Main Sale Office and Garage:

1886-88 Broadway, New York City

## RECENT PATENTS.

957,309. Tire Grip. Aldon R. Corrington, Hartley, Iowa. Filed July 7, 1908. Serial No. 442,370.

A tire grip comprising opposing side rings, each formed of sections of metal wire intermediately bent to form eyes and connected at their ends by interengaging end loops, cross chains extending between the eyes of the opposite rings, connecting members at each of the ends of the rings, said members having at one of their ends loops to engage the end ring loops, and having at their opposite ends hooks terminating in loops, cross chains extending between the latter loops of opposite rings, and short chains connecting

the hooks of each of the rings, said connecting members being movable through the end links of said short chains to draw their respective cross chains tight.

957,536. Automobile Transfer Turn Table. Milo A. Baker, Los Angeles, Cal. Filed March 16, 1910. Serial No. 549,758.

1. An automobile transfer turn table comprising a truck provided with casters, elevator means on said truck provided with a carrier for engaging and supporting an automobile axle, and operating means for said elevator means.

957,597. Tire Inflating Pump. Martin L. Bastian, Philadelphia, Pa., assignor to Olney Automobile Company, Limited, Phila-

# KLINE KAR

## None Better—Few so Good

The agent who doesn't know all about the Kline-Kar is not fully alive to his own interest and possibly his own opportunity.

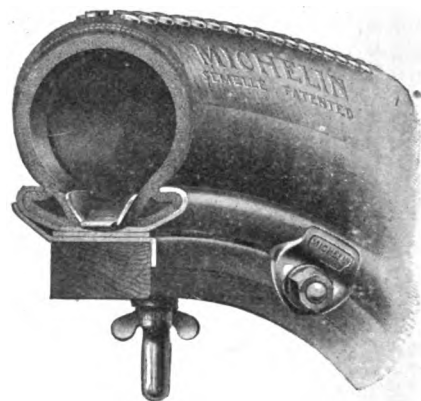
The Kline-Kar is no experiment: on the contrary it has proved itself an emphatic success. It is built by men who know, for men who demand the best and know it when they see it.

Our 1911 line will be a revelation. Our 1910 cars are making a splendid record. Write us.



# Michelin

## DEMOUNTABLE RIM



*The Original Type*

**Simplest  
in Construction  
Lightest in Weight  
Easiest to Operate  
Absolutely Secure  
No Lugs  
nor Security Bolts**

**MICHELIN TIRE CO.  
Milltown, New Jersey**

delphia, Pa. Filed Dec. 13, 1909. Serial No. 532,765.

1. In a tire inflating pump, the combination of a pivoted link, a bearing ring on the free end of the link, a shaft in said ring, a pump secured against one end of said bearing ring, and operated by said shaft, a drive wheel secured on said shaft at the opposite end of said bearing ring, and means for raising and lowering the free end of said link, substantially as described.

957,602. Clutch Mechanism. James F. Duryea and William M. Remington, Springfield, Mass. Filed July 15, 1907. Serial No. 383,773.

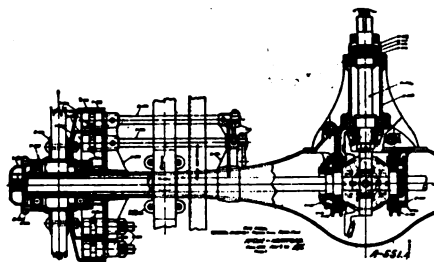
1. The combination with a clutch mechanism, of a driving and driven shaft between which said mechanism is located, means to pivotally support said mechanism on one of said shafts, and means including a coupling member x for positively securing said mechanism to the other of said shafts in spaced relation to the end thereof, said mechanism comprising a spring, and means to secure the spring in a compressed position whereby room is provided to slide the clutch mechanism toward that shaft with which it is in said spaced relation, to disconnect the mechanism from the shaft on which it is pivotally supported.

957,661. Whistle, Siren or the Like. Leon A. Delepeuch, Neuilly-sur-Seine, France, assignor to Auguste Gildenmeister, Paris, France. Filed Sept. 19, 1907. Serial No. 393,632.

1. The combination with a whistle comprising a piston tube closed at one end and provided with outlet orifices, a fixed pyramid in said tube, said pyramid being cut away to provide passages between its edge and the wall of said tube adjacent to said outlet orifices and a spring-actuated piston in said piston tube adapted to normally close said openings and orifices, of means for operating said piston, an exhaust pipe, a branch exhaust pipe connected with the opposite end of the piston tube, means for closing the exhaust pipe, and a spring-actuated lever mechanism connecting said closing means with the operating means of the piston.

**The Bush Radiator**  
THE BUSH MANUFACTURING CO.  
HARTFORD, CONN.

## Automobile Axles



THE McCUE AXLE.

### Full Floating Rear Axles I Beam Front Axles

The highest class product for high grade cars.

THE McCUE CO., Hartford, Conn.

### For the Physician Who Motors



#### Red Cross

#### Radiator Ornament

It is absolutely indispensable. Gives the right of way. Instantly recognized and respected.

Every Physician who owns an auto should obtain one of these emblems. Fastens to the radiator cap. In ornate gold with either red or green enameled sides. Height, 3 inches; width, 2 1/4 inches.

No. 5430. Price, \$2.00 each

AT YOUR DEALER, OR

THE MOTOR CAR EQUIPMENT COMPANY  
55W Warren St. New York

## LASCO FOLDING GLASS FRONT

Simple, effective, correctly designed mahogany finish wood frame—trimmed in brass—3-16 crystal plates—steel stay rods—bottom of frame shaped to dash of any standard automobile—can be attached easily and quickly. We make the London Tops. Write for details and prices.

LONDON AUTO SUPPLY CO.,  
2542 Wabash Ave., CHICAGO, ILL.

## WANTS AND FOR SALE

15 cents per line of seven words, cash with order.  
In capitals, 25 cents per line.

**FOR SALE**—Pullman Special, 40 horsepower, 121-inch wheel base, six passenger demi-tonneau, run about 1,000 miles; bought to order late in the season of 1909 and has been stored all winter; special cloth lined top, two extra tires, tire cover, double brass tire irons, full lamp and tool equipment Bosch magneto, upholstered in full French hand buffed leather. Looks like new. Will sell at sacrifice. J. A. KLINE, General Manager, B. C. K. Motor Car Co., York, Pa.

**ASSISTANT SHOP SUPERINTENDENT**—Wanted, a man who is familiar with motor car manufacture, one having executive ability with record for obtaining results. Apply, giving full particulars of past experience, to H. STODDARD, Sec'y, The Speedwell Motor Car Co., Dayton, Ohio.

**ASSISTANT ENGINEER**—We require a capable man in our designing and engineering department; one thoroughly familiar with high grade motor car designing. Apply, giving experience and salary expected, to H. STODDARD, Sec'y, The Speedwell Motor Car Co., Dayton, Ohio.

## Stoddard-Dayton AUTOMOBILES

Watch our full page announcements in future issues of this paper.



## GRAY & DAVIS LAMPS STANDARD OF THE WORLD

GRAY & DAVIS, Amesbury, Mass.

**It's Made for Your Tire Pump**

THE FAMOUS **GRAB** PUMP CONNECTION

The only pump connection that actually saves the wear and tear on the valve. It clamps on. Does not wear out the threads and cannot loosen from valve until clamp is released. Absolutely air tight.

Fits Any Valve  
Clamps On  
No Exertion  
Saves Time

No Screwing  
No Unscrewing  
Cannot Loosen  
Will Not Leak

Supplied in nickel finish. Will fit any pump and any valve.  
Price each, 25c.  
Ask Any Dealer or

**THE MOTOR CAR EQUIPMENT CO.**  
55W Warren St. New York

### THE MOST POWERFUL COMPOUND PUMP

## STAPLEY TIRE PUMP

MADE BY BRIDGEPORT BRASS CO.

Price without Gauge, \$5.00.

Price with Gauge, \$7.00

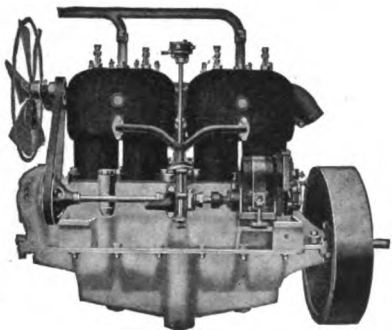
If your dealer doesn't carry it, we will send the "Stapley" prepaid in the U. S. on receipt of price.

**BRIDGEPORT BRASS COMPANY**

110 Crescent Ave.

BRIDGEPORT, CONN.

## THE PARKER MOTOR



40 h.p., 4 cylinder, 4 cycle motor. Cylinder bore  $4\frac{1}{2}$  in., stroke 5 in., length of piston  $5\frac{1}{2}$  in., length of connecting rods 12 in., size of valves  $2\frac{1}{4}$  in., valve lift 5-16 in. All gears cut helical. Made for standard sub-frame  $17\frac{3}{4}$  in., and 3 in. drop to shaft center.

Exclusively sold by

**THE McCUE CO., Hartford, Conn.**

## NAME PLATES

Only Good Ones

**THE CHANDLER CO., Springfield, Mass.**

## Continental QUICK DETACHABLE Tires Now Ready for Delivery

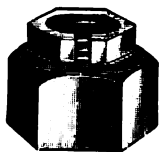
CONTINENTAL CAOUTCHOUC CO.  
1788-90 Broadway New York City



THE ACME MOTOR CAR CO.  
Reading, Pa.

Do You Know All You Ought to Know About

## COLUMBIA LOCK NUTS?



ORIGINAL

They are a distinct contribution to safe automobile construction.

Used with entire success by many of the leading makers and most of the principal railroads.

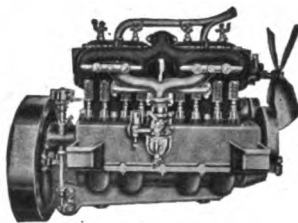
*We have an interesting booklet which is yours for the asking.*



IMPROVED

**COLUMBIA NUT AND BOLT CO., Inc., Bridgeport, Conn.**

## Continental Motors



Continental Type R

CONTINENTAL MOTOR MFG. CO., Muskegon, Mich.

Factory Representatives:

K. F. Peterson, 166 E. Lake St., Chicago, Ill.  
L. D. Bolton, 319 Hammond Bldg., Detroit, Mich.

Operations in the new Continental plant begin July 1st. This means several thousand motors at your disposal. Order now, as this extra capacity will soon be sold. Wire at once for information.

24 to 50 H.P.

A. L. A. M. rating.

It is not possible for any chain to be better than

## BALDWIN CHAINS

BALDWIN CHAIN & MFG. CO.,  
Worcester, Mass.



ESTABLISHED 1844.  
**SCHRADER**  
**UNIVERSAL VALVES**

TRADE MARK REGISTERED APRIL 30, 1895

The Standard American Valves for  
Automobile, Bicycle & Vehicle tires

Manufactured by

A. SCHRADER'S SON, INC.  
28-32 Rose St. New York, U.S.A.

## Standard Bearings

**STAND THE TEST**

Because they run better, wear better,  
and are better in every respect.

**Standard Roller Bearing Company**  
PHILADELPHIA, PENNSYLVANIA.

Everything about the Locomobile in  
the Locomobile Book. Mailed on re-  
quest to any address.

*The Locomobile Company*  
BRIDGEPORT, CONN.

## SAVE YOUR TIRES

by attach-  
ing to your  
Air Pump

**SAFETY TIRE GAUGE**

PRICE \$1.50 ALL DEALERS or by mail on re-  
ceipt of Price and 6c. postage.  
SAFETY TIRE GAUGE CO., 1403 Michigan Ave., Chicago

## STAMPINGS

Hub Flanges, Hub Caps, Ball  
Cups and Retainers, Thrust Discs,  
Clutch Discs, Sectors, Muffler  
Discs, Etc., Etc.

Prompt Delivery—Right Prices

**THE BOSSERT COMPANY**  
UTICA, N. Y.



has  
no  
equal  
Get  
the Best

The Packard Electric Co., Warren, Ohio

## Aluminum Bodies THE SPRINGFIELD TOP

(Pat. 1895)

**SPRINGFIELD METAL BODY COMPANY**  
206 Birnie Avenue, Springfield, Mass.

## GILBERT Motor Car Accessories

CATALOGUE ON REQUEST

**GILBERT MFG. COMPANY**  
New Haven, Conn.



YOU SAVE one-third  
if you purchase on the  
METZ PLAN.

\$875

buys a smart, practical  
car that will take you  
anywhere. Bosch mag-  
neto, clincher tires,  
lamps and horns. Write  
for Book "B."

METZ COMPANY, Waltham, Mass.

## "Firestone"

**PNEUMATIC TIRES**

For all Standard Rims

Firestone Tire & Rubber Co., Akron, O.

The Improved

## AUTO ELECK-TRICK VULCANIZER

for tire and tube repairing. Economical and efficient.

Price complete  
with repair material **\$12.00**

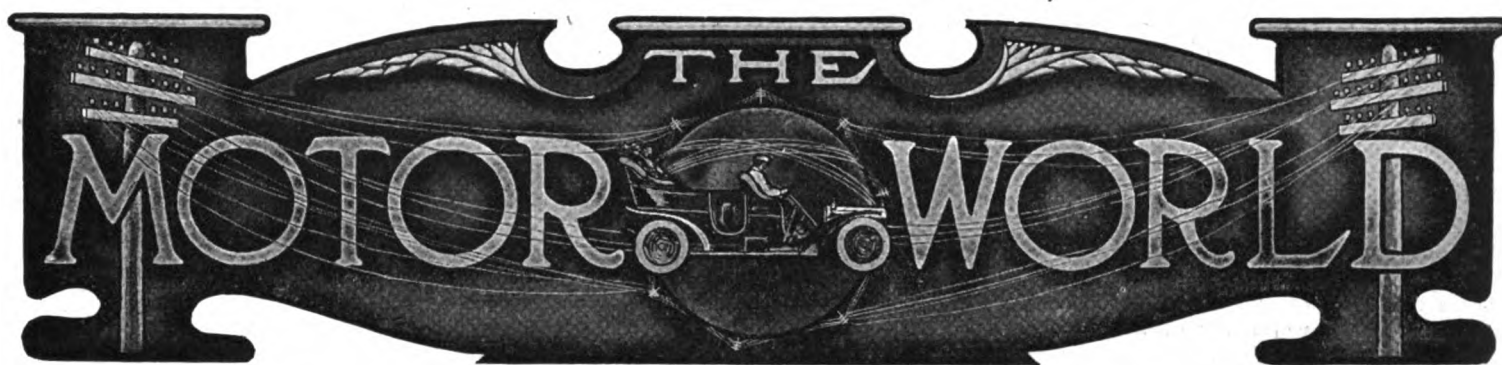
Garage repair kit \$3.00 extra.

JAMES L. GIBNEY & BRO., 217 N. Broad St., PHILA.



**Gasoline  
Cars**

possess refine-  
ments in design and build found in no others.  
**COLUMBIA MOTOR CAR COMPANY**  
Offices and Works, Hartford, Conn.

**RUBBER GOES DOWN; THEN UP AGAIN**

**Rests at a Price Well Below its \$3 Mark,  
However—Why Manufacturers Still  
Refuse to Buy.**

After having touched the \$3 per pound mark which was predicted for it, rubber has executed a downward slide and then an upward swoop, until now it is at about \$2.35 per pound, after having gone as low as \$2.15 per pound three weeks ago. Although the fact that it is lower than at previous times is taken as a promising symptom, it is recognized that if purchasers were to go heavily into the market the price again would soar. For this reason there is comparatively little buying, and in the face of both a lowering and a raising of prices the tire makers and others are keeping a more or less general compact not to buy.

In analyzing the situation, Horace De Lisser, general sales manager of the United States Motor Co., and former president of the Ajax-Grieb Rubber Co., finds reason to believe that the Brazilian government is largely responsible for the prices at which rubber is being held. He thinks that because the situation is largely artificial, it will be met successfully by opposing strategy on the part of rubber buyers.

"In the same way that it dabbles in the coffee situation, the Brazilian government is encouraging rubber growers to hold their product in storage for the sole purpose of raising prices," DeLisser declares. "The crude rubber is stored, money is advanced upon it, and the system lets it go when prices seem satisfactory to it.

"There was a time when if a grower collected 50 tons of rubber he was glad to sell it at competitive prices prevailing in the open market at the time and regulated by natural conditions of sale. The para rubber output is now about 40,000 tons, and at the present time there is about 4,000 tons in storage in South American warehouses, and at the tag-end of the season when the

product is usually much lower. There is no doubt but what the holders expect the market to rise still higher, and this desire is accentuated by the attitude of the manufacturers, who are holding out for a drop. With rubber at \$5,000 a ton, the manufacturers believe that present supplies in hand will enable them to hold out until the 4,000 tons now stored will be increased by the new crop to 25,000 tons or more. In this case such a load would cause the market to become uneasy and finally break with the flood of rubber that must come, thereby depressing prices. In other words, we anticipate a drop only when the fellows down below have more rubber than they have money."

**Jeffery Incorporated at \$3,000,000.**

With the incorporation of a \$3,000,000 company under Wisconsin laws, the business of Thomas B. Jeffery & Co., of Kenosha, Wis., has undergone a slight change in name, and hereafter will be known as The Thomas B. Jeffery Co. This step is in accordance with the provisions of the will of the late Thomas B. Jeffery, who indicated that the business should be incorporated. The ownership of the new \$3,000,000 company is vested entirely in the Jeffery family and no change occurs in the management or policy.

**Roe Succeeds Peer as Reo Secretary.**

E. J. Peer, who has been secretary and treasurer of the Reo Motor Car Co., of Lansing, Mich., has resigned, and will leave shortly for an extended tour including the Pacific Coast. He has been succeeded as secretary by J. Edward Roe, cashier of the Lansing State Savings Bank, who will give up the latter position for the new connection. Donald E. Bates has been elected treasurer of the Reo company.

**McGuire Heads Republic Rubber.**

John McGuire, formerly connected with the B. F. Goodrich Co., has been elected president of the Republic Rubber Co., of Youngstown, O. He succeeds Warner Arms, who recently died.

**KEEPS E. V. RECEIVERSHIP ALIVE**

**Selden Litigation Necessitates its Continuance—Receivers File Report Showing Present Status of Affairs.**

By no means the last has been heard of the Electric Vehicle Co., of Hartford, Conn., judging from the nature of an order, on the 17th inst., by Judge Cross of the United States Circuit Court for the District of New Jersey. Although in practical affairs the company has been succeeded by the Columbia Motor Car Co., the receivership manifestly is destined to linger for some time to come, if for no other reason than that the Selden patent controversy involves the Electric Vehicle Co.'s relations to George B. Selden and to the Columbia Motor Car Co., and the receivers will be continued until these relations are clearly established in court. Henry W. Nuckols and Halsey M. Barrett, the receivers, have filed their seventh report, dated June 16, and the court order is for creditors and stockholders to show cause, on June 27th, at the State House in Trenton, N. J., as to why the report should not be approved and the receivers permitted to follow out the recommendations and course of action that they have outlined; and as to "Why an order should not be entered herein continuing the said receivers until the said proceedings relating to the Selden patent have been concluded, or until such other or further time as to the court shall seem advisable." There are nine creditors whose claims have been disallowed by the receivers, and they are given opportunity to show cause why the disallowing should not be approved.

In the report of the receivers it is shown that they have completed their administration except in so far as it is necessary for them to act in the distribution of the sum of \$22,892.00 remaining in their hands; that they have acted upon all of the claims filed with them by the creditors and have paid a dividend of 20 per cent. upon all claims al-



**BLOCK TIRES LEGAL IN JERSEY**

**Makers Get a Victory in Supreme Court—  
Driver's Conviction Set Aside— Law  
Regarding Automobile Tires.**

Block type or "sectional" tires, such as are extensively used on commercial vehicles, do not violate the New Jersey state law, after all, and may be used in that state without legal penalty, according to a decision by Judge Minturn, of the New Jersey Supreme Court, in setting aside the recent conviction of Paul J. Kubler, a driver who was fined \$25 and convicted by a Passaic police justice for driving a machine with block tire equipment. Kubler was prosecuted by Assemblyman Edward Thomas Moore, of Passaic, acting as a state inspector of motor vehicles, who alleged that Kubler's car, owned by the Hackett Motor Car Co., violated the state laws by reason of its having rubber blocks on the circumference of its wheels.

Specifically the violation was claimed to be of Chapter 224, Section 6, of the state laws of 1910, approved on April 9, 1910, and reading as follows:

6. No motor vehicle tire shall be fitted with a chain, nor shall any tire upon any motor vehicle be constructed of or have thereon any blocks, hobs, studs or other projections beyond the periphery of the tire forming the tread or traction surface of such tire, and which shall extend beyond three-eighths of an inch from the periphery of such tire, when such motor vehicle shall be used upon gravel, macadam or other made roads, except upon natural dirt, asphalt, cobble, Belgian blocks or vitrified pavements, provided, however, that tires may be fitted with a chain when used upon roads covered with a coating of at least one inch of snow or ice.

A petition was filed by Kubler with the Supreme Court, for a review of his conviction by Thomas P. Costello, the police justice for the city of Passaic, and Judge Minturn on the 10th inst., in his opinion stated that "the construction and use of the tires on the motor car driven or used by said Kubler, to wit: Kelly-Springfield sectional tires of twin type, is not a violation of Section 6 of the act." It therefore was ordered that Kubler's conviction be set aside and his fine, as imposed by the Passaic police justice, be remitted.

The decision is in the nature of a valuable victory for the Consolidated Rubber Tire Co., of New York City, which makes the tires in question, as arrests and fines have been imposed on drivers using these tires in a number of New Jersey cities and towns, including not only Passaic but also Hoboken, Rutherford and other places. The action of the Supreme Court is looked to as preventing further prosecution of the company's customers. It was shown to the court by the Consolidated attorneys that the effect of the rubber blocks is to squeeze

together under pressure, making a smooth, continuous tread on the road surface, and that it would be necessary to attach hobs or the like to the tread in order to violate the statute.

**Atlanta Company Quietly "Folds its Tent."**

Although the Southern Motor Car & Truck Co., of Atlanta, Ga., occupied luxurious salesrooms at 158-160 Marietta street, and made a brave outward show, its business does not seem to have been very satisfactory from a financial point of view. After considerable bickerings with the landlord and other creditors, the southern company decided to quit the automobile business, and decamped. Despite their evident hurry to leave, the leading spirits of the enterprise tarried long enough to carry away everything of the slightest value, leaving to the creditors a perfectly bare and empty building. Judge Ridley, the day before the "flight," had sent a bailiff to attach a considerable part of the equipment, and the latter actually took possession of some valuable machinery and accessories. Returning the next morning with a wagon to carry away the attached goods, and intending to attach the rest of the equipment, the bailiff found the doors open and the salesrooms bare. Even the goods he had attached were gone with the rest. The officials of the Southern Motor Car & Truck Co. at present are very much "wanted" by the angry bailiff.

**Sent Money but Received no Car.**

In the offering of automobiles on the mail order plan, there is danger not only to the confiding souls who are tempted to send their money, but also to those who do the offering, especially in the event of complaints that the motor cars do not arrive in due course after the money has been forwarded. That this danger is exceedingly real is probably felt most keenly of all at the present time by Earl R. Ryno, who now is being tried in Detroit, Mich., on the charge of fraudulent use of the mails, having been indicted by the Federal grand jury. About two years ago Ryno was in business in Detroit under the name of the Belle Isle Motor Co. Complaints were made to the postoffice department from persons who said that they had sent money to the company but had failed to receive the automobiles for which the money was intended. Investigation by a postoffice inspector resulted in Ryno's indictment.

**Hartford Suspension in Chicago.**

The Hartford Suspension Co. of Jersey City, N. J., has opened a Chicago branch for the handling of Truffault-Hartford shock absorbers. The branch, which is under the management of William P. Politizer, is located at 1458 Michigan avenue, and boasts a well equipped machine shop for making attachments of shock absorbers to cars.

lowed by them, or by the respective courts appointing ancillary receivers for the company, or by any of the ancillary receivers; that the only claims which have been disallowed either in whole or in part are those of C. A. Blake, Kenyon & Kenyon, B. Michael Co., Crucible Steel Castings Co., Limousine Carriage Mfg. Co., W. H. Leland & Co., New York Transportation Co., W. F. Parker and Mrs. Anna M. Bradley, and that these claimants were all notified on June 19 of the action taken upon their claims and that no appeal has been taken from the allowance of any of the claims; that the State of New Jersey has levied a franchise tax of \$4,679.75 for the year 1910 upon the Electric Vehicle Co., which franchise is payable on July 1 and will thereafter bear interest at the rate of 12 per cent. per annum until paid; that Herbert Lloyd, Kenneth B. Schley and C. Wendell Woodward, the reorganization committee of the creditors and stockholders of the Electric Vehicle Co., representing approximately 98 per cent. in interest of the creditors and approximately 88 per cent. in interest of the stockholders, to whom the assets, property and business of the receivers (with the exception of cash), and of the company, have been sold under a previous order of the court, and the Columbia Motor Car Co., a corporation of the State of Connecticut, to which as nominee of the reorganization committee the assets, property and business were transferred and conveyed, have each requested that the receivers be continued during the pendency of the appeals about to be taken from the decrees to be entered in the United States Circuit Court for the Southern District of New York to establish the validity of the Selden patent, an exclusive license to which was transferred and conveyed to the Columbia Motor Car Co. as part of the assets and property.

Under the circumstances, the receivers ask that their report may be in all things confirmed, ratified and approved, and that the payments made by them and the actions taken by them therein set forth, including the sale of the business, assets and property to the reorganization committee and the transfer and conveyances of such business, assets and property to the Columbia Motor Car Co. shall be affirmed and approved; that out of the moneys in their hands there may be allowed and paid to them and their counsel such sums for their services and disbursements as to the court shall seem proper; that they shall be instructed as to the action to be taken by them in response to the request of the reorganization committee and the Columbia Motor Car Co., and as to the distribution, if any, to be made by them at this time of the balance remaining in their hands after the payment of the allowance aforesaid; and that they may have such further and other instructions in the premises as to the court shall seem proper.

## IN THE RETAIL WORLD.

W. A. Grinard has sold his garage business at Olean, N. Y. Joseph Hutchins is the new owner.

Kuhns Bros. just have opened a garage in the Armory building at the corner of Phelps and Front streets, Youngstown, Ohio.

Hurley Bros., of Seaford, Del., are erecting a garage on Market street. The building will be 50 x 100 feet, and cost about \$3,000.

The Geyer Sales Co., is the style of a new accessory firm in Dayton, Ohio. It is located in the Bimm building, corner Main and First streets.

Billings & Lyons is the style of a new firm which has opened up at 121 West Seventh street, Topeka, Kans. Pullman cars constitute their leader.

The Southern Motor Sales Co., of Louisville, Ky., has moved into roomier quarters at Third avenue and Breckinridge street. The firm handles the Cole "30."

T. T. Rocket is building a garage at 3609 Lancaster avenue, Philadelphia, Pa. The building will be 50 x 65 feet, one story high and will cost about \$5,000.

The Glenn County Garage Co., of Wilcox, Cal., is building a brick and cement garage, to cost \$6,250. General repair work and renting will be carried on.

A. C. Hull, of Oakland, Cal., has sold his automobile business to F. G. Becker, of Chicago, and S. McIver of Oakland. Maxwell and Columbia cars are featured.

C. H. Farnum of Baraboo, Wis., has sold his automobile business to W. W. Stackhouse and R. E. Sherman. Jackson and Fuller cars will be shown by the new owners.

Under the style the Consolidated Motor Co. a new garage has been opened at the corner of Avenue C and 21st street, Birmingham, Ala. W. A. Peckham is the manager.

The Nolan-Rieke Motor Car Co., Kansas City, Mo., is erecting a garage at 3422-26 Broadway, to cost \$15,000. The building will be 90 x 160 feet, and is to be ready by September.

Crowley & Grindle have opened a garage in Golden Gate avenue in San Francisco, Ca., under the style the Auto Service Co. The building is 82 x 138 feet, two stories high, and cost \$15,000.

The St. Louis Garage Co., of St. Louis, Mo., will open its new quarters on the corner of Manchester and Sarah avenues on July 15. The company handles the Whiting cars and Johnson trucks.

S. W. Ramalay has sold the Grand Avenue Garage, St. Paul, Minn., to H. K. Harrison, president of the Harrison Machine Co., of that city. The name of the concern will remain the same as heretofore.

The American Garage Co., St. Louis, Mo., has taken over the interests of the Whitaker Motor Car Co., and will be located at Nos. 5875-81 Delmar avenue. Rambler and Everitt "30" cars will be shown.

Under the style the Maple Garage, John E. Lathrop of Hartford, Conn., has "opened up" on Ellington street, South Windsor, Conn. The building is 36 x 64 feet, 30 feet high and cost \$8,500. Moline and Schacht cars will be featured.

Bloomington, Ill., is to have another garage. C. M. Coats, whose automobile business is located at South Water street, is building an additional garage in LaSalle street. The new place will be 75 x 180 feet and two stories high.

The Stafford Motor Car Co.'s garage, corner Seventh and Quincy streets, Topeka, Kan., has been bought by Albert E. Jones and Theodore Johnston of Emporia, Kan. The new owners will continue the business under the style the J. & J. Motor Car Co.

Work has been started on the new garage to be erected on the corner of Wall street and Ticoga avenue, Corning, N. Y. The business is owned by Baker & Hillman, and the building is to be 70 x 63 feet, two stories high, of brick, and will cost \$7,000.

Another link in the chain of Foss-Hughes garages, spread over the Middle Atlantic States, is the new establishment at 1201 Gilpin avenue, Wilmington, Del. Frank A. Alderman is the manager of the branch, which handles the Pierce-Arrow line exclusively.

The Philbrook Machine Co., composed of A. H. Philbrook and W. Cott, has built a machine shop and garage at the corner of Fifth and Porter streets, Okmulgee, Okla. The structure cost about \$5,000 and will serve to house Buick cars, for which the company is agent.

Petition in bankruptcy has been filed by the Beck & Gregg Hardware Co., and other creditors, against the Georgia Garage Co., of Atlanta, Ga. Judge Newman appointed R. C. Paterson receiver for the defunct company, which was owned and managed by W. H. Millen.

Owing to the growth of its business, the I. M. Allen Co., Brooklyn and Long Island distributor of Stevens-Duryea cars, has leased larger quarters at 322 Livingston street, Brooklyn, N. Y. The present establishment at 116 South Portland avenue will be continued as a repair shop.

The Hearne Motor Co., which is owned and operated by J. G. and Thomas McK. Hearne, has moved into more commodious quarters at the corner of 15th and McCullough streets, Wheeling, W. Va., where it has 6,000 feet of floor space. Peerless and Ohio cars are handled by this firm.

The City Motor Car Co., one of the new concerns in Houston, Texas, has taken possession of a two-story garage, 50 x 100 feet,

which has been built specially for it at a cost of \$20,000. Pittsburgh "66" cars and Johnson commercials will be featured. C. O. Wier and E. F. Holmes are in charge.

The Chalmers-Detroit Motor Car Co. of Ohio has been reorganized under the name of the Ooley Motor Car Co., with \$25,000 capital. Benjamin Ooley and Ernest Ooley, the new owners, have added the Packard line to the Chalmers-Detroit and Hudson, for which the old company was agent in Dayton.

Lewis Miller is erecting a new garage at the corner of East Eighth street and Hawthorne, avenue, Portland, Ore. The building is 50 x 75 feet, two stories. In the same city West Bros. are building a garage, 50 x 200 feet, costing \$25,000; while John Kerrigan and R. W. Lloyd are opening up garages on Union avenue near Wasco street.

## Former Partners Again Join Forces.

Dorgille Libby, Jr., and Eugene S. Miner, the two pioneer automobile builders of San Francisco, Cal., have again joined forces, after a period of separation subsequent to the destruction of the Sunset Automobile Co.'s plant by fire in 1906, an enterprise of which they were the owners. Miner remained in San Francisco, while Libby has been acting in a designing and engineering capacity for the Atlas Motor Car Co., of Springfield, Mass., the Chalmers Motor Co., of Detroit, and other concerns in the East. The re-united partners have taken a small factory at 1417-29 Van Ness avenue, where they will build cars to order and also do rebuilding.

## Falcar Likely to Leave Chicago.

The Fal Motor Car Co., of Chicago, Ill., is casting about for a factory in one of the Illinois smaller cities, and the selection will depend to a great extent on which will offer the most substantial and prompt inducements. Waukegan, Ill., is considering the company's proposition, and a mass meeting has been called to determine whether its citizens are willing to absorb \$200,000 worth of the company's stock.

## Dayton Airless Goes to Detroit.

The Detroit Airless Tire Co., recently incorporated under Michigan laws with \$1,500,000 capital, is to succeed to the business of the Dayton Airless Tire Co., of Dayton, O., from which city operations will be transferred to Detroit. A new plant will be built, which is expected to be in operation in September.

## MacMullen Joins the Overland Staff.

B. J. MacMullen, who for three years has been connected with the New York branch of the White Co., of Cleveland, O., has gone with the Overland Selling Co. He will be under George W. Bennett, the general sales manager of the Willys-Overland Co., of Toledo, O.

**THE WEEK'S INCORPORATIONS.**

Centralia, Wash.—Hub City Auto Co., under Washington laws, with \$3,000 capital.

Rollingstone, Minn.—Rollingstone Auto Co., under Minnesota laws, with capital not given; to deal in automobiles.

Detroit, Mich.—Michigan Magneto Co., under Michigan laws, with \$25,000 capital; to manufacture magnetos under letters patent.

Hammond, Ind.—Hammond Automobile Club, under Indiana laws, without capital. Corporators—A. M. Turner, J. G. Ibach and others.

Cleveland, Ohio—American Dismountable Rim Co., under Ohio laws, with G. B. Harris, E. A. Close, I. M. Forschnet, S. M. Davis, G. B. Clement.

Terre Haute, Ind.—Smith Motor Co., under Indiana laws, with \$25,000 capital; to manufacture automobile parts. Corporators—W. B. Smith, E. B. Smith, M. B. Shelton.

Clinton, Mass.—Connery Transportation Co., under Massachusetts laws, with \$5,000 capital; to do general automobile business. Corporators—J. F. Stratton, J. R. Connery, W. H. Connery.

Indianapolis, Ind.—Midway Automobile Co., under Indiana laws, with \$3,000 capital. Corporators—Oliver G. Thomas, C. D. Paidrick, F. L. Wiltshire, A. D. Thomas, George W. Snyder.

Gaylord, Mich.—Gaylord Motor Car Co., under Michigan laws, with \$100,000 capital; to manufacture automobiles. Corporators—A. B. C. Comstock, Frank A. Kramer, John L. Pelton, Lee Metford.

Boston, Mass.—Richard A. Crooker Co., under Massachusetts laws, with \$10,000 capital; to do general automobile business. Corporators—Th. M. Josselyn, Richard A. Crooker, Edward C. Leach.

Chicago, Ill.—United Taxicab Co., under Illinois laws, with \$10,000 capital; to do general automobile and garage business. Corporators—James A. Daniher, Patience Swanton, Edward G. Woods.

Weehawken, N. J.—Hamilton Auto Co., under New Jersey laws, with \$6,000 capital; to manufacture and deal in automobiles and parts. Corporators—Hans C. Schultze, William Ihmken, Herman Mutz.

National Lubricating Axle Co., under New York laws, with \$15,000 capital; to manufacture and deal in machinery and tools. Corporators—Thomas C. Stokes, Jr., William M. Cornduff, and others.

Newburgh, N. Y.—Mogul Auto Co., under New York laws, with \$100,000 capital; to manufacture and deal in automobiles and motor boats. Corporators—W. L. Waller, C. Monteith Gilpin, James M. Wright.

Manitowoc, Wis.—Ferromatic Tire Mfg. Co., under Wisconsin laws, with \$11,500 capital; to manufacture and sell automobile

tires and parts. Corporators—Chas. F. Wren, Conrad Werra, Theresa Wren.

Chicago, Ill.—Farrington Automobile Co., under Illinois laws, with \$10,000 capital; to manufacture and deal in automobiles and accessories. Corporators—Joseph T. Delfosse, W. H. Farrington, Samuel F. Scott.

East Orange, N. J.—Consolidated Taxi Service Co., under New Jersey laws, with \$300,000 capital; to conduct automobile livery business. Corporators—T. Faber, P. B. Scarff, H. E. Von Pein, all of East Orange.

Springfield, Mass.—Automobile Lighting Co., under Massachusetts laws, with \$30,000 capital; to manufacture and deal in automobile apparatus. Corporators—H. W. Field, M. N. Ryan, C. P. Lyman, E. N. Frary.

Akron, Ohio—Alton Motor Accessory Co., under Ohio laws, with \$50,000 capital; to manufacture and deal in accessories. Corporators—E. W. Brouse, H. Williams, C. H. Maranville, A. F. Maranville, C. S. Pelton.

New York City, N. Y.—Schwab-Chubb Tire Protector Co., under New York laws, with \$50,000 capital; to manufacture and sell tire protectors for automobiles, etc. Corporators—A. Schwab, F. T. Barry, N. Schwab.

Elmira, N. Y.—Elmira Taxicab Co., under New York laws, with \$1,500 capital; to acquire, own, operate and rent automobiles, motorcycles, etc. Corporators—H. H. Roberts, Gordon H. Roberts, Mortimer L. Sullivan.

New York City, N. Y.—Carhartt Automobile Sales Agency, under New York laws, with \$50,000 capital; to deal in automobiles and motor vehicles of all kinds. Corporators—L. Earle, F. Hoar, H. W. Richardson.

Brooklyn, N. Y.—Palmer-Herring Motor Co., under New York laws, with \$20,000 capital; to manufacture automobile engines, motors, motor boats and vehicles. Corporators—H. W. Palmer, C. N. Herring, F. P. Twyford.

New York City, N. Y.—Livingstone Radiator & Mfg. Co., under New York laws, with \$150,000 capital; to manufacture radiators and other heating and condensing apparatus. Corporators—W. S. Lare, C. A. Bruce, T. Roberts, Jr.

New York City, N. Y.—Harper Engineering Co., under New York laws, with \$50,000 capital; to manufacture and deal in engines, automobiles, motor boats, etc. Corporators—E. F. Berkeley, Wm. Harper, Jr., A. J. Clayton and others.

New York City, N. Y.—Balance Gear Light Vehicle Co., under New York laws, with \$30,000 capital; to manufacture vehicles, motors, engines of all kinds. Corporators—Walter E. McDonnell, Thomas Spalding, Michael J. McDonnell.

Detroit, Mich.—Stanley Power Wagon

Co., under Michigan laws, with \$10,000 capital; to manufacture and deal in automobiles and accessories. Corporators—John C. Shaw, H. A. Douglas, F. R. Hathaway, G. G. Scranton, Jos. G. Hamblen.

New York City, N. Y.—Hercules Suspension Co., under New York laws, with \$50,000 capital; to manufacture and deal in wheels and accessories to automobiles, bicycles, etc. Corporators—Geo. E. Armstrong, Luther G. Pillings, Darius E. Peck.

Union, N. J.—Guttenberg Motordrome Association, under New Jersey laws, with \$100,000 capital; amusement and racing enterprises. Corporators—C. Dietz, W. Ihnken, N. Bergen, F. Wahlers, H. Shaffer, F. Gathman, P. Seglie, W. Renner, R. Specker.

New York City, N. Y.—Dunlop-Taylor Motor Co., under New York laws, with \$5,000 capital; to manufacture and deal in automobiles and accessories. Corporators—C. M. Dunlop, M. L. Dunlop, A. E. Dunlop, B. C. Taylor, all of 1876 Broadway, New York City, N. Y.

New York City, N. Y.—The Motor Car Fixture Co., under New York laws, with \$10,000 capital; to manufacture automobiles, motor boats and accessories. Corporators—John H. Dale, Walter I. Hess, Christian P. Roen, all of Ninth avenue and 13th street New York City.

New York City, N. Y.—New York Rotary Engineering and Accessories Mfg. Co., under New York laws with \$50,000 capital; to manufacture motors, engines, taximeters, etc. Corporators—David Davis, Harry Katz, Chas. M. Lackland, Jr., of 299 Broadway, New York City, N. Y.

Knoxville, Tenn.—East Tennessee Motor Co., under Tennessee laws, with \$10,000 capital; to manufacture and sell automobiles, gasoline engines, motorcycles, trucks, accessories, and iron fences, and do a general garage business. Corporators—A. P. Rutherford, D. H. Jenkins, W. H. Bowman, A. A. Schmid, E. P. Rutherford.

**Detroit Branch for Hartford Parts.**

The Hartford Auto Parts Co. of Hartford, Conn., has opened a branch office in Detroit, Mich., in order to be closely in touch with the western trade in the supplying of cone clutches, universal joints and other parts. F. L. Martin, secretary and sales manager of the company, will be in charge of the Detroit office for the next two or three months, with temporary headquarters at the Hotel Pontchartrain.

**Lasher Resigns From Koehler.**

W. J. Lasher, general sales manager of the H. J. Koehler Co., the New York City agents for Hupp and Everitt, has resigned and will leave the company on July 1. He will take a vacation of several weeks in the Maine woods before again engaging actively in the trade.

**INFRINGEMENT MAY SAVE PATENTS**

**Such Manufacture in Great Britain Helps Prevent Revocation of Patentee's Rights—Mercedes Group Involved.**

An unusual turn has been given to Great Britain's patent act of 1907 permitting the revocation of patents which are not adequately "worked" in Great Britain, by the discovery that even where the patentee has failed to work his patent to a sufficient extent to prevent its revocation, the patent still may be maintained in its full vigor if infringers have worked the invention in Great Britain during the period. In short, the infringers sometimes may be a blessing in disguise, in keeping the patent alive, where otherwise it would be revoked under the law.

This point developed in the effort of Fiat Motors, Ltd., of London, for a revocation of the group known as the Mercedes patents, belonging to the Mercedes-Daimler Motor Co., Ltd., and relating to live rear axles, the so-called "gate change" or selective grid segment for the change gear, honeycomb radiators, water-cooled brakes and flywheel fans. It was shown that although there might be doubts as to whether manufacture under these patents had been conducted in Great Britain by the patentees to an extent that would prevent revocation, there was an extensive manufacture by British infringers, which if taken into account would constitute an ample "working" of the patents.

Both sides agreed in asking for a decision on the admissibility of this evidence on behalf of the patentees, and that in the meantime no further evidence should be taken or discussed. The question, as presented to the comptroller-general of the Patent Office, was whether in comparing the manufacture at home and abroad the amount of manufacture by infringers in Great Britain can be taken into consideration, or whether the only manufacture on which the patentee may rely is manufacture by him or his licensees.

In making his finding for the patentee, the comptroller-general, W. Temple Franks, says:

"The question which I have to decide appears to me to be concluded at present by authority, and I decide that manufacture by infringers in this country must be taken into account if in favor of the patentee. The consequence of this is that upon the admission of the applicant for the purposes of this decision, the patentee is entitled to a finding in his favor, at any rate upon two of the patents."

**Court Dismisses 21 "Licensed" Defendants.**

Motion to dismiss the case of the Velie Motor Car Co., of Moline, Ill., for \$500,000

damages against members of the Association of Licensed Automobile Manufacturers, has resulted in 21 of the 25 companies being dismissed as defendants, although Judge Turner, of the circuit court for Milwaukee county, sitting at Milwaukee, Wis., holds the remaining four companies as subject to the Velie complaint. These include the Chalmers Motor Co., the Pope Mfg. Co., the Locomobile Co. of America, and the Pierce-Arrow Motor Car Co., whose contracts with their Milwaukee agents, respectively, are of a nature to make the court think that the agents are legally the representatives of the manufacturers, and that service and summons on the Milwaukee agents in their cases is binding on the companies. The twenty-sixth defendant, the Kopmeier Motor Car Co., of Milwaukee, an agent, was not subject to the motion, as it is a resident defendant.

**Goodridge to Travel for Matheson.**

T. W. Goodridge, who in his past connections with the Electric Vehicle Co., the Studebaker Automobile Co. and the Maxim-Goodridge Co., became prominently identified with the trade, has joined the forces of the Matheson Automobile Co., of New York. His first duties will be in establishing agencies for Matheson cars from Pittsburgh to the Pacific Coast. The company also has acquired F. J. Manning, formerly with the Warner Instrument Co., as a salesman in the New York district.

**Enormous Plant for Hewitt in Detroit.**

The Hewitt Truck Co., which is owned by the Metzger Motor Car Co., of Detroit, Mich., is to have a large factory of its own on a 40-acre site in the northwest section of the city, in the vicinity of Hamilton boulevard and the Detroit Terminal railroad's outer belt. The first building is to be 1,200 feet in length, and so arranged that additions may be attached conveniently. The plant will make trucks of from three to ten tons capacity.

**Latta Becomes Maxwell Secretary.**

Lloyd E. Latta, who some six weeks ago became connected with the Maxwell-Briscoe Motor Co. in the capacity of assistant secretary, has been elected secretary of the company. For the past four years he has been assistant manager of the Racine Mfg. Co., of Racine, Wis., a body building concern, previous to which he was secretary of the Union Terminal Construction Co., of New York City.

**Grant-Lees Opens Office in Detroit.**

The Grant-Lees Machine Co., of Cleveland, O., making helical timing gears, transmissions, steering gears and differentials, has opened a branch sales office in Detroit, Mich., at 1001 Ford building. Ernest L. Smith, sales manager of the company, will exercise immediate supervision over the Detroit office.

**PRAISES THAT FAILED TO PLEASE**

**"United States Trade Reports" Bungles Badly in Lauding a Jamesville Product—Tried a Venerable Game.**

That venerable bunco game known as the "United States Trade Reports" has bobbed up again in the automobile field, looking for "suckers," and in the effort it has been guilty of so ludicrous a mistake that nothing could more clearly point out the "rawness" of its methods. Selecting the Jamesville Mfg. Co., of Jamesville, Wis., as a possible victim, the alleged editorial department of the United States Trade Reports, of Cincinnati, O., on the 10th of this month forwarded a sickeningly laudatory article of about 500 words, concerning the Jamesville company's "auto wheels" and giving them "our editorial commendation." As usual, the letter accompanying the article suggested that the company modify or add to the article in any way that it might see fit, and also that it order a generous number of copies of the issue of the Trade Reports in which the article would appear, these copies being 15 cents each in small lots, down to 8 cents per copy in 1,000 lots. As a matter of fact, the Jamesville company gave up the manufacture of automobile wheels so long ago that it has forgotten all about them, and is confining itself to automobile and machine parts, motor car fittings and control levers. "What makes us particularly mad," says the secretary of the company, "is that they should assume that we would be easy enough to fall for their scheme."

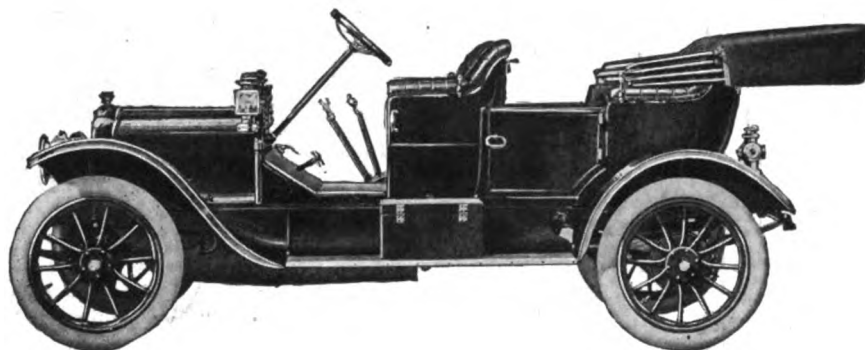
The offer of the "Trade Reports" of free "write-ups" without charge has been a bait which in the past has tempted several manufacturers to "bite." The gist of the proposition is expressed in that portion of the "editor's" letter, which reads as follows:

"As this is an editorial, of course there is no charge for publication and in addition if you can use any extra copies of the issue in which it will appear, we will be pleased to make you the following special reduced rates, as we are desirous that you should get as much benefit out of it as possible. Although the publication does not depend on an order for copies, such an order will be appreciated by us."

With prices ranging from \$12 for 100 copies to \$80 for 1,000 copies of the flimsy and meager sheet in which the "Trade Reports" occasionally is printed, the "sucker" pays well for his words of unstinted praise and "editorial commendation." Furthermore, despite the assertion that "publication does not depend on an order for copies," the manufacturers who failed to order in no instance were given subsequent reason to believe that the articles ever appeared.

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## for 1911



**SIZE AND POWER**—moderate, therefore, most economical to maintain.

**PRICE**—moderate, therefore, easy to buy.

**DESIGN**—includes many advanced features not found in any other American car.

**QUALITY**—The only moderate sized car wherein every part is just as well built as in the highest-price, high-powered cars.

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Write for descriptive matter

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#### Danger in High-Sided Bodies.

Attended by more or less of the absurdity which usually accompanies the evolution of a new style, the high-sided or front-door type of body rapidly is winning its way into prominence. As evidenced in the less conspicuous forms, which closely resemble the conventional touring or small tonneau body with front doors added, its utilitarian aspect rapidly should earn for it considerable popularity, while the true torpedo form is calculated to appeal to exactly the same class of motorists which a year or two ago took up the racy-looking roadster type. One tendency which marks the advent of a large proportion of the bodies of this general class, however, is distinctly objectionable. That is the unhandy arrangement of the mechanism of control.

Without in the least deprecating the advisability of retaining a uniform style of chassis for all models, it is plainly evident

that this practice results in many cases in a most crude placing of the control levers outside the body. Hence, in order to manipulate the change gears and emergency brake it is necessary for the operator to lean over the high "gunwales" of the car, and, in some instances, to perform most marvelous contortions in order to grasp the levers. Obviously such an arrangement is not conducive to good driving, while at times it may place the safety of the car and its occupants in jeopardy. It is neither safe nor sane to produce a car in which the driver's movements in any way are hampered or in which they combine to tax his mental or muscular powers.

To overcome the difficulty it is necessary either to sacrifice the uniformity of the chassis of the vehicle and to bring the levers inside the frame line, or else to alter the form of the body in such a way as to permit it to include them. In occasional instances, both these arrangements are found in torpedo and inside driven coupe and limousine body forms. When combined with suitable treatment of the paneling, the result is in no sense objectionable to the eye, while it adds a great deal to the operating convenience of the machine. Apparently there is no practical reason why the levers of all torpedo and high-sided bodies should not be brought inside save that such an arrangement does not suit the body designer's ideas of contour. But that it may be worth while to sacrifice purely ethical objections in view of a useful object goes without saying.

#### Elimination of the Chassis.

It is inevitable that present ideas governing motor vehicle construction should undergo considerable alteration in the course of time. Nor is it irrational to conclude that some of the new ideas entertained may be radically opposed to what at present are considered the basic tenets of automobile design. One way in which a change may be brought about is in the elimination of the chassis, as such, in order to secure better interchangeability of parts and more thorough subserviency to structural principles. Radical as this conclusion may appear, there is much to base it upon, despite the fact that it apparently argues a reversion to type.

A couple of years ago there was exhibited at one of the shows a touring car which was remarkable in that it was frameless,

the function of the ordinary frame being fulfilled by the body itself, which was of pressed steel, suitably shaped for strength, and autogenously welded into a single piece. The body and frame thus being formed as a single and substantial unit, the attachment of the axle units and the power and transmission units became a relatively simple matter.

In French practice, very recently, a somewhat similar scheme has been adopted in connection with the use of a peculiar and radical form of power plant which forms a unit with the torsion member. As worked out for light vehicle purposes, especially with regard to the demands of the small public service cab, this system develops an astonishingly light and simple vehicle, samples of which at present are in use in New York City.

A third and even more striking example of the frameless principle, is that of the new Daimler omnibus, which just has been brought out in England. In this vehicle, not only is the frame developed in the body structure, but the basic idea has been carried out in a very thorough manner. Either of the two power and transmission units may be dismounted without disturbing the body in any way and with only local disarrangement of parts; each unit is entirely independent of the other; the body-frame-work structure is economically designed, as is evidenced in the use of the walls of the fuel tank for purposes of reinforcement against weaving; and the net result is that the machine is shorter, has a wider steering lock and handles better in every way than the conventional type of vehicle which it is designed to replace.

The chassis, it will be remembered, was fixed upon as a suitable form of construction at a time when builders were suffering the results of inadvisedly mounting parts subject to heavy stresses upon lightly built wooden bodies and frames. It also was favored because of the facility which it offers for divorcing the construction of the running gear and coachwork, thus permitting interchangeability of bodies and also affording the buyer limitless option in the choice of the externals of the machine. These arguments always will hold true with respect to machines in which the interchangeable body feature is a desideratum. For cars built for the big-volume, low-cost market, and for commercial vehicles, however, it is by no means unreasonable to pre-

dict that the chassisless style of construction will be employed quite extensively in the future. It has many features to recommend it, by no means least of which is the combined advantage of ample strength with low manufacturing cost.

#### Wherein Many Tops are Unsatisfactory.

Whatever may be said in favor of the workmanship and material which go into the average automobile top, many motorists find to their discomfiture, when overtaken on the road by a storm, that the side curtains do not fit properly, or, if yielding to persuasion, are inclined to come adrift persistently and maliciously. Whether it be that the snap fastenings are insecure or that the tops are not properly fitted in the beginning, or whether the result arises through straining of the bows and consequent warping of the light top structure, the fact remains that the curtains do not "stay put" and properly fulfill their emergency service in many instances. The spectacle of a large number of machines flying for cover in a heavy shower, with curtains flapping wide and occupants drenched or holding the curtains, by no means is a convincing argument of the success of the average top covering. That the average owner does not discover the difficulty until a time when he sorely is in need of adequate protection from pouring rain or hail, only adds to the unpleasantness of the situation.

#### To Prevent Accidents to New Owners.

Dealers delivering cars to new customers have reason to put special emphasis on the warning against cranking the motor before making sure that the gear change is in the neutral position, as the usual spring crop of garage accidents, with private owners crushed between the car and the wall, is being harvested. It is not enough that the operator of the car be careful always to have the gears in neutral position when leaving the machine. The gears may be moved into engagement by some outsider while the car is standing. This possibility makes it imperative for safety's sake that the change gear lever be examined and the gears surely out of engagement before the engine is cranked. By pointing out the danger and urging customers to exercise particular precaution in this regard, dealers may avert a great proportion of the too numerous mishaps that otherwise may occur.

## COMING EVENTS

June 14-30.—American Automobile Association's seventh annual national touring and reliability contest for the Glidden trophy, starting from Cincinnati and finishing at Chicago.

June 22-25, Minneapolis, Minn.—Automobile races at state fair grounds.

June 25, Port Jefferson, N. Y.—Automobile Club of Port Jefferson's hillclimb on East Broadway hill.

June 25, Yonkers, N. Y.—Mount Vernon Automobile Club's race meet at Empire City track.

June 28-30, St. Louis, Mo.—St. Louis Manufacturers' and Dealers' Association's endurance run for "Star" trophy.

June 30, Winnipeg, Man.—Winnipeg Automobile Club's annual tour; 455 miles.

July 1, 2 and 4, Indianapolis, Ind.—Grand Circuit meeting on Motor Speedway.

July 2, Wildwood, N. J.—North Wildwood Automobile Club's roadability run from Philadelphia to Wildwood.

July 2-4, New York City—Touring Club of America's sociability-guessability run to Waterbury, Conn., and return; 200 miles.

July 4, Wildwood, N. J.—North Wildwood Automobile Club's annual beach race meet on Ocean Drive.

July 4, Indianapolis, Ind.—Chicago Automobile Club's second annual race for the Cobe trophy on Motor Speedway.

July 4, Muskegon, Mich.—Gentlemen's Driving Club's automobile race meet at Driving Park.

July 4, St. Paul, Minn.—Minnesota State Automobile Association's race meet.

July 4, Cheyenne, Wyo.—Cheyenne Motor Club's race meet on motordrome.

July 4, Auburn, N. Y.—Auburn Automobile Club's hill climb.

July 4, Dallas, Tex.—Dallas Automobile Club's race meet.

July 4, Denver, Col.—Denver Motor Club's 200 miles road race; postponed from May 30.

July 11, Plainfield, N. J.—Plainfield Automobile Club's annual hill climb.

July 12, Charleston, S. C.—Charleston Automobile Club's beach races at Isle of Palms.

July 13, Winnipeg, Man.—Winnipeg Automobile Club-Winnipeg Motor Trades Association joint racemeet.

July 15-16, Riverhead, L. I.—Motor Contest Association's second Long Island Stock Car Derby.

July 15-16, New York City.—Motor Racing Association's second 24 hours race at Brighton Beach track.

July 15-19, St. Paul, Minn.—Minnesota

State Automobile Association's second annual reliability tour for "Dispatch" trophy.

July 18-22, Milwaukee, Wis.—Wisconsin Automobile Association's first annual endurance test for "Milwaukee Sentinel" trophy.

July 30, Wildwood, N. J.—North Wildwood Automobile Club's race meet on Wildwood Speedway.

August 1, Minneapolis, Minn.—Minneapolis Automobile Club's reliability run.

August 3-5, Galveston, Tex.—Galveston Automobile Club's beach races.

August 6, Philadelphia, Pa.—Quaker City Motor Club's race meet at Point Breeze track.

August 6, Wildwood, N. J.—North Wildwood Automobile Club's beach race meet on Ocean drive.

August 12-13, Indianapolis, Ind.—First 24 hours race on Indianapolis Motor Speedway.

August 15, Algonquin, Ill.—Chicago Motor Club's annual twin hill climb.

August 15, Washington, D. C.—Start of second annual Frank A. Munsey reliability contest.

August 15-19—Start of second annual Munsey Historical Tour from Philadelphia, and terminating at Washington, D. C.; 1,700 miles.

August 17, Cheyenne, Wyo.—Cheyenne Motor Club's race meet on motordrome.

August 26-27, Elgin, Ill.—Chicago Motor Club's road race and speed carnival.

August 31, Minneapolis, Minn.—Minnesota State Automobile Association's reliability run.

September 2, 3 and 5, Indianapolis, Ind.—Grand Circuit meeting on Motor Speedway.

September 5, Wildwood, N. J.—North Wildwood Automobile Club's beach race meet on Ocean drive.

September 7-10, Buffalo, N. Y.—Automobile Club of Buffalo's touring reliability contest; 800 miles.

September 9, Santa Monica, Cal.—Southern California Automobile Dealers' Association's annual road race; 200 miles.

September 10, San Francisco, Cal.—Automobile Club of California's road race in Golden Gate Park.

September 10, San Francisco, Cal.—Automobile Club of California's Portola road race in Golden Gate Park.

September 17, Syracuse, N. Y.—Automobile Club of Syracuse-Syracuse Automobile Dealers' Association joint racemeet at Fair Grounds track.

September 18, Los Angeles, Cal.—Annual road race up Mount Baldy.

October 1, Mineola, L. I.—Sixth annual Vanderbilt Cup race on Long Island Motor Parkway, under the auspices of the Motor Cups Holding Co.

# GLIDDEN TOUR A FEARFUL GRIND

Frightful Roads and Hellish Heat Cause it to Become an Elimination Contest—At End of Ninth Day Only 14 of 26 Starters Remain and but One, Wm. Bolger, Retains a Clean Score.

## THE DAILY SCORE AND THE STANDING AT CLOSE OF NINTH DAY FOR THE GLIDDEN TROPHY.

				Penalizations										
No.	Name of Car	Driver	Date:— Day:—	14th 1st	15th 2nd	16th 3rd	17th 4th	18th 5th	19th 6th	20th 7th	21st 8th	22nd 9th	Total Penalty	
5	Chalmers 30	William Bolger		0	0	0	0	0	0	0	0	0	0	
1	Premier	Ray F. McNamara		0	0	0	0	0	0	7	0	3	10	
7	Maxwell	H. E. Walls		0	0	0	0	0	0	6	4	43	53	
8	Cartercar	W. C. Mahony		0	0	0	138	0	38	0	0	0	176	
3	Chalmers 30	Joe Gardham		0	20	0	162	0	0	0	18	3	203	
2	Premier	Chas. L. Ballinger		0	0	0	121	122	0	10	0	0	253	
4	Chalmers 30	Joe Matson		2	0	0	89	6	0	0	6	12	Withd'wn	
10	Glide	Fred Castle		0	0	0	29	0	0	0	*	104		
9	Parry	L. M. Dull		3	3	0	20	0	0	0	*	*		
15	Cino	Walter Donnelly		0	20	0	54	0	12	48	*	*		
11	Ohio 40	J. W. Stockard		0	150	0	62	117	36	Withdrawn				
6	Cole 30	Harry Knight		30	141	0	134	Withdrawn						
12	Ohio 40	Ben Hillock		0	115	Withdrawn								
14	Pennsylvania	Morris O'Donnell		72	102	Withdrawn								

## FOR THE CHICAGO TROPHY.

107	Maxwell	J. Illingworth	0	0	0	23	0	0	11	2	0	36
102	Moline	F. G. Salisbury	0	2	0	39	0	0	3	6	4	54
103	Lexington	J. C. Moore	0	0	0	224	0	0	1531	0	0	1755
101	Moline	J. A. Wicke	0	13	0	50	14	0	22	*	3	
100	Moline	C. H. VanDervoort	0	0	9	3	0	0	0	0	*	
106	Falcar	C. F. VanSicklen	60	0	0	83	0	0	16	Withdrawn		
111	Westcott	C. C. Bevington	6	0	2	142	0	0	Withdrawn			
108	Cartercar	Ray Landsheft	0	0	2	405	Withdrawn					
109	Cartercar	F. R. Pendleton	0	0	0	Withdrawn						
110	Lexington	E. O. Hays	4	0	0	Withdrawn						
105	Parry	Geo. Neff	0	107	34	Withdrawn						
104	Cole 30	A. L. Martin	1042	0	0	Withdrawn						

\* Had not reported when control closed.

## Alabama Adds to the Agony, Relieved Somewhat by Hospitality of the Inhabitants

Sheffield, Ala., June 16.—“Alabama,” we are told, means “here we rest,” and the meaning had more than usual significance for the Gliddenites when the caravan arrived here at 5 o'clock this afternoon. They were ready to rest and needed a chance to lick their sores of yesterday and galls and blisters supplied by today's run.

The wise ones surmised there was a coon in the fence when the found they had a run of only 119 miles from Nashville, Tenn., and almost seven hours in which to do it. The exact running time was 6 hours 39 minutes. So they “beat it” awhile the beating was good, so to speak. This was early in the day. The start was made at 9 o'clock and the Nashville Automobile Club turned out with upwards of 200 cars and lined the road leading from the city to give the boys a good send off. From the city line to Columbia by way of Franklin, Brentwood, Springhill, and Appolis the road was almost ideal. There were seven toll gates, but the tourist gave up gladly in view of the heavy toll they paid in tires during the day before over tolless roads. It was on

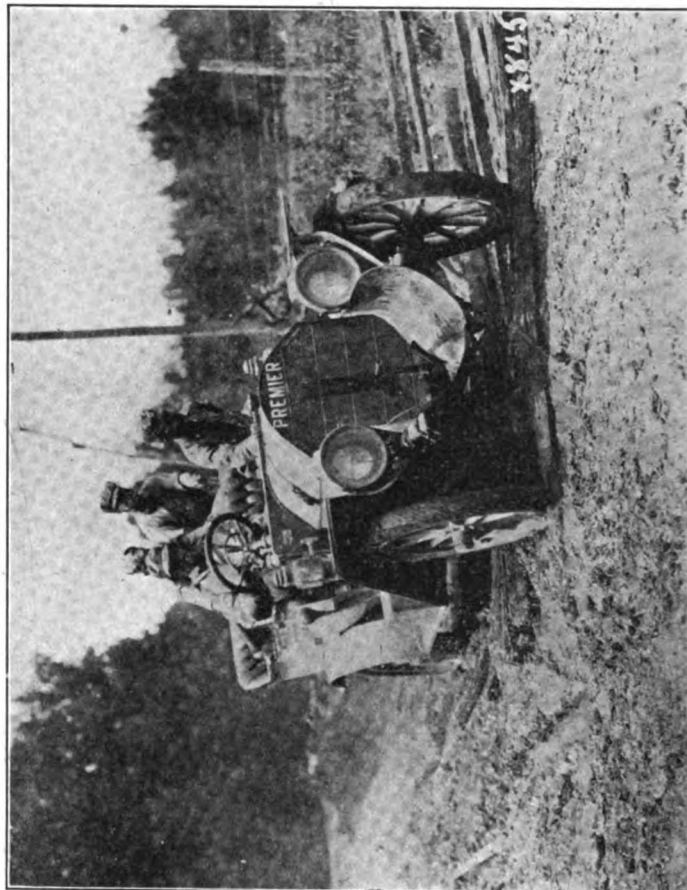
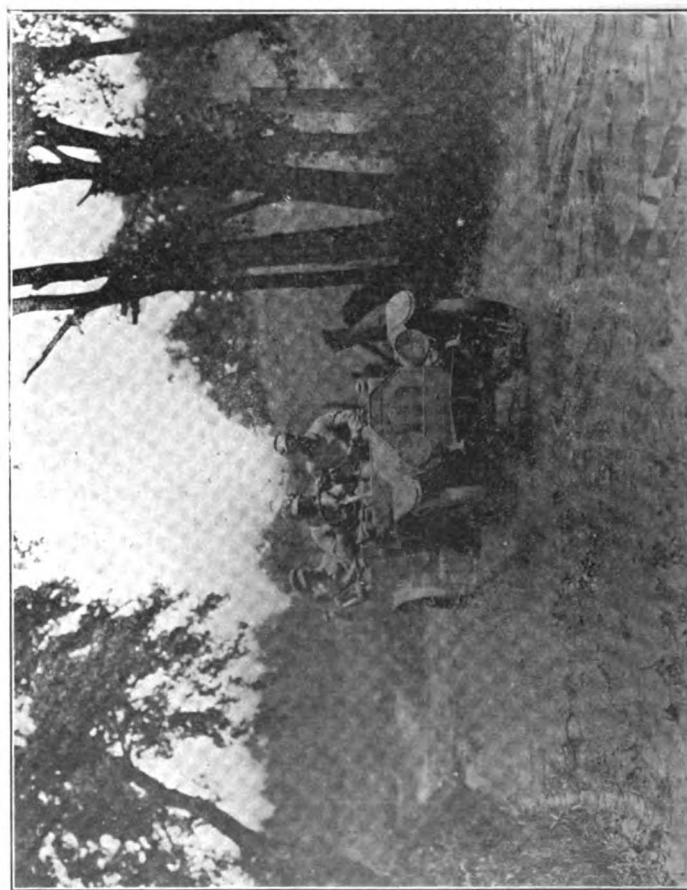
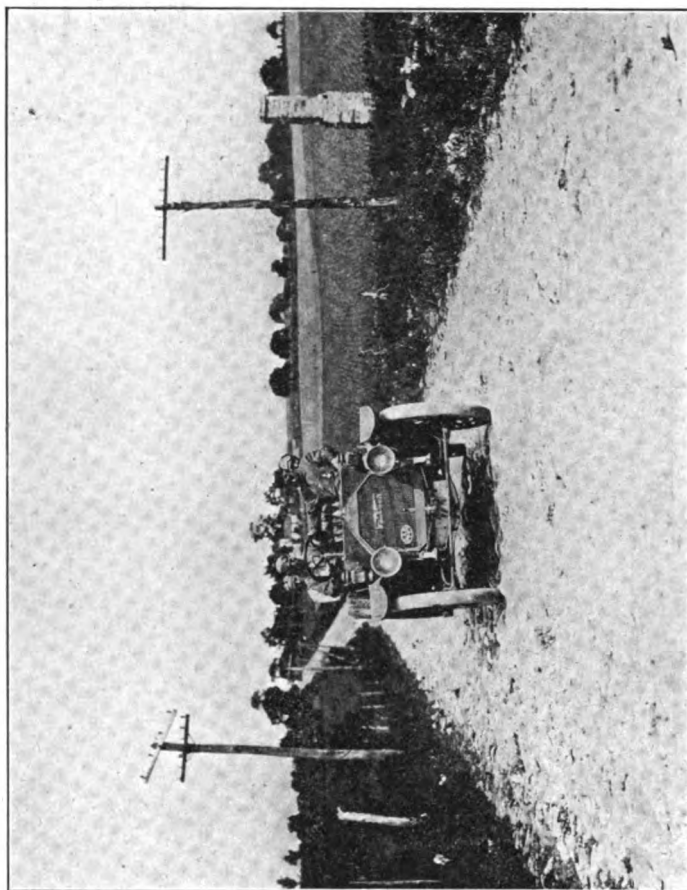
this stretch that the wise ones hurried their cars to gain time for what was to come.

One of the contestants for the Chicago trophy was arbitrarily removed from the clean score list by the officials today—the Moline car No. 100. It was penalized 9 points for oiling parts of the running gear at the noon control at Columbia. W. H. Vandervoort, president of the Moline Motor Car Co., who is accompanying the Moline squad, was a passenger in car No. 102, has protested the penalization, saying that he used the oil can in the full belief that it was permitted under the rules, and other entrants share Mr. Vandervoort's interpretation of the rules. The technical committee stated it would discuss the matter, and if Mr. Vandervoort substantiated the facts the penalization might be removed later. Three other cars penalized during the day's run were the Pennsylvania No. 14, Parry No. 105, Cartercar No. 108, and Westcott No. 111. Cartercar No. 109 and Cole car No. 104 had not arrived up to 10 o'clock. These two came in from the preceding day's run at 4 o'clock this morning. The Pennsyl-

vania was fined 7 points for late arrival, the Parry 5 points for work on the muffler and 32 points for late arrival at the night control. The Cartercar was penalized 2 points for work on the clutch, and the Westcott was penalized 7 points for work upon the seat of the motor.

It was a two hours 18 miles schedule to Columbia, but most of the drivers got in with a half-hour to spare, but they had ample opportunity to see the ideal Southland—the stately homes of “first families” situated back from the highway on blue grass lawns and shaded with noble oaks and birches. Here, too, were the cabins of the negroes for contrast, and it was observed that the farther south the Gliddenites go the darker grow the darkies. It was a country of fine plantations with the wheat newly harvested and standing in shocks on the fields. In the phosphate mining district between Mt. Pleasant and Sandy Hook there was a genuine black belt. White faces were seen but seldom at Mt. Pleasant, and at Rockdale Furnace the whistles in the phosphate mills blew while the cars

FOUR VARIED EXAMPLES OF SOUTHERN "HIGHWAYS" TRAVELED BY GLIDDEN SUFFERERS



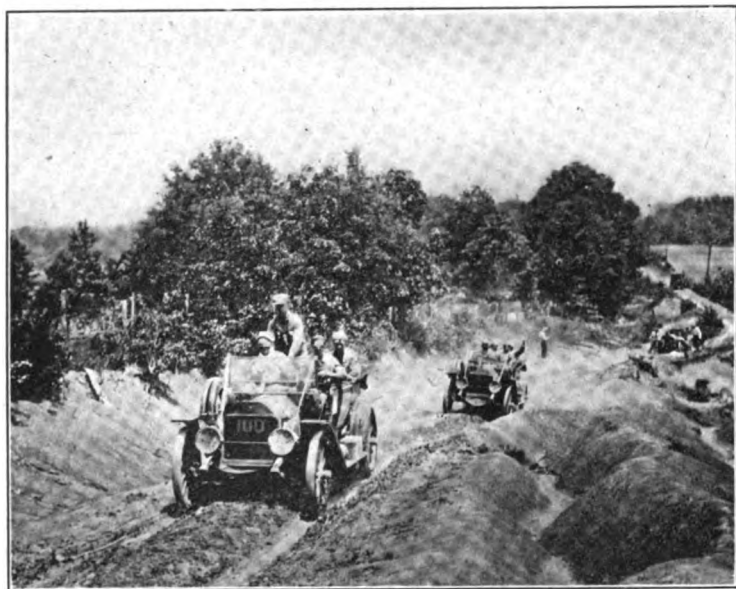
were passing and the darkies shouted in high glee at the parade.

From Rockdale Furnace the going grew worse. It was up hill and down dale mile after mile. The road led through a second growth of timber a large part of the way. The cars had to go through streams where the water was up to the running boards at times. Buffalo Creek, near Summertown, was one of the deepest propositions. The drivers were obliged to perch the mechanics on the bonnets of the cars to hold the mud aprons so as to prevent the radiators from being flooded. At Lawrenceburg, 76 miles from Nashville, the cars were obliged to negotiate a dry water course—a steep down grade strewn with rocks, stumps and ruts. The strain on the brakes was terrific and

derful stability. The people along the route acted as if they had never seen such a wonderful sight before. This was principally the case in the "poor white" section. Before every cabin were the families with relatives and visitors from remote sections gazing wide-eyed at the strange show. The special treat in their eyes was probably the fact that the faces of the Gliddenites were painted like the features of an Indian with his war vermilion on from the dust arising from the red clay that formed the earth roads of lower Tennessee and Alabama. At Florence, Ala., the inhabitants met the tourists at the foot of the hill with bottles of Coca Cola. Another delegation presented cigars, a third delegation of young ladies farther on pre-

cession, and the ladies aid society supplemented the revenue therefrom by peddling cigars among the tourists. The prominent citizens did their part to welcome the visitors. They escorted fortunate ones to an upper room and gave them drinks which are banned in this "no license" community.

That there were no more penalizations was considered almost a miracle in view of the heavy trial to which the cars were put in many parts of today's run. The test was as hard as that of yesterday in some particulars, and might well have brought out weak points resulting from yesterday's hard usage. Tomorrow's running scheduled to the noon control, Corinth, Miss., will be 3 hours 27 minutes, and 8 hours 59 minutes to Memphis. The touring car schedule



VAN DERVOORT'S MOLINE ON A MISSISSIPPI HIGHWAY



GREAT WESTERN PRESS CAR AGAIN TAKES TO WATER

a slip meant destruction for the cars and the Lord knows what for the occupants. A correspondingly stiff hill was encountered approaching Green Hill, Ala., and a worse one was encountered in timber near St. Florian.

Altogether the roads were bad most of the way from Rockdale Furnace to the threshold of Sheffield. That the cars came through with so comparatively few penalizations was due in the main to their won-

derful stability. The people along the route acted as if they had never seen such a wonderful sight before. This was principally the case in the "poor white" section.

At Nashville the official hotel was stormed by a convention of yelling, fire-eating southern politicians. At this place the Gliddenites found themselves stowed away in the hotel with as many as 15 cots in a ward and one sheet for modesty's sake. The supper was served by the ladies aid society of the Methodist Church of this place. The hotel sold the society this con-

is 8 hours 5 minutes. In view of the reports of muddy going the start for Memphis will be made at 6 o'clock with two pilot cars starting out at 5 o'clock.

The press representatives held another indignation meeting this evening to protest against laxness and inefficiency of those in charge of fixing the penalizations for the cars daily. It has been impossible to get any scores until late, and at times none have been given out at all.

## Villianous Roads Lead to Threats of Tar and Feathers

Memphis, June 17.—There is an explosion pending among the entrants in the Glidden Tour, and the date of the touch-off depends upon the road conditions and schedule of the tour in the immediate future. If the conditions are as vile and intolerable tomorrow as they have been today and yesterday and the day before, there will be fireworks to morrow night. Otherwise it may be deferred a day or two, but in any event the drivers and those having charge of the cars entered for the Glidden

and Chicago trophies on this tour have been getting madder and madder, and hotter and hotter, until affairs have arrived at a state of spontaneous combustion where the flame is liable to burst out at any moment.

The seeming limit of exasperation was reached today, when the officials in charge of the tour set the same schedule of 20 and 18 miles an hour for the Glidden and Chicago trophy contestants that they set on the first day, when the going was easy, and on the second day when it was worse,

and on the third when it was "worse." And today the going was worst of all. Veterans of former Glidden tours, some having been on all of them, declare positively that not at any time in the past six years has there been encountered so much of difficulty and danger packed into a single day's run as was crowded in today's journey from Sheffield, Ala., to Memphis, Tenn., 167 miles. Every obstacle, impediment, obstruction, difficulty and danger that could be imagined were encountered.



The officials had full knowledge of this combination of car-smashing conditions, yet they abated not one jot nor tittle from the pace they set for the first day's run from Cincinnati, which now appears by contrast to have been nothing more than a joy ride on Riverside Drive or on Jackson Park boulevard. The officials knew the conditions, for they alone had a complete report from Pathfinder Dai H. Lewis. Therefore the entrants feel that the officials are either grossly incompetent or have conspired against the entrants and their cars. So positive is the feeling that their indignation reached a point today where they talked of tar and feathers for some of the officials whom they considered parties to the alleged conspiracy.

The proof of the pudding is in the eating, say the exasperated entrants, who point to today's list of casualties and penalizations as absolute proof that the schedule was too stiff for the terrible road conditions. Among the counts of the indictments against the officials are these facts:

That Pennsylvania car No. 14 was burned and consequently has been withdrawn from the contest.

That one of the Cadillac "gunboats," manned by the soldier cadets of the Northwestern Military Academy, lies wrecked in the Alabama swamps with a broken axle.

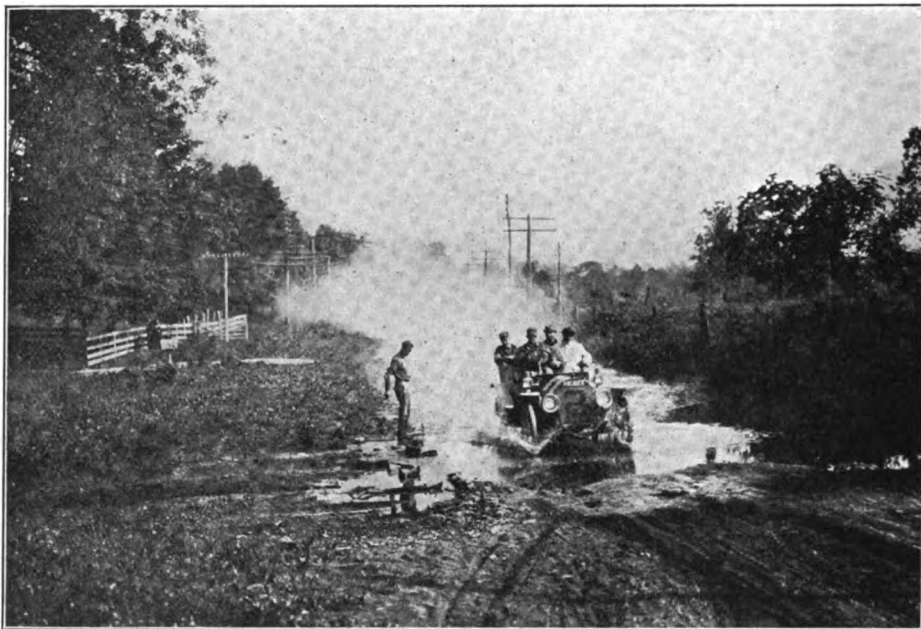
G have failed to come in tonight in time to be reported.

And that only two cars of the original 26 contestants have survived with perfect scores the first four days' run.

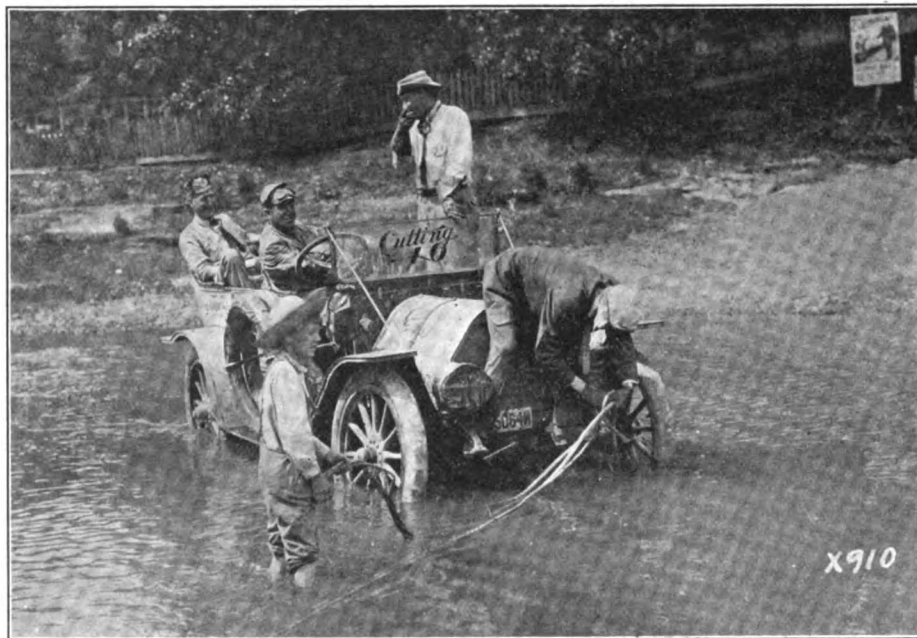
The contestants say that if the officials wanted to put themselves in a position to

the rough woods that constituted the larger part of to-day's going. All of the cars had to do a dance over the same sort of chevreaux de friture, but the Pennsylvania was the one that was fated to be the goat.

The Cadillac "gunboat" broke its axle while faithfully trying to follow the con-



BALLINGER'S PREMIER "LICKING UP" ONE OF THE MANY FORDS



ONE OF THE PRESS CARS STALLED IN MIDSTREAM

That the companion "gunboat" was sunk in a bog covered by the confetti trail, and was rescued only by the application of jack screws.

That the Chalmers pilot car lies out in the Tennessee wilds, a wreck, with its differential shot to pieces.

That Lexington car No. 110 is out somewhere with its steering gear stripped.

That the Parry 40, the Cole 30, Parry 35, Cartercar Model C and Cartercar Model

say that only one car ever survived the Glidden contest with a perfect technical score, they could not have gone to work differently.

For details of today's record of disasters, due to worse than incapacity, the entrants submit the following facts, supplementary to the foregoing record:

The Pennsylvania was burned by the wrenching off of its exhaust pipe by one of the thousands of stumps that strewed

fetti trail and keep up with the procession. The accident that hammered off its good rear axle might have happened to all of the rest but for a higher Providence than the officials of the contest committee of the A. A. A., which compelled the contestants to go over the most execrable roads in America at a rate of 18 and 20 miles an hour.

The Chalmers pilot car was wrecked within 58 miles of this place, amid roads so incredibly vile as to be almost impossible. It had striven nobly for four days to strew the confetti and keep ahead of the contestants, but after four days of schedule-making by the officials the car broke down prematurely this afternoon.

Car No. 2, a Premier, was penalized 121 points for repairs to ignition and late arrival in control.

Car No. 3, a Chalmers, was penalized for two hours' delay in arrival in control and work on its steering column.

Car No. 4, a Chalmers, was penalized 89 points for a broken muffler and bent brake rod.

Car No. 6, a Cole, was penalized 134 points for adjusting brakes.

Car No. 10, a Glide, was penalized 65 points for repairing a loose hood, loose fuel pipe, and filling the radiator twice.

Car No. 15, a Cino, was penalized 54 points for late arrival.

Car No. 100, a Moline, was penalized 3 points for late arrival. Cars No. 101 and 102, Molines, were penalized 50 and 39 points, respectively, the former for late ar-

rival and filling the radiator, and the latter for late arrival.

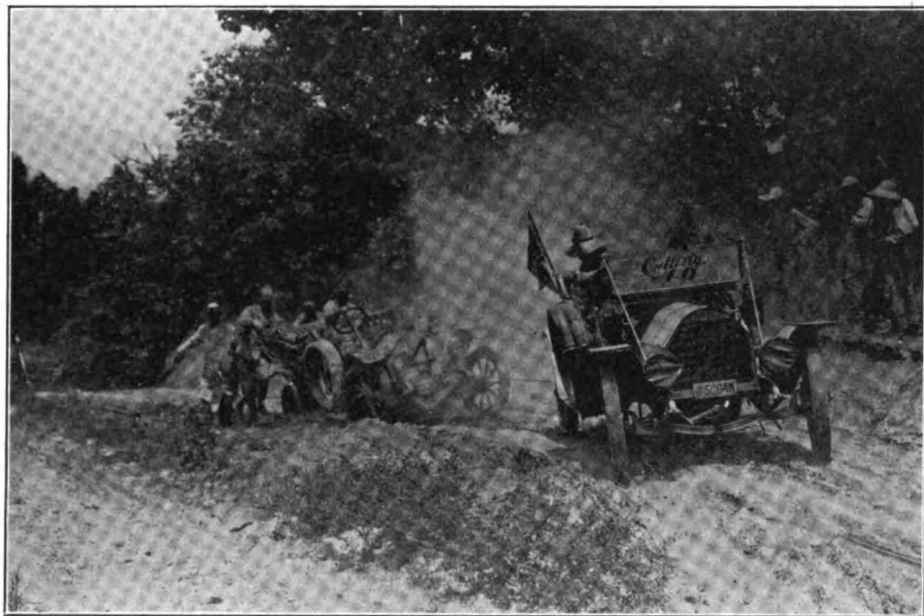
Car No. 103, a Lexington, was penalized 224 points for late arrival and tightening the steering gear.

Falear No. 106, Maxwell No. 107, and Westcott No. 111 were penalized 83, 23

ing roots. The same kind of wood roads began at the outskirts of Iuka, and grew worse instead of better. It was near Iuka that the first Cadillac "gunboat" broke its axle, and then came a swamp where the cars slithered and wallowed from bog to bog, and within three miles of the first

caped only by the mightiest struggles, their axles being afloat in the mud. They were wrenched and twisted by the prodigious efforts required to extricate them.

And this was not all. There was a few miles of good going into Corinth, but this quickly gave way again to the roughest kind of southern wood roads. The road between the tracks many times scraped the pans and gear cases, and to add to the difficulty, there were stubs and stumps at the apex of the inverted V's and U's that menaced the machinery. At other times, the cars were tilted upon a front right and a rear left wheel, and again the front left and rear right, and sometimes ran on three wheels in the washed out cart paths. Again, there were good roads corduroyed with planks and trestles over swamps, and at other times there were roads and bridges so narrow, with steep falls at the side, so as to place the lives of the occupants of the cars in danger hundreds of times, and they were saved from disaster only by the skill and nerve of the drivers. The route led among the homes of the poor whites of Alabama and Tennessee, and at long intervals there was not even a log cabin in sight. The whiskered men and bedraggled women with anywhere from five to nine children around them looked upon the automobiles as ordinary people regard flying

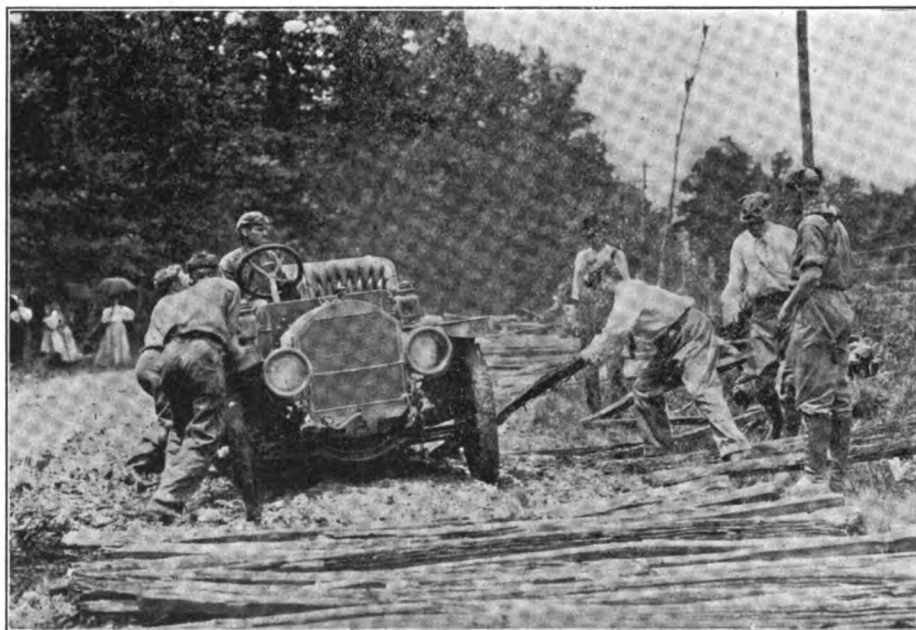


ONE OF THE PRESS CARS HELPS MATSON OUT OF A HOLE

and 142 points, respectively, for late arrival.

Tomorrow the tourists go from this point to Little Rock, Ark., 207 miles, on a schedule of 11 hours 32 minutes for the 18-mile cars, and 10 hours 23 minutes for the 20-mile cars. The cars have the option of stopping at Clarendon, 112 miles, but must be checked there. The time allowance is 6 hours 14 minutes for the 18-mile class and 5 hours 37 minutes for the 20-mile class.

The run today led for the first 20 miles, from Sheffield to Cherokee, over fairly good roads, and here the contestants hurried for all they were worth, to go as far as they could in as short a time as possible. Then they plunged into hilly country where the going roughened and where negro women worked in the cotton fields. The cultivated fields yielded to scrub pines and live oak, and the roughest kind of woodland roads. From Cherokee to Iuka it was a struggle with roads shaped like S's, U's and V's, and these inverted and all kinds of combinations of both. They were torn by winter torrents which sunk the wheel tracks among the stones and stumps and protrud-



UNMIRING THE OFFICIAL COLUMBIA NEAR LAWRENCEBURG, TENN.

Cadillac the second one was mired. Other cars were mired, too; the remainder es-

machines, and the automobiles were just as far out of their reach.

## More Swamps and Treacherous Going; Midnight Arrival at Little Rock

Little Rock, Ark., June 18.—"The Night Riders," so the participants in the first annual elimination contest of the American Automobile Association—heretofore known as the Glidden touring contest—called themselves during today's run of 207 miles from

Memphis to Little Rock. The appropriateness of the designation was obvious in view of the arrival here of the cars and contestants between 11 and 1 o'clock.

The elimination scheme of the Contest Board worked perfectly today. Two more

competing cars were knocked down and out—the Cartcar No. 109 with a broken steering knuckle and Cole No. 104, which broke an axle. Both have withdrawn from the contest. The Cartcar No. 109 broke its steering knuckle near Burnsville, Miss.,

after being mired and nearly killing the driver of a mule team who was hauling it out by knocking him down and ramming him into the Mississippi ooze. Cartercar No. 108 also suffered, sustaining a broken spring. In addition, Ohio No. 11 was penalized 117 points for soldering the radiator twice, and taking oil and gasoline out of control.

The accidents to the Cole and Cartercars were due entirely to the pounding they received in the three days' ordeal over the frightful roads from Louisville to Memphis at the schedule of 20 and 18 miles an hour for touring cars and runabouts, respectively. The road conditions today were not of a nature to work injury to either engines or running gear, but the cars which had been weakened in the three preceding days' runs fall easy victims to any shock today.

The first car was checked out at 6 o'clock this morning, and all were off by 6:30. The route closely followed the left bank of the Mississippi River, generally running close to the levees. It led through the towns and villages of Lynchburg, Walls, Lake Cormorant, Robinsonville, Tunica, and other places where white people appeared as scarce as white blackbirds and niggers were almost the only ones to be seen. The Gliddenites arrived at Trotter's Landing, where a huge flatboat awaited them. The cars were run aboard. Some thoughtful members of the Helena (Ark.) Automobile Club, had provided the ferriage, and also sandwiches and bottles of beer in tubs of ice on the forward part of the scow. This was esteemed a considerable treat, inasmuch as the majority of the tourists had

not had a drink of anything stronger than water since the start this morning. The schedule to the ferry for runabouts was six hours 14 minutes, and for the entire run 11 hours 32 minutes, and the touring cars 5 hours 37 minutes to the ferry and 10 hours 33 minutes to Little Rock.

But it was 2 hours and 58 minutes from the time that they were loaded onto other barges at Clarendon and unloaded at Roe on the White River, eight miles below. As a result it was 5:54 o'clock before the cars were ready to start from Roe with 87 miles before them to Little Rock.

The welcome of Arkansas to the Gliddenites was in the form of a brisk shower that cooled the atmosphere and settled the dust. The temperature through Mississippi was about 98 degrees in the shade, and from Helena to Clarendon was very near 100 degrees. It was the hottest weather the tourists encountered since the well remembered run from Oakley to Salina, Kan., last year. The shower, however, overdid the matter of settling the dust somewhat, for it turned the dust into slippery clay, which necessitated the use of tire chains. The envied members of the party were those occupying the Moline cars. These carried canopies, which kept off the sun from the occupants of the driver's seat and the tonneau, making them cool and comfortable, while the occupants of the other cars were broiling under the southern sun.

Daylight faded before the tourists were far on their way from the landing at Roe. There were several bad stretches of swamp to cross, with incidental danger of skidding, but for the most part the going was con-

sidered remarkably good, in contrast with that of the three preceding days. The beauty of the Arkansas landscapes is a surprise to the majority of the Gliddenites. Their expectations were the grotesquely caricatured Arkansas of the funny papers, with rough log cabins and uncouthly whiskered natives, whereas the reality was the finest farming country they had seen in five days' travel and hospitable and well to do inhabitants. From Stuttgart to Carlisle the country was as level and as green as a billiard table and divided into thrifty farms. Acre after acre of rice fields were seen with steam pump plants for flooding the rice in the evening. The effect when the moon came up and shone on the water between the rice rows was very pleasing. The inhabitants of all the villages turned out in a body and welcomed the tourists with great enthusiasm up to the time the last car passed through, at 11 o'clock.

On this side of Lonoke the most difficult test of the whole day's run occurred. This was in the form of about two miles of swamp. The road through the swamp was a very narrow causeway rutted from travel in recent wet weather and slimy in spots from recent rains. The cars had to be driven very carefully in order to avoid skidding into the oozy depths that yawned on either side. The result of any momentary slip was illustrated by the fate of a Chalmers car that was passed in the middle of the swamp. It had gone too near the edge to turn out for some other vehicle and had skidded into the swamp. Only the lamps were able to be rescued at the time being; the rest of the car was saved later.

## Sunday a Short Day with Some Good Roads and but One Victim

Hot Springs, June 19.

Ten little engines standing on a line,  
One broke an axle, then there were nine.  
Nine little engines hitting up a gait,  
One smashed a fine spring, then there were eight.  
Eight little engines, good enough for Heaven,  
One cracked its strong frame, then there were seven.

To this merry ditty the first annual Grand Elimination Contest of the American Automobile Association is speeding merrily to the inevitable finish. Today, in the short run of 53 miles from Little Rock, Cartercar No. 108, which broke a spring yesterday, broke an axle to-day, and is out to stay. And Lexington No. 105 broke the right side of its frame. Both disasters are attributed to the pounding the cars received on the runs over the Louisville-Nashville pike and in the wood road trails and swamps of Mississippi. This leaves only 10 contestants for the Glidden and 6 for the Chicago Trophy—but 16 of 26 that started.

"But some of the cars came through all right," defensively maintain the representatives of the three A's. True, but that doesn't comfort the drivers and makers of

wrecked cars who were inveigled into a blind contest and obliged to go over indescribably bad roads at a speed of 20 miles an hour, so that those in charge of the contest might get to their suppers before dark.

Some of the officials on the tour have given up trying to defend the elimination methods. They admit now that the whole contest has been a farce, if not a crime, and claim that they have been unable to do differently. They say that the officials on the tour are suffering for the mistakes of those who planned and laid out the tour. But they claim that all they can do is to carry out orders.

Besides the misfortunes of the Cartercar and Lexington, other cars suffered penalizations. Cartercar No. 8 was penalized 28 points for tightening a drive chain and spring clips; Ohio No. 11 was penalized 18 points for filling a leaky radiator out of control; Cino No. 15 was penalized 10 points for tightening wheel bolts. Cole roadster No. 104 withdrew and continues as a non-contestant.

There is a very wise look in the eyes of the remaining contestants. The look has

been growing daily. It tells of a dawning comprehension of things not understood before. For instance, it tells of clearer knowledge as to why some of the larger manufacturers kept out of the contest for the Glidden Trophy this year. Outspoken entrants say that prominent manufacturers who were understood to be getting ready to make entries, backed down shortly after the return of the pathfinder. They believe that faithful friends who were on the inside with the Contest Board tipped these manufacturers as to the real rottenness of the roads, and advised them to keep out. Even Charles J. Glidden, who has toured all over the world and taken part in every Glidden Tour, kept out this year for the first time, and the wise Gliddenites believe sincerely that the reason he stayed away was because he declined to risk his neck racing over the barbarous and dangerous roads of Kentucky, Tennessee and Mississippi at 20 miles an hour.

"But wisdom comes in after years,

When we are old and gray,"

muse the drivers and owners of the wrecked cars. All of them declare they would never have entered the contest had they known

the frightful condition of the roads.

Little Rock sent the Gliddenites away at 9:30 o'clock this morning with a gentle shower that laid the dust and gladdened them with the smell of rain. The road out of the city was a wonderful piece of macadam, and the reason was apparent when the tourists passed a gang of 70 convicts who are employed by the state on road construction. The convicts were not working today, it being Sunday, and their camp was nowhere in sight, so the reason why they were lined up beside the road under guard of men with rifles was not obvious, unless it was that the state wanted to afford an exhibition of its good roads plant. The convicts were all negroes, dressed in gray

striped pants and shirts like human zebras.

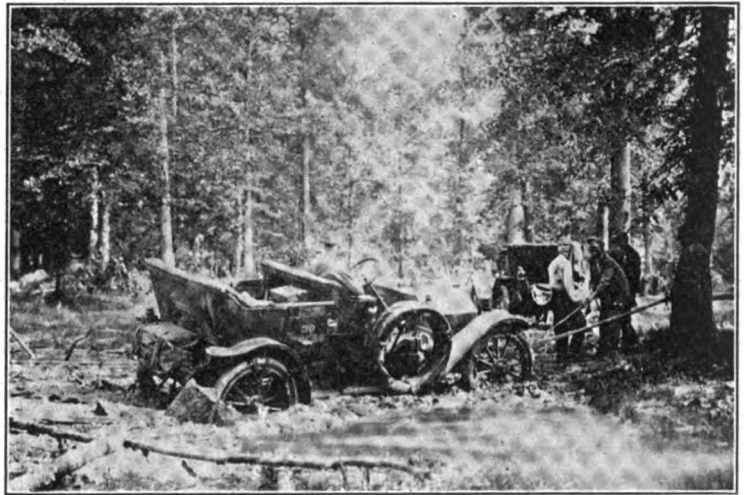
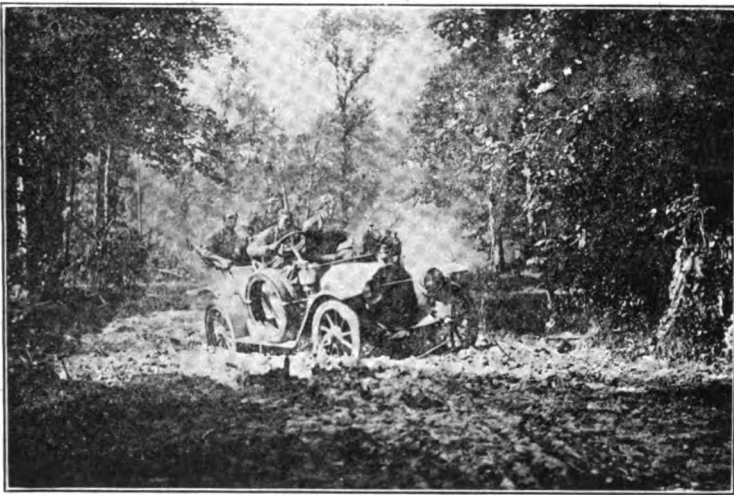
The greater part of the run was over plain dirt roads. Some were very good, and some, especially in the hilly country approaching Hot Springs, were rough and rubbly, but nothing to complain of. Many of the cars had narrow escapes from penalization for not arriving in time.

In view of the complaints of the entrants, the officials of the Tour finally backed down from their rule of 20 and 18 miles an hour schedule in the case of tomorrow's run to Texarkana. As the contestants observed, when the reduced schedule was announced, "It is time they got wise. They want to see a car or two at the finish."

The 20 miles an hour schedule for touring cars is reduced to 16 miles and the 18 miles schedule for runabouts to 14 miles an hour.

"They want to make a walking match of it," grieved one of the officials when the notice was posted.

The start tomorrow is at 7:30 o'clock. The noon control is at Prescott, Ark., and the running time for the runabouts is 9 hours 55 minutes, and for the touring cars 7 hours 40 minutes. The Red River must be crossed in a ferry—a flatboat that takes only one car at a time. This means another long wait at the banks of the stream, and afterwards the second essay at riding in the dark.



IN AN ALABAMA SWAMP—STRIKING ILLUSTRATIONS OF THE VILLIANOUS CONDITIONS ENCOUNTERED

## Dramatic Scene in Mississippi Forest; Another Day that Tried Men's Souls

Texarkana, Ark., June 20.—Though members of the technical committee sneered at the reduced schedule of today's run from Hot Springs to this point, terming it a crawl, it was not so easy but that several cars were penalized heavily, which means that the road and the pace necessitated work on the cars, and one, the Premier No. 1, lost its perfect score that it retained amid the greater difficulties of the preceding days.

This Premier was penalized 7 points for refilling the radiator with water and adjusting the fan belt; Premier No. 2 was penalized 10 points for labor; Chalmers No. 4, 9 points for work; Parry No. 9, 8 points; Cino No. 15, 78 points; Moline No. 101, 192 points; Moline No. 102, 2 points. The Chalmers was penalized for filling with water out of control; the Parry also incurred a water penalty and repaired the steering gear. The Cino was late with a mended steering wheel. The Molines which were fined repaired a radiator leak and refilled with water. The Falcar repaired a magneto and filled with water inside the prescribed hundred miles. Only two of the cars now reported in arrived late, but sev-

eral came in barely by the skin of their teeth, so to speak.

Of the day's episodes the most startling was the hold-up of Moline No. 100 by a vicious New York looking darkey with a team of mules and a shotgun, who was encountered at a turn in a wood road between Oklahoma and Boughton. Springing from the wagon loaded with his family, the negro stood by the head of his restless mules and pointing his shotgun at C. H. Vandervoort, ordered him to stop until the mules quieted down.

"But your mules are not scared and I am in a hurry," protested Vandervoort, looking down the muzzle of the shotgun without a quiver.

"No difference; I kaint have them mules run away, no how," replied the darkey.

How long the holdup might have lasted and what the result might have been were settled by the arrival of the Cadillac "Gunboat" driven by Major Davidson and carrying cadets of the Northwestern Military Academy. Before the negro realized the nature of the reinforcements, Major Davidson had him covered with a revolver and the four cadets followed suit. "Hands up!"

ordered Major Davidson in the southern white tone that brings negroes to obey on the run; and this one was no exception. He held up his hands while one of the cadets approached under cover of Major Davidson's artillery and took away his shotgun; he discharged it, then broke it over a log and threw the pieces into the brush under the Major's commands.

"You fellows have been lynched around here for doing less than pointing a gun at white visitors. Don't you ever try anything of the kind again," was the parting command of Major Davidson.

C. M. Babbitt, the observer, abandoned the Cino car because he considered driver Walter Donnelly too dangerous for his safety. Donnelly threw one man out of his car some time ago and injured him, so when Donnelly started in by running into a stump and tossing the passengers and then ran off the road into a ditch, Observer Babbitt ordered him suspended and detailed another man to drive. Donnelly refused to be suspended and threatened to "lick" Babbitt, whereupon the latter left the car.

Follow the leader was the order with the



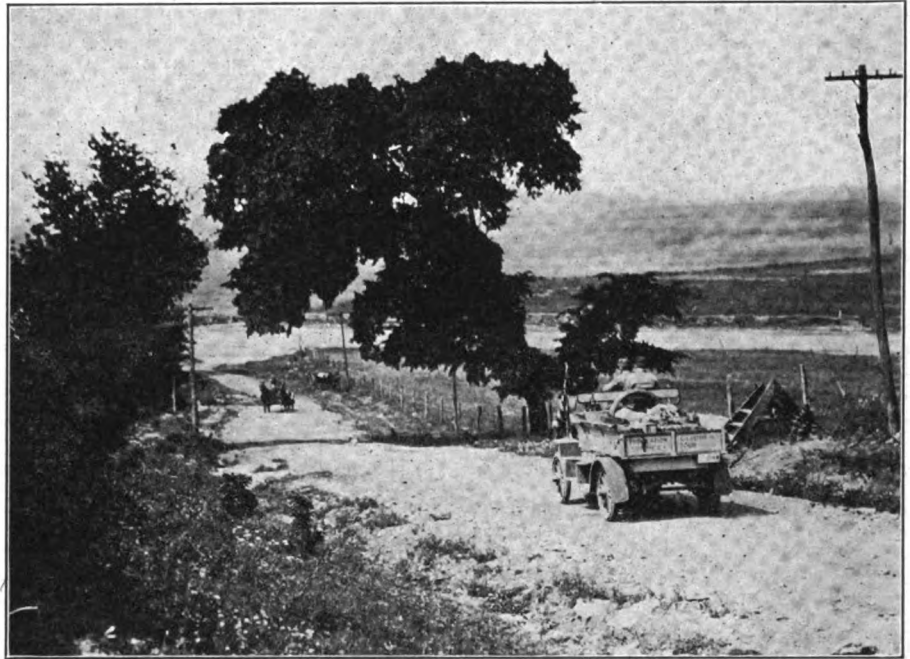
Gliddenites today. They trailed the pace-maker from 7:30 in the morning until 7:30 at night, dodging stumps, wallowing in mud holes, climbing steep grades on the low gear and coasting down steeper declivities on the brake. It was a day of hard work, considerable danger and complete fatigue. The tourists thoroughly realize by this time that it is a test of human endurance as well as of the stability of machines. Those who participated in former tours say that this is far ahead of its predecessor in strain upon the men, as it is in point of test of the cars. Many of the drivers and passengers are as nearly "all in" as are many of the cars. The heat is terrific to the northern born, and the length of the day's run from control, to control is felt as a drain of energy.

Tonight the drivers and passengers are thanking David Beecroft for putting through the demand that today's schedule be cut down from 20 to 16 miles for touring cars and from 18 to 14 miles for runabouts. It is said he had a hard fight in the technical board last night. The rest of the committee insisted upon maintaining the daily grind of 20 and 18 miles, but Beecroft stood up and voiced the general demand for a schedule suited to the day's work. It is the consensus of opinion that

the most part ox cart trails. The inhabitants chiefly are negroes and semi-occasional poor whites with the invariable swarm of dirty barefoot children and several nondescript curs, together with any number of razorback hogs fraternizing in

of all the Gliddenites on edge.

The rule of the pilot car seemed to be "of two roads choose the worst." In many instances it left the main highway to strew the confetti along ox cart trails, returning to the main roads four or five miles further on,



PART OF THE "BAGGAGE TRAIN" IN A "PICTURE" COUNTRY



GLIDDEN EDUCATIONAL CONTINGENT GIVING ONE OF ITS "FIRST LESSONS"

would have come through at all and none with their scores and parts intact.

It was a day of rough roads, although not to be compared with those of Kentucky, Tennessee and Mississippi of evil memory. The route lay through the "Yaller Dog" section of Arkansas made notorious by the "Arkansaw Traveller" and other humorists. It was a land of almost incessant woods covering a hilly country and with roads for

the front yards or under the houses or taking siestas in puddles in the roadway. It was a free-for-all obstacle race trying to dodge rocks, ruts, stumps, rush creeks too quickly to be stuck in the mud and keeping a sharp lookout for holes in the sand that menaced frames and axles and often sent the passengers ballooning with curves. It was excessively hot and the long day's work and short sleep have put the nerves

like the bark of the dog in the Britisher's conundrum. This appeared to be designed to make the proposition more difficult.

"What came we out to this wilderness for to see?" the car owners often asked themselves while the cars trailed wearily and jolted up and down hills, too poor to produce anything but a little cotton and trouble. The natives certainly do not look like prospective customers. Appearances indicated that if a collection were taken of most of the group it would have to be finished without getting the price of a pair of goggles.

The villages and villagers of Social Hill, Friendship and Arkadelphia appeared to regard the tour as the great show of their lives. Prescott, where the noon stop was made, presented the tourists with baskets of peaches that had ripened on the Alberts farm a few miles away. Emmett and Hope were crowded with applauding thousands, and Fulton capped the reception with true southern hospitality, in the shape of bottles of beer in tubs of ice, sandwiches, cigars; and for all who followed the charon, who ran the ferry across the Red river at this point, there was a nip of pure Bourbon whiskey behind an adjacent shed. The cars were taken across three at a time by means of an old-fashioned rope ferry.

It rained hard along the route yesterday, the only rain in three weeks. It was said that had the original plans of the contest board been carried out, to run all the way to Texarkana from Little Rock, it would



have been just in time to hit this rain at a 20-18-mile schedule, and in this event the tour would have been a grand smash yesterday.

The run of 217 miles tomorrow to Dallas will start at 6 o'clock; the touring cars are allowed 12 hours 5 minutes for the trip and

runabouts 13 hours 21 minutes. This will be the first time two schedules will be used, a slow one for low gear work to Paris, the noon control, and a fast one from there on.

Late reports tonight announce that the Ohio No. 11 has withdrawn with a cracked

cylinder and was seen heading for Hot Springs. Westcott No. 111 also withdrew, and was shipped back to the factory from Arkadelphia; its water radiation was gone.

The Lexington, traveling as a non-contestant, arrived here after 10 o'clock tonight.

## Two More Cars Succumb; Texas is Torrid but Dallas Enlivens the Despondents

Dallas, Tex., June 21.—Two more cars went down and out today. The Cino broke an axle a short distance from Texarkana and the Falcar broke its differential gear 35 miles out from here. Its driver sent to the city for a new gear and axle, but as the rules eliminate any car, as a competitor,

the brute, as he did not bark as did the rest of the dogs which have chased the cars lately. Suddenly, however, Kurecki felt something strike the back of his head and when his companions in the car heard a violent exclamation from him, they looked around and saw the bloodhound hanging

Nashville, Nashville to Sheffield and Sheffield to Memphis.

There was a Sirocco blowing over the cars and wilting the occupants at nearly all times during the day. The Gliddenites in all their experiences never encountered such terrific heat, the temperature being aggravated by humidity due to a heavy rainfall yesterday. The Moline cars, which are the only ones carrying tops, had the best of the sun, but even their occupants found it necessary to raise the windshields in order to keep the wilting air out of the cars. It was found to be cooler without any current of air at all than to sit in the waves of furnace heat that swept in under the tops.

The first part of the trip today appeared for a time to be the last straw. The roads were fearfully rough. There was not more than an occasional minute when the occupants of the car were not being shaken up, jostled, bounced, tossed and jolted over the rough roads. There were stones covered with sand; there were holes filled with dust; there were tree stumps to be dodged, and all of the time the occupants of the tonneau were being tossed about like kernels of corn in a popper. These roads lasted through the black belt, and were merely wood roads. But approaching Annona there was noticeable an improvement.

At Paris there was a good lunch provided. From Paris to Dallas, 130 miles, there were encountered the best roads that were met with up to this time on the tour. They were smooth and had recently been gone over with split log drags. Nor was this all that was done to make the visitors happy. The arrangements for the entertainment and care of the tourists were under the direction of the Dallas Automobile Dealers' Association, with the Dallas Automobile Club and the Chamber of Commerce assisting. M. A. Sacksteder is president of the dealers' organization and George W. Baker is president of the owners' club.

Months ago the dealers set out to secure the 1910 Glidden tour for Texas. A special car made three trips to Texarkana logging the route and escorting the pathfinder over the course, the expenses of the trips being borne by the dealers. Later, the effort to have Dallas made a night control was taken up successfully.

These two things accomplished, the dealers then started a good roads campaign, which has resulted in the grubbing of hundreds of stumps between New Boston and



THE ROUTE OF THE GLIDDEN TOUR

when it replaces any part with a duplicate that is not carried on the car, the Falcar can continue only as a non-contestant. In addition, Chalmers No. 3 was penalized 18 points for repairing its oil pipes and taking on oil; Chalmers No. 4, driven by Joe Matson, was penalized 8 points for taking on water, and Maxwell No. 7, driven by H. E. Walls, was penalized 4 points for adjusting the oil on the dash. Moline No. 102, driven by F. G. Salisbury, was penalized 6 points for taking on water twice, and Maxwell No. 107 was penalized 2 points for repairing a broken fan belt.

These were the results of today's run of 217 miles from Texarkana to Dallas.

Aside from these troubles, C. M. Babbitt, observer, set his khaki suit afire, but was not seriously burned, and John Kurecki, observer, in Moline No. 100, was attacked by a bloodhound. He was in the tonneau when a bloodhound glided out from a farm yard and pursued the car, which was going 25 miles an hour. No attention was given

on to the collar of Kurecki's khaki jacket. He had sprung at Kurecki over the back of the tonneau, and barely missed his neck. The companions of Kurecki in the tonneau picked an empty pop bottle from the bottom of the car and dealt the dog such a tremendous blow on the end of his nose that he released his grip on Kurecki's collar. The attack was entirely a surprise, as Kurecki and the other occupants of the car had not irritated the dog or done anything to excite him.

Today's run was the most enjoyable to date, because of the splendid roads for the greater part of the way. For the first part to the noon control at Paris, the committee set a reduced schedule of 16¼ miles an hour, and for the latter part, from Paris to Dallas, 20 miles an hour. This was regarded as the greatest joke of the tour so far, in as much as the committee gave the same running time for the best 100 miles of road yet encountered as for the carwrecking runs from Louisville to

Texarkana, the repair of many bridges, the erection of new ones and the grading of roads. In other words, the dealers of Dallas stirred up untold interest in good roads and in automobile touring.

The sun was setting and the moon was rising when the tourists arrived in sight of the city. Outside the limits a delegation of dealers waited with sandwiches, cigars and beer for the visitors. At 8:30 o'clock they escorted the visitors to a supper upstairs in the Oriental hotel.

## Cross-Tie Bumping Adds to Woe; Oklahomans Witness Procession of Sleepers

Lawton, Okla., June 22.—The contest committee today "treated" the Gliddenites to another novel and clever stunt. Like many preceding ordeals, this was almost a complete surprise. Tonight all of the tourists express themselves as more surprised than delighted over it. The unexpected ordeal consisted of running over two miles of railroad ties and crossing the Red river on a narrow bridge.

When the Gliddenites arrived there at 3 o'clock this afternoon, a flagman waved them up the railroad embankment, and arriving at the top they found themselves on a single track roadbed, the sides falling down abruptly from the ends of the ties from 10 to 80 feet. The ties were from one to two feet apart. For part of the distance to the bridge an attempt had been made to spread crushed stones between the ties, but it was very inadequate. The cars were forced to travel bumpety-bump, bumpety-bump, bumpety-bump over the ties. Sometimes the wheels dropped between the ties and held until all power was applied, when they would shoot ahead and bump more violently than ever. The passengers were so thoroughly shaken and rattled about that they got out and walked.

It took 34 minutes to make the dangerous trip, which came after 9 hours hard driving and jolting in a blazing Texas sun. The reason assigned for the ordeal was that the sand was deep in the bed of the river. But other cars crossed by the ford where the water was only ankle-deep. The drivers said that the pounding of the machines from tie to tie took more out of their machines than would 1,000 miles of ordinary driving. Leaks were discovered in several radiators afterward, and the drivers are satisfied that the shaking and jarring were responsible for it.

Cartercar No. 8 broke a right rear axle this morning. It is disqualified from the Glidden competition, but will accompany the tour as a non-competitor. Penalties were sustained by Premier No. 2, Ray F. McNamara driver, for filling the radiator with water inside of the 100-mile limit. Chalmers No. 3 was penalized 4 points for repairing fender, and Chalmers No. 4 was penalized 12 points for filling with water four times. Maxwell No. 7 was penalized

Tomorrow's schedule for the 200 miles to Lawton, Okla., is 12 hours 25 minutes for the runabouts and 11 hours 3 minutes for the touring cars. The start will be at 6 o'clock. From here to the noon control at Terral there will be a reduced schedule for two hours on account of sand.

David Beecroft is acting chairman of the contest committee in the absence of Chairman Butler, who had business to attend to, but who expects to rejoin the tour at Kansas City.

The interest in the tour today, especially in the white man's Texas, was enthusiastic. From Anona to Dallas is the garden spot of the Lone Star state. The tourists found it a succession of corn, oats, and cotton fields, the corn being in the ear and six feet tall. There were many fruit orchards also. In this wealthy district lives a hospitable and well-to-do class of people, many of whom own automobiles, and they turned out and gave the visitors a continuous ovation.

43 points for a new spring clip, new radius rod and adjusting the fan belt. The Parry No. 9 was fined 155 points for a new spark

rubble-covered slopes, over which the cars stepped as gingerly as a bare-footed boy in the spring. The rubble was succeeded



ONE OF THE MANY GATHERINGS AT THE MANY CROSSROADS

plug, repairing the magneto, a new starting crank and repairing the radiator. Molines Nos. 101 and 102 were penalized 3 points for filling the radiator. W. H. VanDervoort attributed the rapid evaporation to the intense heat. Cole No. 104, Parry No. 105 and Falcar No. 106 have not reported.

The near-slack wire performance of crossing the ties of the railroad bridge added 34 minutes to the 13 hours' schedule. Besides, the tourists were held up for a half hour at Fort Worth. Why, has not been discovered. There was no reception or public or private function. The cars were simply halted before a hotel and the Fort Worth populace came and looked at the cars and occupants, drinking in the spectacle with open mouths. When their curiosity was satisfied, the cars were allowed to proceed.

Every acre of land up to Hicks seemed to be under cultivation, then the horizon broadened out upon treeless plains. A few miles beyond Hicks trouble began for the cars. The roads degenerated into

by many stretches of sand and stumps. The sand was deep and the stumps were many. For 52 miles the going was hard, then it improved, but grew worse again, until Temple was reached. From there to Lawton the road generally was good. Most of the roads encountered in the day's run were merely strips of prairie fenced in and the wheels did the rest. They never had been worked. Some of them were smooth, but the majority were poor or worse.

A noticeable feature of the day was the lack of the usual fervor along the way. "There was no enthusiasm in the rural districts," as State Chairman William J. Connors was wont to explain in connection with the Hearst defeat. Very few people seemed to take any interest in the trip. Farther along in Oklahoma the few people seen along the route had for them a rare treat. They saw car after car go by with the occupants of the tonneaus fast asleep. Over the bumps the schedule was 14 hours. Added to this was the 43 minutes at the noon control, so that altogether the

Gliddenites were compelled to drive nearly 15 hours in a suffering heat to gratify some whim. They are dead tired; so tired that asleep in the tonneau not even a hard jounce awakens some of them.

The noon control was at Terral, Okla., a small place, and there were no accommodations for food. Some women were selling cake and lemonade for the benefit of the local Methodist Church. The Gliddenites after one taste of the cake made a heave offering of it. Under the schedule, it was nearly dark when the tourists arrived in Lawton. At the outskirts of the town the cars were stopped by a man with a red flag. The flag indicated that there was danger of a drink being found in the vicinity. It was located in an automobile

by the circuit court, and the Supreme Court merely affirmed the decision of the lower court, holding that inasmuch as Himmelwright, being thoroughly familiar with the speed, power and handling of motor cars, did not observe due caution, he himself was responsible for his being run over.

#### Favor Cross-Continent for Glidden.

Although the present Glidden tour is not yet completed, and the ruffled tempers which usually follow such strenuous events still remain to be smoothed, officials of the Premier Motor Mfg. Co. have let it be known that they not only favor the continuation of the contest, but a still longer route. H. O. Smith and G. A. Weidely, president and vice-president, respectively,

a most literal interpretation of the case, merely asserting that the machine was in charge of and under the control of the applicant, who was operating the machine with a representative of the highway commission sitting in the machine.

#### Provisions of Virginia's New Law.

On June 15 the new automobile law of Virginia went into effect. It requires the registration of chauffeurs, who must display the license badges, and fixes the fees for registration of motor cars according to horsepower—\$5 for cars under 20 horsepower, \$10 for cars possessing over 20 and less than 45, and \$20 for cars having over 45 horsepower. In the open country speeds of 20 miles an hour are permitted, while in settled districts 8 miles per hour is the limit. Touring non-residents who have complied with the laws of their own state and display the registration number of that state may use the highways of Virginia for two periods not exceeding seven days each in each calendar year.

#### Gasolene Famine Again is Predicted.

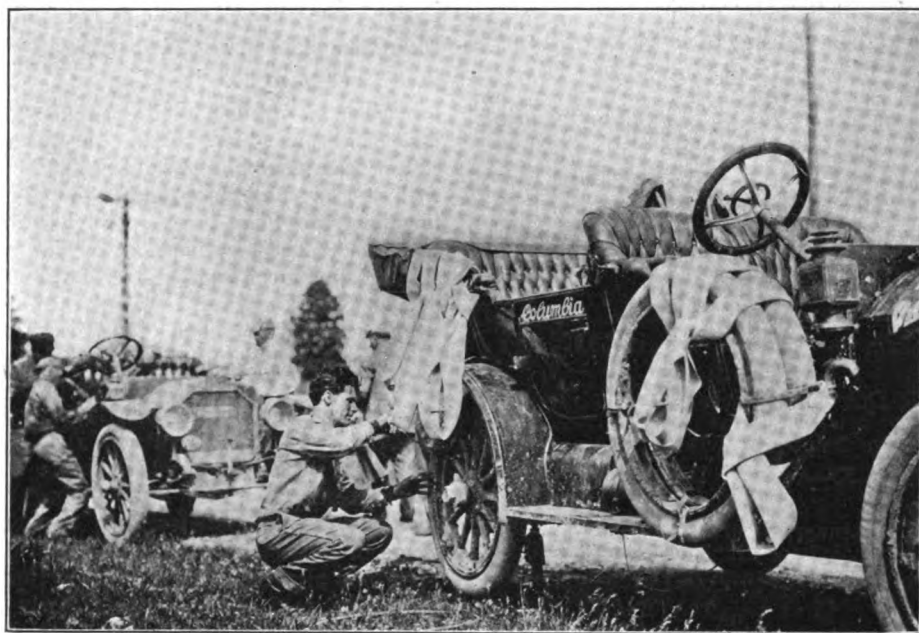
State Oil Inspector Longshore of Kansas has gone on record as saying that a gasolene famine is imminent. "The consumption of gasolene during the month of April of this year has increased 46 per cent. over the same period of last year," says the inspector; "and of course is due solely to the enormous increase in the number of automobiles driven in this country. The gasolene supply of the world is beginning to fall off slightly, in comparison to the increased demand, and unless some new oilfields are discovered or the distillation process improved, the automobile trade will find itself face to face with the serious problem of shortage of gasolene."

#### Good Roads Congress at Niagara.

The executive committee of the Good Roads Association, which met in Washington last week, selected July 28 to 30 as the dates for the third annual congress of the association. The gathering is to be held at Niagara Falls, N. Y. Arthur C. Jackson, president of the association, has requested officials of every state, county, city or town in the country and all agricultural, automobile, educational, commercial, industrial, good roads, labor and transportation organizations to send delegates.

#### Prohibits Minors from Driving Cars.

At the meeting of the city council of Lawrence, Kan., on June 14th, an ordinance was passed prohibiting any minor under 18 years old from driving an automobile on the streets of Lawrence, under penalty of a fine of from \$1 to \$25. The ordinance met with considerable opposition from various automobile owners who had sons between 16 and 18 years old, who had been accustomed to run their parents' cars.



TIRE CHANGING HAS BECOME SECOND NATURE—COUNT THE SPARE TUBES

near by, the gift of the motorists and prominent citizens of Lawton.

The run tomorrow being only 143 miles, the start will be made at 7 o'clock.

No one will be sorry when Chicago and the finish of this nightmare is reached on the evening of the 30th. Next Sunday's rest in Kansas City may revive some of the sorely-tried, but with seven days' travel still in store and four of them calling for more than 200 miles each day, the prospect fills none with unwonted glee.

#### Knowledge Has its Drawbacks in Kansas.

That a man who knows all about automobiles, their speed and the control of them, cannot collect damages from an automobile owner in case he is run down and injured, is the gist of a decision of the Kansas Supreme Court. E. H. Himmelwright of Wichita, Kan., was the person. He himself is an automobilist, but he was afoot at the time he was hurt by an automobile driven by Hattie M. Baker. He sued for damages, but the case was thrown out

of the Premier company, have placed themselves on record as favoring a cross-continent journey from New York to San Francisco for the 1911 Glidden contest and pledged themselves to do their utmost to effect this result.

#### Blameless for Applicants' Accidents.

By no less an authority than the Governor of Massachusetts himself, the highway commission of that state is absolved from responsibility for damages caused by an automobile in charge of an applicant for an operator's license who is undergoing examination by one of the commission's inspectors. It had been contended that under such circumstances the vehicle was under the control of the highway commission. One Frank Russell, of Concord, was injured in an accident under such circumstances and was instrumental in securing the passage of a resolve that he should be paid \$1,000 damages out of the state treasury. In vetoing the resolve, last week, Governor Draper contented himself with

## BALTIMORE'S THRILLING CLIMB

**Cars Compete in Ten Hotly Contested Events—Zengle Takes the Free-for-All, Breaking Old Record.**

Rushing through a living lane of thousands of spectators at the rate of 60 miles an hour, Len Zengle, of Pottstown, Pa., drove a Chadwick car to victory in record breaking time in the free-for-all class at the Automobile Club of Maryland's second annual climb on Belvidere Avenue hill, Baltimore, on last Saturday afternoon, 18th inst. Entered solely in the stellar event, on the capture of which his energies were concentrated, the young Dutchman sent his big flier up the six-tenths of a mile incline in 36 seconds, clipping  $7\frac{1}{2}$  marks of the watch from the old figures. It was a brilliant performance and elicited loud cheers from the crowd which lined the course. Another near neighbor of the Chadwick, the Matheson, with L. H. Shaab up, ran second with a flight in 44 seconds. Wilfred Smith, Chadwick, was third, making the climb in 2 seconds slower than his predecessor.

Matheson cars were particularly conspicuous in the winning column, taking 3 firsts in addition to second in the big class. Edgar Dobson, a local amateur, twice drove his Matheson to victory in fast time. His first win was the \$2,001-\$3,000 class open to all, where he easily outclassed Janin in a Chalmers. Dobson crossed the finish line in  $50\frac{1}{2}$  seconds, winning by a liberal margin. C. R. Meisner, Oldsmobile, was a poor third. Dobson's best performance was made in the amateur class for cars costing under \$3,000. He swept up the 15 per cent. grade in  $48\frac{3}{4}$  seconds, the best time made in any of the amateur events. Harry Reis, Chalmers, reached the end of the route in  $58\frac{3}{4}$  seconds and William Delow, Crawford, required  $1:03\frac{3}{4}$ . Matheson colors came to the front again in the \$3,001-\$4,000 class, when L. H. Shaab drove one of the Wilkes-Barre built cars to the winning tune of 47 seconds. John Goodwin, the only other starter in this class, did it in 58 seconds.

Stearns cars also were consistent performers, J. G. Nassauer in one of them scoring two firsts. He won the \$4,001 and over class in  $51\frac{3}{4}$  seconds, beating out J. R. Dungan, Chadwick, by  $\frac{1}{4}$  of a second. That these two cars were very evenly matched again was demonstrated in the amateur class for cars costing over \$3,001, when Nassauer took first from Lanahan, Chadwick, by  $\frac{1}{2}$  of a second, making the trip in  $51\frac{1}{4}$  seconds. The little Hupmobiles made a clean sweep in the low-priced division, running one, two, three. T. W. Simpson held the wheel of the winning car, and registered  $2:06\frac{1}{2}$ . In the motorcycle

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class Chic Thomas, Indian, closely approached Zengle's high water mark, making a spectacular climb in 39 seconds, 4 seconds faster than his nearest rival.

The summaries:

### Class A—\$800 and Under.

T. W. Simpson, Hupmobile.....	2:06½
Nat Tuttle, Hupmobile.....	2:25½
T. D. Smith, Hupmobile.....	3:21½

### Class B—\$801-\$1,000.

H. A. Bauer, Oakland.....	1:43
Harry Reis, Warren-Detroit.....	1:46½
A. M. Eastwick, Ford.....	1:53
A. S. Zell, Hudson.....	1:56¾

### Class C—\$1,201-\$1,600.

G. B. Hal, Buick.....	0:57¾
M. C. Jones, E-M-F.....	1:06½
A. A. Miller, Crawford.....	1:07

### Class D—\$1,601-\$2,000.

G. B. Hall, Buick.....	0:56
H. A. Bauer, Oakland.....	0:57½
George Jenkins, Buick.....	1:03¾

### Class E—\$2,001-\$3,000.

E. F. Dobson, Matheson.....	0:50½
J. F. Janin, Chalmers.....	0:59¾
C. R. Meisner, Oldsmobile.....	1:14

### Class F—\$3,001-\$4,000.

L. H. Shaab, Matheson.....	0:47
John Goodwin, Knox.....	0:58

### Class G—\$4,001 and Over.

J. G. Nassauer, Stearns.....	0:51¾
J. R. Dungan, Chadwick.....	0:52¾

### Class H—Amateur Drivers, \$3,000 and Under.

E. F. Dobson, Matheson.....	0:48¾
Harry Reis, Chalmers.....	0:58¾
William Delow, Crawford.....	1:03¾

### Class K—Amateur Drivers, \$3,001 and Over.

J. G. Nassauer, Stearns.....	0:51¾
W. W. Lanahan, Chadwick.....	0:52
S. A. Nattans, Stearns.....	2:08

### Class L—Free-for-All.

Len Zengle, Chadwick.....	0:36
L. H. Shaab, Matheson.....	0:44
Wilfred Smith, Chadwick.....	0:46

### Motorcycle Handicap—Free-for-All.

Chic Thomas, Indian (scratch).....	0:39
John Blakeney, Indian (4 seconds).....	0:43
P. E. Easter, Indian (4 seconds).....	0:43½

### Kansas Fair Provides for Motor Exhibits.

At the meeting of the directors of the Kansas State Fair Association a few days ago, it was decided to build a garage 300 feet long and 100 feet wide for the motor car show which will be held there during Fair week. During former fairs motor car dealers had no inducement to bring their cars and exhibit them where there was no shelter for them. It is expected that the motor car exhibit will be a prominent feature of the Kansas State Fair each year hereafter.

### Wichita Club Chooses New Officers.

Wichita (Kan.) Automobile Club—President, Geo. W. Walker; vice-president, F. A. Amsden; treasurer, Color Sims; secretary, Ralph Millison. Directors: Henry Lasson, S. B. Amidon, S. W. Hess, Ralph Millison, G. W. Walker.

## MORGAN SAYS HE IS "THROUGH"

**Declares that His Mantle is to Fall on Ferguson's Shoulders—The News May (or may not) Prove True.**

W. J. Morgan, who has played many parts in many places during many years, says he's "through," that is, that he has dropped at least one of his aliases, to wit, Motor Contest Association. Nevermore—or hardly ever—will he employ it again. He has turned over the name to E. L. Ferguson, and unless Ferguson has the invisible assistance of Morgan it fairly is certain that he never will be able to put it to such uses as it was put by the "association" himself. Ferguson is not built exactly that way, nor is he particularly well positioned so to do.

Morgan's "farewell" followed his "Montauk Light or Bust" affair. In it he declared that nevermore would he have to do with the promotion of such things—he is through with them forever and ever, even to the "Amen"—perhaps. He had made similar announcements before, but never in print, so he appears to think he means what he says. Morgan's withdrawal will be viewed with conflicting emotions even in the New York trade, on which he so frequently has drawn. For his little excursions, denominated reliability runs, etc., which periodically he organized since he incorporated himself as the Motor Contest Association, have been viewed in two lights. Some of those who participated considered them fine picnics or junkets, while some of those who paid the bills viewed them as—well, they will feel relieved if Morgan's proves a real farewell. The hotel keepers, on the other hand, scarcely can escape a pang of regret. They had grown accustomed to being "seen," and as Morgan generally "delivered the goods" at their doors, the "usual arrangements" appeared to be mutually satisfactory.

It was as a hotel boomer that Morgan first brought Morgan into notice in the automobile world. He promoted and managed the Ormond beach speed carnival for several years; and although lots of people never knew or even suspected it, Morgan was in the hotelkeepers' employ and the carnival merely was a scheme to bring boarders to their hotels during a slack period.

Nominally, Morgan is "auto editor" and advertising solicitor for a New York afternoon paper, but as a deputy motor vehicle commissioner he also draws \$75 per month from the State of New Jersey. He, however, is worth much more to the commissioner himself, as one of his chief functions as "auto editor" appears to be printing "sweet nothings" about the man higher up.

**BREEZY MEET AT POINT BREEZE**

**Philadelphians See Eight Lively Events—  
De Palma and Bergdoll Shine—Storm  
Shortens the Big Race.**

Ralph De Palma and his Fiat renewed acquaintances with Philadelphia motorists at Point Breeze track on Saturday last, 18th inst., at the Quaker City Motor Club's fourth annual meet, and incidentally left a reminder of his visit in the shape of a new 5 miles record for the track, superseding the old mark which he established last year. The new figures are 5:13, a reduction of  $1\frac{3}{4}$  seconds. This really was De Palma's most noteworthy performance, for rain spoiled the premier event, the 50 miles free-for-all being stopped in the 30th mile with De Palma leading, and E. R. Bergdoll, Benz, second.

Bergdoll, the local amateur, shared the spotlight with the Italian star, taking two firsts and one second, which was the best showing made by any driver. What few morsels were not swallowed by the big fellows went to local talent. The 25 miles race was scratched for lack of entries, and had not the trade come to the rescue at the eleventh hour and extended liberal support, the meeting undoubtedly would have been a failure. Until the rain started the track was in excellent shape.

While it lasted the 50 miles race was a good one, and the close rivalry between De Palma and Bergdoll for the leadership kept the crowd on edge. Eight cars breasted the tape for the half century jog, but only seven really figured in the struggle. One of the Klinecars was left at the line and lost a lap before it got under way. De Palma jumped to the front at the gun, making a pretty getaway, and immediately started to open up a gap with Bergdoll in the Benz pressing him close. In the ninth mile the other Klinecar dropped a lap to the leaders, and in the next circuit De Palma passed the Chalmers and Jackson. Bergdoll was dogging the leader close and was going strong.

During the succeeding ten circuits De Palma crept away from his pursuers, and at the 20 mile post was nearly half a lap to the good, leading Bergdoll by 26 seconds. At the halfway mark the storm broke in full fury and the rain came down in torrents, while the lightning played across the sky and the thunder drowned the roar of the engines. The track soon became a slimy mass, but the drivers stuck to their work, the cars skidding dangerously and throwing great showers of mud and water as they plowed along. The storm dampened the ardor of several of the contestants, who dropped out, but the leaders continued to battle with the elements. After

consultation the judges decided to stop the race to avoid possible accident, and the cars were called off at the 30th mile. De Palma was awarded the race. Bergdoll was second. These were the only ones to finish.

A popular favorite with the crowd of 15,000 people who witnessed the meet, Bergdoll wasted no time in getting his stride, and opened the festivities by winning the first race out of the box, the five miles for amateurs. There were three starters, and Longstreth jumped the others at the gun, gaining a big lead, but Bergdoll went right after the runaway and eventually caught him after a stern chase which brought the crowd to its feet. He won by a good margin, the time being 6:01 $\frac{1}{4}$ . Harvey Ringler, Klinekar, the other starter, was never dangerous. Continuing his ascent of the ladder of victory, Bergdoll again sent the Benz over the line first in the 10 miles race, easily outdistancing Beardsley, Buick. Richards, Chalmers, took third. The time, 11:42 $\frac{1}{4}$ .

A record breaking field of 32 starters lined up for the one mile speed judgment test, the driver completing the circuit nearest to three minutes being adjudged the winner. Fred Dyer Selden, proved the best judge of pace by completing the mile in 3:02 $\frac{3}{4}$ . Longstreth, Alco, was second.

De Palma's time trial was a pretty exhibition, and, as previously told, he got under his old mark for the track. The pursuit race, which was won by Burns, Autocar, was a four-cornered affair, four cars starting from equi-distant points. It required six miles for the winner to wear down the field.

Making its debut in competition, the Otto, a local product driven by Jones, captured a five miles race handily in 6:04. Oliver, in a Mercer, was second.

The summaries:

Five miles amateur—Won by E. R. Bergdoll, Benz; second, W. C. Longstreth, Alco; third, Harvey Ringler, Klinekar. Time, 6:01 $\frac{1}{4}$ .

Five miles—Won by Scott Miller, Warren-Detroit; second, James Gray, Schacht; third, Blind, Black Crow. Time, 7:49 $\frac{3}{4}$ .

Five miles—Won by George Jones, Otto; second, W. Oliver, Mercer; third, Clifford Ade, Pullman. Time, 6:04.

Ten miles—Won by Bergdoll, Benz; second, Beardsley, Buick; third, Richards, Chalmers. Time, 11:42 $\frac{1}{4}$ .

Five miles time trial against track record of 5:14 $\frac{3}{4}$ , held by himself—Ralph De Palma, Fiat. Time, 5:13.

One mile speed judging contest—Won by Fred Dyer, Selden; second, W. C. Longstreth, Alco. Time, 3:02 $\frac{3}{4}$ .

Pursuit race—Won by Burns, Autocar. Distance, 6 miles.

Fifty miles free-for-all—Won by De Palma, Fiat; second, Bergdoll, Benz. Race stopped at 30 miles on account of rain. Time, 39:59.

**HONORS FALL TO THE SMALL CARS**

**New Jersey's Postponed Mud Plug Gives  
Perfect Scores to Eleven—Jupiter  
Pluvius Takes a Hand.**

Had the officers of the New Jersey Automobile and Motor Club of Newark been able to look into the future on Saturday, the 11th inst., it is probable that they would have decided to hold the organization's annual endurance run as per original schedule (despite the rain), instead of advancing it one week to the 18th with the hope of being favored with more auspicious weather and roads. It would seem as if old J. P. just had decided that dry weather contests were altogether too easy and that those who intended to seek perfect scores this year must be able to overcome his forces, in addition to the time schedule. As it was, 11 of the 34 who braved the elements survived the 290 miles mud plug without having any derogatory endorsements affixed to their credentials.

It is particularly noticeable that the perfect score division is entirely made up of low and medium priced cars, not one of the high priced representatives securing the coveted cipher rating. Following are the perfect performers: I. M. Upperco, Cadillac; L. J. Wyckoff, Ford; James W. Ward, Buick; F. L. C. Martin, Hupmobile; A. H. Humphreville, Hudson; W. J. Tynan, Columbia; F. L. Kramer, Jackson; J. C. Bell, Buick; E. D. Carlough, Franklin; W. E. Shuttleworth, Haynes, and J. W. Mason, Maxwell. W. E. Davenport, Buick, lost a perfect score by a traffic hold-up in Newark, and having made an otherwise faultless performance, a protest which was made against the penalization for this cause being allowed to stand. After deliberating however, the contest committee disallowed the protest and upheld the action of the observer.

As nearly always is the case, there was a shrinkage in the entry list when starting time arrived, and of the 42 nominees only 34 took the flag at 5 o'clock Saturday morning. The course was over a circuit leading through Hackettstown, Montclair and Dover, to Budd Lake, and returning via Washington, Flemington and Somerville to Newark, the distance being 145.3 miles. The circuit was covered twice, making a total of 290.6 miles. The running time was 15 hours. Officials and contestants are unanimous in declaring that the contest was the most strenuous and grilling motor function ever pulled off in the state, and that all previous club contests pale into insignificance by comparison.

Hardly had the cars left the starting post when J. P. gave notice that he would commence operations, and the threatening clouds which had been lowering for several



hours began to weep. This preliminary shower, however, was light and, in fact, was rather welcome, as it served to lay the dust. The rain stopped in a few minutes and all hands hoped that it had ceased for good, but disappointment was in store for them, for Hackettstown had not been sighted when a genuine downpour set in. Soon the roads were very greasy and chains were the order of the day, the cars performing all sorts of fancy evolutions short of standing on their beam ends. Owing to the law prohibiting the use of chains on macadam roads, except when there is an inch of snow on the ground, the chains were not applied until the cars were on the country highways.

Near Hackettstown existed the worst stretch on the course, and although spe-

resuscitate the motor long enough to enable the car to reach the control, the penalty for taking on fuel outside could not be escaped. Fisher had no other assessments charged against him.

The results in detail are given below:

#### Penalizations.

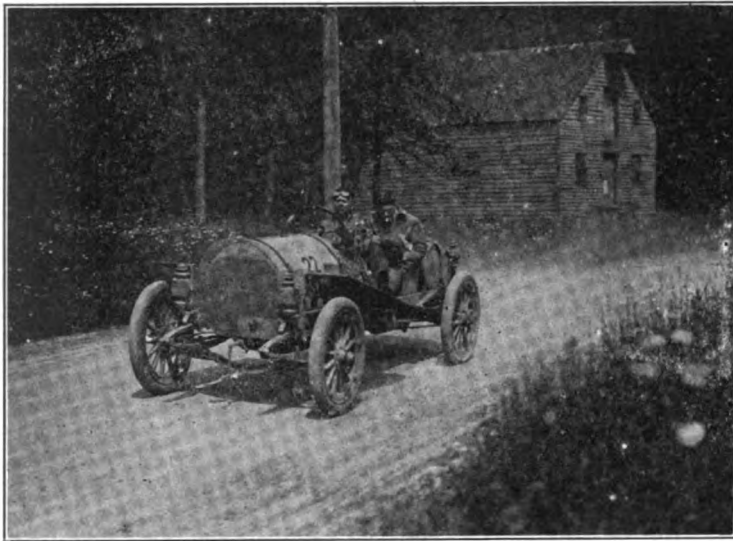
##### Class A—Touring cars, under \$1,600.

Entrants and Cars.	1st	2d	
	C'l.	C'l.	T'l.
J. M. Upperco, Cadillac.....	0	0	0
G. F. Eveland, E-M-F.....	13	114	127
F. L. Martin, Mitchell.....	*		
E. S. Hilton, Regal.....	*		

##### Class B—Touring cars, over \$1,601.

	0	0	0
J. C. Bell, Buick.....	0	0	0
J. W. Ward, Buick.....	0	0	0
E. W. Carlough, Franklin.....	0	0	0
J. C. Bell, Buick.....	0	2	2
H. F. Seibert, Amplex.....	3	0	3

practically all of the honors in the New York-Atlanta Good Roads tour, June 6-13, the results of which were officially given out this week, only one entrant from the northern states figuring in the perfect score division. When the officials had exhausted all legitimate means for spotting the records of the contestants with demerits, there still remained eight unblemished cars out of the 62 starters. The lucky octet were the following: E. M. Willingham, Atlanta, Ga., Ford; D. K. McColl, Bennettsville, S. C., Cadillac; James A. Gray, Winston-Salem, N. C., Mitchell; Norman Gallatin, York, Pa., Pullman; Marcellus Rambo, Birmingham, Ala., Columbia; E. H. Inman, Atlanta, Ga., Pope-Hartford; E. M. Durant, Atlanta, Ga., Pope-Toledo; Asa G. Candler, Jr., Atlanta, Ga., Lozier.



KRAMER (JACKSON) WHERE THE GOING WAS GOOD AND SHUTTLEWORTH (HAYNES) DESCENDING DRAKE MOUNTAIN

cial officers were out, and notices were posted warning the motorists to remove the chains in passing through the town, they took a chance and were not molested. Much tire trouble also was experienced, the most unfortunate sufferer in this respect being Philip Hilton, Fiat, who had 5 blowouts in 5 miles. When the last one occurred, near Flemington, the car crashed into a bridge and sustained damages which necessitated its withdrawal. The first car to be eliminated was F. L. C. Martin's Hupmobile No. 30, which skidded on the wet asphalt in Newark and crashed into the curb.

In the afternoon the sky cleared for a time; then a cloudburst accompanied by hail caught the enduranciers and made driving anything but a pleasure. It was the worst storm the state has experienced in years, and filled the motorists' cup of discomfort and ill humor to overflowing.

One of the peculiar incidents of the contest was the unusual circumstance connected with the penalization of Clarence Fisher's Cadillac. It ran out of gasoline almost within sight of Flemington control, and although a couple of pints sufficed to

J. J. Meyer, Auburn.....	0	*
J. D. Rourke, Haynes.....	0	*
A. Hollander, Packard.....	0	*
E. H. Paddock, Haynes.....	13	*
Philip Hilton, Fiat.....	*	
P. L. Munford, Selden.....	*	

##### Class C—Runabouts, under \$1,200.

	0	0	0
L. J. Wyckoff, Ford.....	0	0	0
A. H. Humphreys, Hudson..	0	0	0
F. L. Martin, Hupmobile.....	0	0	0
J. W. Mason, Maxwell.....	3	4	7
J. W. Mason, Maxwell.....	10	5	15
F. L. Martin, Hupmobile.....	35	126	161
W. F. Ackor, Overland.....	*		
F. L. Martin, Hupmobile.....	*		

##### Class D—Runabouts, over \$1,200.

	0	0	0
J. W. Mason, Maxwell.....	0	0	0
W. E. Shuttleworth, Haynes..	0	0	0
F. L. Kramer, Jackson.....	0	0	0
W. J. Tynan, Columbia.....	0	0	0
E. D. Carlough, Franklin.....	1	0	1
J. M. Upperco, Cadillac.....	3	0	3
G. L. Reiss, Overland.....	16	54	70
R. A. Greene, Mercer.....	0	93	93
F. J. Radcl, Chalmers.....	10	*	
C. F. Johnson, Johnson.....	2	*	

\*Out.

#### Prizes Awarded Southern Tourists.

As was expected, in view of the overwhelming number of entrants from that section, Southern owned cars carried off

In three of the classes two cars each tied for the stellar honors as follows: Division 3A—\$1,201-\$1,600, Cadillac and Mitchell; Division 5A—\$2,001-\$3,000, Pullman and Columbia; Division 7A—\$4,001 and over, Pope-Toledo and Lozier. The other perfect cars captured their class honors unequivocally as indicated: Division 2A—\$801-\$1,200, Ford; Division 6A—Pope-Hartford. In two divisions there were no perfect scores, and the awards were allotted according to the lowest penalizations, the winners being the following: Division 1A—\$800 and under, N. W. Wallace, Jr., Charlotte, N. C., Hupmobile, 20 points; Division 4A—\$1,601-\$2,000, W. E. Wimpy, Atlanta, Ga., Buick, 108 points.

In his report, Referee Charles J. Edwards, of New York, recommended that W. J. Stoddard, Atlanta, Ga., National, who was penalized 42 points, and R. E. O'Donnely, Atlanta, Ga., Packard, who was docked 4 points, should receive some special recognition on account of their meritorious performances despite the penalties incurred. The management has promised to give the suggestion consideration. Winners had the choice of cash, plate or cups.

**UP SUNSET HILL AT OSSINING**

**Disbrow Breaks the Course Record—Jones,  
Taylor and Fink Score—Spectacular  
Accident Precedes the Start.**

Louis Disbrow and his Knox car took another fall out of Father Time at the Upper Westchester Automobile Club's annual climb on Sunset hill, Ossining, N. Y., on Saturday afternoon last, 18th inst., by flashing up the seven-tenths of a mile slant in 57:34 seconds, thus establishing a new course record. The old figures stood at 58 seconds. It was in the third event, open to cars having a displacement between 301-600 cubic inches that Disbrow got under the old figures, and he had the distinction of being the only driver to achieve that honor, although it is probable that an even lower mark would have been set had not a severe electrical storm put a stop to the contest after four classes had been run. Thomas Kincaid, the National crack, was runner up to Disbrow, being clocked in 1:00:08. S. H. Clapp, Berkshire beat out Martin, Houghton-Rockwell, for third place.

Pope-Hartford cars took the cream in the class for cars under 300 cubic inches, winning both first and second. B. C. Fink was at the wheel of the winning car and made an excellent flight in 1:00:19, the second fastest time of the day. H. C. Holt handled the other Pope and had no difficulty in beating out Fred Horton, S. P. O. Joe Taylor, who has been campaigning with the Correja in the East, added another scalp to his belt by winning his class, the \$1,200-\$1,600 division. His time was 1:11:79. W. Varney, Buick, accounted for second, and Arthur See, Maxwell, landed third place. Charles Jones, Buick, was the only competitor in the low-priced division for cars selling under \$1,200, and consequently enjoyed a walkover. His mark was 1:33.

A spectacular accident marked the contest, and that no fatality resulted seemed miraculous. While an Amplex car driven by Walter Jones was practicing previous to the start the front wheels struck a rock imbedded in the road near the finish, the steering wheel was wrenched from Jones's grasp, and the machine plowed along a gully by the side of the road until it struck a tree. Jones and a companion were thrown out and the car was badly smashed, but the occupants escaped with a few scratches. A large crowd was present, many of whom came on foot, and were well drenched before they could reach cover when the storm broke.

The results:

\$1,200 and Under.	
Charles Jones, Buick.....	1:33.57
\$1,201-\$1,600.	
Joseph Taylor, Correja.....	1:11.79
Charles Jones, Buick.....	1:12.93

Arthur See, Maxwell.....	1:32.45
Stock Chassis, 301-600 Cubic Inches.	
L. A. Disbrow, Knox.....	0:57.34
Thomas Kincaid, National.....	1:00.80
S. H. Clapp, Berkshire.....	1:06.68
Stanley Martin, Houghton.....	1:07.73

Stock Chassis, Under 300 Cubic Inches.	
B. C. Fink, Pope-Hartford.....	1:00.19
H. C. Holt, Pope-Hartford.....	1:05.13
Fred Horton, S. P. O.....	1:06.08
M. P. Batts, S. P. O.....	1:08

**Manhattanites Hold a "Paper Chase."**

New York motorists were introduced to a new form of "contest" on Wednesday of last week, 15th inst., when the Motor Racing Association, which heretofore has confined itself to the promotion of 24 hours races, departed from its schedule and put on a "paper chase," otherwise a game of hare and hounds. The "hares" were J. E. Demar and W. I. Fickling, and they started from the association's headquarters in West 58th street, half an hour ahead of the "hounds." The only method of tracing the hares was by confetti which they scattered at turns and crossings. None but the referee knew the destination, the hares being given sealed envelopes which were opened 10 miles from the start and which indicated the remainder of the course they were to follow.

Some 25 cars acted as hounds, but the keenest of them was H. U. Palmer, in a Palmer-Singer, who was the first to overtake the hares; he caught them within a mile of the finish, at the Manhattan Beach hotel, 33½ miles from the clubhouse, in 1 hour 10 minutes after starting. Palmer was awarded the trophy offered to the hound which first caught the hares before they reached their lair. Shortly after Palmer captured his quarry, W. L. Colt and H. L. Stratton in Cole cars also tracked the hares to earth. When all of the hounds arrived, the party adjourned to Reisenweber's for dinner, which was followed by a vaudeville entertainment. The hounds were the following:

W. H. Owen, Rainier; Mrs. C. A. Flammer, Lozier; C. R. Teaboldt, Thomas; Charles Trewin, Pleiades; Harry Pike, Chalmers; C. H. Larson, Oldsmobile; J. C. Nichols, Croxton-Keeton; Jack Clark, Peerless; J. P. Stoltz, Croxton-Keeton; W. L. Colt, Cole; E. H. Broadwell, Thomas; H. L. Stratton, Cole; E. Lascaris, De Dion; Mrs. E. S. Partridge, Stearns; George Robertson, Simplex; George C. John, Studebaker; H. U. Palmer, Palmer-Singer.

**Monument to an Early Inventor.**

Growing appreciation of the value of the automobile is leading to the inevitable stage of hero-worship. A movement is on foot to erect a monument to the memory of Capt. Nicholas Joseph Cugnot, who, in 1769, constructed the first steam-driven motor vehicle for highway use. The project centers in his native town of Vard, department of Meuse, France.

**MEMPHIS HAS A MERRY-GO-ROUND**

**Contestants in Two Events on the Track  
Together—Robertson Wins Half the  
Races—Local Talent Competes.**

After shelving the scheduled racemeet at Tri-State park, Memphis, Tenn., for a month for lack of entries, Homer George, the New Orleans (La.) promoter, finally rounded up enough drivers to enable him to stage the function on Friday last, 17th inst., when Geofge Robertson easily proved the top liner of the talent present. He captured every race in which he started, which is to say that he won half of the events on the card. Smiling George treated the crowd, which was a fair sized one, to a few thrills by indulging in some spectacular driving in the time trials, which he won and in which he was not forced to extend himself at any time. The track was in good condition.

The feature contest was an innovation in track racing, and was of the merry-go-round style heretofore employed in the Vanderbilt cup race. It was a double header, consisting of two races in one, a free-for-all and a restricted class for cars not exceeding 344 cubic inches displacement, both at the same distance, 25 miles. Robertson won the free-for-all division, Ray Harroun in the Marmon taking second. In the stock class Bill Endicott drove a Cole to victory, and Edmunds in another Cole was second. Robertson's time was 25:37, and Endicott was clocked in 28:18. Endicott also distinguished himself by taking first money in the 5 miles for 161-230 class cars, Edmunds again playing second fiddle. Time, 6:09.

Harroun easily annexed the five miles handicap, and the \$50 attached to it, while Bill Endicott, Cole, took second money. The time, 5:37. Harroun registered another first in the 5 miles special, and his mate, Dawson, was the runner-up. Local talent was represented by R. H. Pennebaker, Stearns, who defeated Merriman, Thomas, for the city championship and the Business Men's trophy. The time for 5 miles was 6:01. In the time trials Robertson made the fastest time of the day, 0:55¾, and Ray Harroun came next with 0:58¾.

The summaries:

Five miles, stock chassis, 161-230 cubic inches—Won by Bill Endicott, Cole; second, Edmunds, Cole. Time, 6:09.

Mile time trials—Won by George Robertson, Simplex, 0:55¾; second, Ray Harroun, Marmon, 0:58¾.

Five miles handicap—Won by Harroun, Marmon (scratch); second, Endicott, Cole (0.27). Time, 5:37.

Five miles free-for-all—Won by George Robertson, Simplex; second, Ray Harroun, Marmon. Time, 4:59¾.

Five miles, Memphis championship—Won

by R. H. Pennebaker, Stearns; second, Meriman, Thomas. Time, 6:01.

Ten miles handicap, free-for-all—Won by George Robertson, Simplex (scratch); second, Dawson, Marmon (0.40); third, Harroun, Marmon (0.25). Time, not taken.

Five miles special—Won by Harroun, Marmon; second, Dawson, Marmon. Time, 5:19 $\frac{3}{4}$ .

Twenty-five miles combination free-for-all and stock chassis under 344 cubic inches displacement, free-for-all—Won by Robertson, Simplex; second, Harroun, Marmon. Time, 25:37. Stock chassis class—Won by Endicott, Cole; second, Edmunds, Cole. Time, 28:18.

#### Emergency Fire Engine Motor Driven.

Motor fire engine development in Germany has resulted in the production of a new type of emergency apparatus, remin-

## MOTOR CARS FOR ROOSEVELT'S USE

### Machines See Strenuous Service Incident to His Reception—He is Shortly to Buy a Machine for Himself.

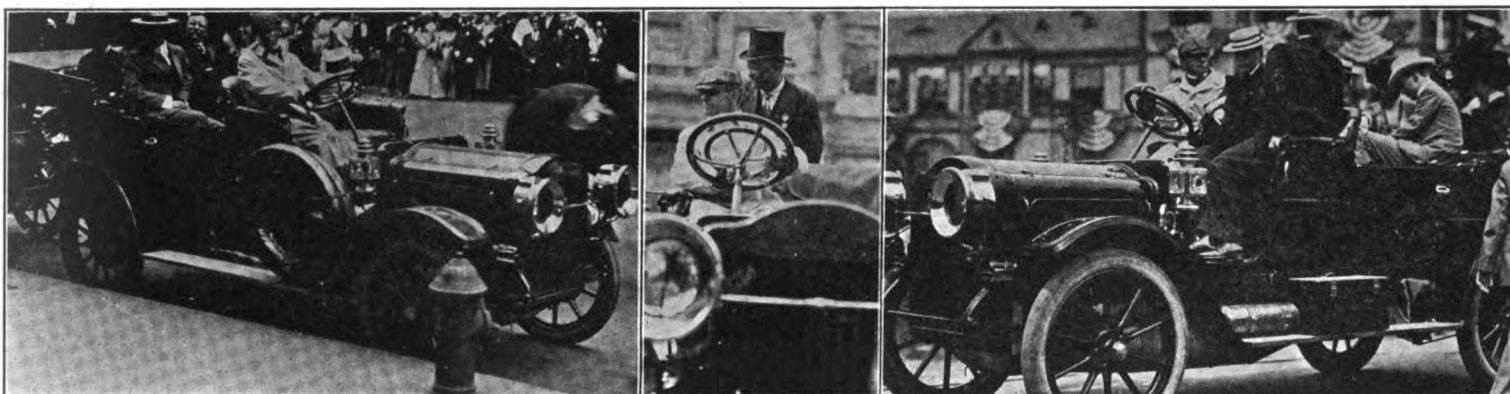
Although the reception committee which organized the uproaring welcome-home to former President Roosevelt did not permit motor cars to play an official part in the festivities, because "they could not go slowly enough," the self-propelled vehicle was very much in the service of Mr. Roosevelt and his party during the day.

There were three White steamers at the Battery when the Roosevelt party landed, and all of Mr. Roosevelt's family and immediate party, himself excepted, entered

finally is about to purchase an automobile for his own use. During his term of office he of course made frequent use of the White steamers which formed a part of the official stable, but he was generally credited with being so much in love with the horse that he cared not to own a motor car.

#### New Rules in Massachusetts Laws.

Massachusetts motorists are relieved of the need of tooting for every corner they pass by the terms of the new horn law, which was signed by Governor Draper in connection with his approval of the group of bills which constitute the 1910 amendments to the motor vehicle law. Not only is it no longer compulsory to sound the horn at every street crossing, as formerly was required, but the quality of the tone permissible practically is regulated to that produced by the ordinary reed horn. As



INCIDENTS OF THE ROOSEVELT RECEPTION—IN WHICH WHITE STEAM CARS PLAYED AN IMPORTANT PART

iscent of the old-time "hand tub" of Colonial days, in that it is provided with a tank and at all times carries some 130 gallons of water. This is not so much for quenching fires, despite the fact that it is mentioned as a "first-aid" feature, as for priming the five-stage centrifugal pump with which the machine is equipped. This pump, which may be coupled to the 50 horsepower, four-cylinder engine by which the vehicle is propelled, has a capacity of nearly 400 gallons of water per minute at six atmospheres, or 88 pounds pressure per square inch and a little over. In the Gaggenau type, which is very completely equipped as to ladders and hose, speeds up to 25 miles an hour can be attained.

#### Two New Clubs Formed in New Jersey.

Hon. J. B. Crispin is the president of the Salem Automobile Club, which has been organized in the New Jersey town of that name. The vice-president is N. S. Hires; secretary, W. M. Waddington; treasurer, Paul Erhardt.

The Sussex Automobile Club has been formed in Newton, N. Y., with twenty charter members and these officers: President, Dr. J. N. Miller; vice-president, Dr. Morrison; secretary, W. W. Woodward, Jr.; treasurer, Edwin M. Quick.

these cars and were driven to Mr. Douglas Robinson's house at 433 Fifth avenue.

In the meantime two more White steamers were in waiting at 59th street and Fifth avenue. When the procession reached this point Col. Roosevelt, accompanied by Collector Loeb and Cornelius Vanderbilt, transferred from his carriage to one of these Whites, and then joined his family at Mr. Robinson's house. Mayor Gaynor and one or two other members of the reception committee followed Col. Roosevelt in the other White.

After luncheon at Mr. Robinson's house the entire party, including Col. Roosevelt, again entered the White cars, and were driven over to Long Island City, where they embarked on a special train for the ex-President's home at Oyster Bay.

On Sunday White cars were again in evidence in service. Col. Roosevelt, in accordance with the custom which he followed for the last two years of his term as President, drove to church in a White steamer. In the meantime a party of some forty of the more prominent Rough Riders were taken in the White gasoline truck to a clam bake at the Travers Island Club House of the New York Athletic Club.

Incidentally, it is stated, apparently with the color of authority, that Mr. Roosevelt

to the interpretation of the new measure, the police are given a certain amount of judiciary power, since it is required to blow the horn only at corners where the view of intersecting ways is obstructed.

Other provisions brought into effect by the sheaf of bills which dragged through the length of the recent session of the legislature are the reciprocal clause governing the admission without local license of non-resident motorists; one fixing a definite position for the license number plate; one which releases chauffeurs from the obligation of wearing the badges of their calling, and an amendment to the speed law. This provides that the maximum speed of eight miles an hour formerly required at all street intersections and curves hereafter shall apply only where the view of the road is obstructed. The clause providing that in thickly settled portions of cities and towns no "bell, horn or other device for signalling shall be sounded so as to make a harsh, objectionable or unreasonable noise," also provides against the emission of smoke and the use of the muffler cut-out in such localities. As no definite rule is laid down as to what constitutes a "harsh, objectionable or unreasonable noise," it would appear that the motorists will be thrown on the mercy of the police.

**MONTAUK AWARDS ARE ANNOUNCED**

**Sixteen Contestants in Long Island Event Receive Perfect Scores—What Happened to the 22 Unfortunates.**

Accompanied by the announcement of his farewell as a promoter, W. J. Morgan of New York on Saturday, 18th, issued the results of his Motor Contest Association's two days' "Tour of Long Island Hotels," otherwise styled the "Montauk Light or Bust" contest, which occurred on the 14th-15th inst. Of the 38 contestants in the 350 miles run, 16 came through with perfect scores, as follows:

Division 1A—For cars selling for \$800 and under.—Elmer D. Cutting, Hupmobile.

Division 2A—For cars selling from \$801 to \$1,200.—D. M. Hasbrouck, Mitchell; W. B. Young, Ford; Charles Jones, Buick.

Division 3A—For cars selling from \$1,201 to \$1,600.—William Simonson, Mitchell; E. A. Taylor, E-M-F.; C. S. Cheney, Staver.

Division 4A—For cars selling from \$1,601 to \$2,000.—Dr. William F. Nafis, Buick; W. Davenport, Buick; Philip Hines, Buick.

Division 5A—For cars selling for \$2,001 to \$3,000.—W. E. Shuttleworth, Haynes.

Division 6A—For cars selling from \$3,001 to \$4,000.—C. V. Searing, Welch-Detroit; Fred J. Titus, Palmer-Singer; Paul Harvey, Franklin; Neil Whalen, Matheson.

Division 7A—For cars selling for \$4,001 and over.—Harold W. Sisco, Amplex.

The remaining 22 contestants, who were penalized and the reasons therefor, are as follows:

Division 1A—R. E. Gillam, Hupmobile, motor stop, 1; replenishments, 9; withdrew, 1,010 points.

Division 2A—A. J. McCormick, Jr., Ford, replacing balls in bearings, 38 points.

Division 3A—George Ainslie, Regal, differential trouble, 1,000 points; E. Miles, Welch-Chalmers, stalled motor and stuck in mud, 118 points.

Division 4A—W. A. Wells, Pierce-Racine, withdrew second day, 1,000 points; Herbert F. Earl, Auburn, broken axle, 1,000 points; John L. Gwyer, Jr., Elmore, gear box adjustments, 40; motor stop, 2; replenishments, 6; withdrew, 1,048 points; Thomas Wilson, Westcott, motor stop, 1; late, 78 minutes, 79 points; Frank Remsen, Buick, 8 minutes late, 8 points.

Division 5A—Joseph Trehour, Mercer, failed to check in at noon control, 1,000 points; C. J. Hichman, Franklin, magneto trouble, withdrew, 1,000 points; Richard Carter, Selden, cut fan belt, 1; water replenishment, 3; 4 points; O. R. De Lamater, Mitchell, clutch adjustments, 2; water replenishment, 3; cleaning lubricator belt, 4; 9 points.

Division 6A—A. P. Palmer, Palmer-Singer, replenishments, 6; 122½ minutes late,

129 points; A. M. Henderson, Palmer-Singer, stalled motor twice, 2; late 178 minutes, 180 points; H. K. Sutherland, Knox, adjustments and replacing spark plugs, 15 points; Arthur Coombs, C. G. V., motor stop, 1; repairs on engine, 47; late 309 minutes, 357 points.

Division 7A—V. P. Pisani, Züst, removing carbon from igniters, 30 points; Walter Jones, Amplex, failed to check in at first control, 1,000 points; Peter Smith, Fiat, withdrew owing to accident, 1,000 points; Earl A. Cryne, American, replacing spark plugs, 34; withdrew on account of fire, 1,034 points.

The award for L. R. Burne, who drove a Cadillac in Division 4A, has been held up for the present.

**Ten Clubs Hold Elections of Officers.**

Geneva (N. Y.) Automobile Club—President, F. A. Herendeen; secretary, Charles W. Fairfax; treasurer, E. S. Siglar.

Automobile Club of Troy, N. Y.—President, Charles C. Kelly; vice-president, Frank Gilbert; secretary, Alonzo McConibe.

Detroit (Mich.) Automobile Club—President, Frank H. Welden; vice-president, Arthur Pack; secretary, Sherman L. Depew; treasurer, Cullen Brown.

Alcester (S. D.) Automobile Association—President, A. E. Ofstad; vice-president, Eric Nelson; secretary, Charles J. Peterson; treasurer, G. A. Lindgren.

Owego (N. Y.) Automobile Club—President, James S. Truman; vice-president, John M. Parker; secretary, William G. Ellis; treasurer, George Truman.

New Britain (Conn.) Automobile Club—President, M. S. Hart; vice-president, John B. Minor and L. B. Mallory; secretary, Philip Corbin, Jr.; treasurer, E. W. Abbe.

Woodford County (Ky.) Automobile Club—President, W. H. Edwards, Jr.; vice-presidents, Dr. S. A. Blackburn and Isaac W. Parrish; secretary, Dr. S. M. Steadman; treasurer, R. N. Judson.

Nashville (Tenn.) Automobile Club—President, H. F. Smith; secretary, A. S. Warren, Jr. Directors: J. O. Cheek, Leland Hume, J. H. Baird, Robert Rhea, James Palmer, Dr. O. West, W. Kirkland, J. W. Love, W. R. Cole and M. S. Lebeck.

Automobile Club of St. Louis (Mo.)—President, Sam D. Capen; vice-president, Roy F. Britton; secretary, Samuel Plant. Directors: Ephron Catlin, Jr., J. Howard Holmes, James Hagerman, Jr., W. J. Lemp, Jr., Alden H. Little and George J. Tansey.

New Jersey Automobile and Motor Club—President, Clarence H. Bissell; vice-president, H. D. Bowman; treasurer, George H. Simonds; secretary, A. B. LeMassena. Directors: W. C. Crosby, Guido O. Groebe, Dr. F. B. Meeker, J. B. Scarlett and Lewis Strauss.

**HOW CALCIUM CARBIDE IS MADE**

**Enormous Electrical Heat is Employed—Phenomena of its Formation and of its Action with Water.**

Considering its great prevalence and cheapness, it is somewhat difficult to realize that only a relatively short time ago calcium carbide was an article too costly for commercial use; though its valuable properties were thoroughly appreciated, it was considered beyond the limits of everyday application. For its reduction to its present realm of great and growing usefulness credit is due the electric furnace, to which modern industrialism is so deeply indebted. During the sixteen years since it first became a marketable commodity, its application has advanced rapidly and still is widening.

"Calcium carbide is a strong compound of calcium and carbon, which is decomposed into lime and acetylene gas by the action of water," explains L. L. Barnes in the "Co-Operator." "It is made from coke and burnt lime generally in electric furnaces where large currents and low voltages are used and extremely heavy bus-bars are necessary. Currents as high as 40,000 amperes at 30 volts have been used. The current comes almost invariably from transformers, and, as the resistance of the charge varies rapidly with the temperature, some means of regulation is necessary. This is usually accomplished either by means of an induction regulator or by varying the transformer ratio by means of a dial switch or contactors.

"At the temperature of formation calcium carbide is liquid. As the actual formation of carbide occurs in the neighborhood of 3,000 degrees centigrade, all the ordinary refractory linings are unsuitable for its manufacture, and a frozen layer of the carbide itself is used for the furnace lining, the exterior of the furnace being air-cooled, although in Europe there are some water jacketed furnaces used.

"The principal use of calcium carbide at present is for the manufacture of acetylene gas, which is used for lighting and is beginning to be used for heating purposes on account of the very high temperature obtained when burning it with oxygen.

"Pure acetylene gas is credited with having a faint, sweet smell, but the smell given off by all carbide the writer has had the opportunity of examining has been quite the reverse of either faint or sweet. The unpleasant odor arising from the raw carbide upon opening the receptacle is the primary source of objection.

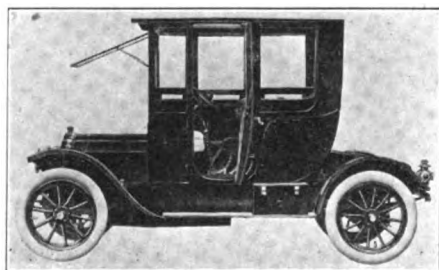
"Various methods have been applied to overcome this serious drawback in the way of coating the carbide and by counteract-

## THE MOTOR WORLD

### COUPE SEATS FOUR PASSENGERS

**White Discloses an Inside Driven Model with an Unusual Body—Novel Arrangement of the Interior.**

To provide for the needs of the motorist who prefers to drive his own car and yet desires an enclosed vehicle suitable for all-weather service, the White Co., Cleveland, O., just has brought out a new type of inside driven coupe which is a distinguished addition to its gasoline line. Differing from other inside driven closed cars in that it has seating capacity for four persons, the machine has all the grace of the limousine type with the additional exclusiveness which the driver-owner considers such a valuable asset.



WHITE INSIDE DRIVEN COUPE

In chassis formation the machine follows the standards of White gasoline construction. The body arrangements, besides being comfortable and attractive, display considerable ingenuity and originality in the method whereby entrance may be obtained from either side of the machine without inconvenience. With this object, the driver's seat is so made that it will fold up against the steering column. This affords ample room for the use of the door on the right side of the vehicle, and makes easy access to the commodious rear seat, which accommodates two persons. Beside the driver's seat is a comfortable seat for a third passenger, sufficient space being allowed for access to the interior through the left hand door if that be required. Rich upholstery, an electric dome light and other luxurious fittings such as commonly are found in limousine bodies, complete the appointment of the machine.

Like the two-passenger coupe, this vehicle is designed especially for those who desire ample protection against the elements together with comfortable riding quarters. It provides in addition the effect of an open car, when the windows are dropped into pockets in the wainscotting. It should be particularly serviceable for town use by physicians and ladies and for evening service in calling and theater attendance. The advantages of the two-passenger enclosed car are so well recognized that it would seem likely that the new type, with its

ing the smell by the application of strong sweet-smelling essences.

"Another feature in connection with the action of calcium carbide and water in the generation of acetylene is the amount of heat given off in the reaction. One pound of carbide, when brought into contact with water, gives off in its decomposition, 753 British thermal units which, in the absence of an excess of water, is sufficient to raise the temperature of the surrounding materials to a bright red heat.

"On this account, all apparatus for the generation of acetylene which is not provided with a sufficient water jacket to insure the dissipation of heat involved is liable to become heated to a dangerous point in case of too rapid a consumption of gas.

"To a certain extent calcium carbide resembles the electric storage battery, for while by present processes it requires the expenditure of from 2.0 to 2.3 horsepower hours to produce one pound of carbide, this may be conveyed to any distance, or stored for any length of time, if properly protected, and then the acetylene generated from it is capable of developing one horsepower for one hour if used for driving a gas engine."

#### Shoulders on the Sliding Joint.

In a shaft driven car which has seen considerable service it is well to examine the sliding joint in the propeller shaft to see whether an excessive amount of wear has taken place. If so, and if the result has been to cause a shoulder to form on the sliding member, this should be filed or ground down. Otherwise, in a case of excessive spring action, the striking of the shoulder against its bearing in the female member of the coupling will cause a very perceptible jolt to the chassis, which may lead to more serious consequences.

#### False Symptoms of Oil Excess.

Symptoms of excessive oil feed may result in a pressure circulating system when one or more engine bearings are worn to excess. In such a case, the looseness of the journal affords too great an outlet for the oil and permits partial flooding in its immediate vicinity. If such a condition exists, it may lead to the impression that the entire lubricating system is feeding too freely, and a new and false adjustment may be made accordingly.

#### Must Not Borrow Pierce Finery.

Bodies, lamps, fittings and hardware for Pierce-Arrow motor cars are not to be sold for use on other cars, according to the instructions which are being issued to dealers by the Pierce-Arrow Motor Car Co., of Buffalo, N. Y. The company has its own exclusive designs for these parts and considers them as much integral parts of the car design as the motor, transmission or rear axle.

extended capacity, should meet with immediate appreciation at the hands of the more discerning class of motorists.

#### Explains the Expanding Disc Clutch.

In adopting the Wells expanding disc clutch, the Model Gas Engine Works, Peru, Ind., has brought out a special bulletin explaining the construction of the device very thoroughly and listing the principal specifications of the three sizes which are being produced. The principle of the device, which was described in these columns in its application to the Sterling car, consists in the expansion of a group of four segments, which form a double conical surface, into a conical recess formed between two concave discs. Expanding the segmental wedges, has the effect of spreading the discs apart and so engaging the ends of the clutch housing frictionally. The device is extremely compact and is said to be remarkably smooth working. It forms a somewhat radical addition to the line of components, including motors and transmissions, which the Model company already is producing.

#### Reviewing Timken Bearing Progress.

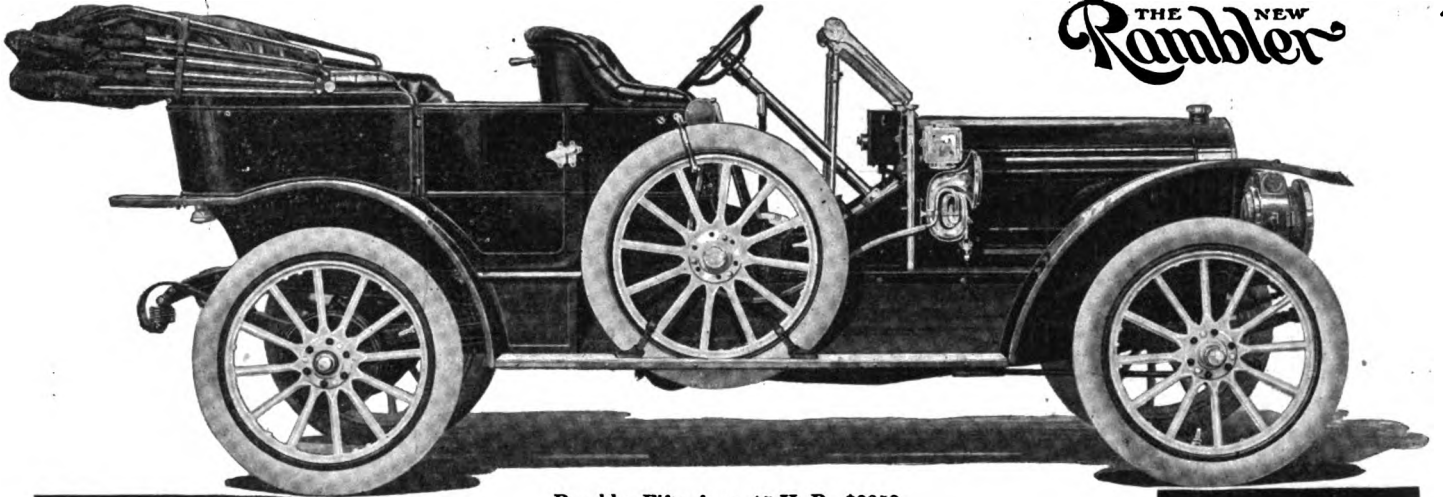
As a mark of confidence in roller bearing theory, as translated in the product of the Timken Roller Bearing Co., Canton, O., nearly a hundred motor car manufacturers in this country now are using Timken shaft mountings. Of this market, which naturally represents a huge outlay of manufactured material, 67 customers are builders of gasoline pleasure cars, 30, or thereabouts, of commercial vehicles; and a half dozen are makers of electrics. The complete list is published as an appendix to a new brochure, which the Timken bearing company just has issued, and which deals with the growth, refinement and scope of this business—three impressive factors. The booklet is profusely illustrated with pictures which show Timken bearings in the making, and in themselves tell a graphic story of clean and exact workmanship.

#### Warning Against "Fake" Parts.

Warnings are being issued by the Connecticut Telephone & Electric Co., of Meriden, Conn., concerning imitation parts for Connecticut coils. These, when used for replacement purposes, often cause the coils to act badly, and their use invalidates any guarantees made concerning the coils by the manufacturers. In order to protect purchasers against bogus parts, the genuine Connecticut parts hereafter will bear the company's name. It is pointed out these parts are registered, and that the manufacture or sale of imitations is an offense in some states punishable by heavy fine and imprisonment, together with confiscation of the imitations. The company indicates its intention of pursuing a policy of vigorous prosecution.



THE NEW  
**Rambler**



Rambler Fifty-four, 45 H. P., \$2250  
with Magneto, Lamps, Presto-Lite Tank and Tools.



*Workman applying micrometer  
gauge to Rambler large bevel  
gear to determine its absolute  
accuracy.*

The maximum variation permitted in any vital part of the Rambler is one-thousandth of an inch. In some instances the restriction is carried to the extent of ten-thousandths of an inch. Each part is inspected after each operation in the making and again inspected after each of the various stages of assembling. That is why Rambler quality is proved in every detail of the car.

**Thomas B. Jeffery & Company**

Main Office and Factory: Kenosha, Wisconsin  
Branches: Chicago, Milwaukee, Boston, Cleveland, San Francisco

## BUS EMBODIES ADVANCE IDEAS

**Composite of Radical Features in Daimler Vehicle—Duplicate Power Plants, no Chassis and Wire Wheels.**

About all that modern theory has produced in English automobile practice is combined in the new type Daimler "K. P. L." omnibus, which just has been brought out and which recently was given its trial trip in the vicinity of London. The mystic initials in the name refer to the group of patents which are combined in its construction and which are those of Knight, Pieper and Lanchester. As those familiar with British trade movements immediately will infer, the vehicle is driven by the Knight slide-valve engine and has a development of the Pieper form of electric transmission and worm drive. In addition, it is characterized by the use of an all-steel body, which replaces and eliminates the ordinary chassis frame; it runs on wire wheels of the Rudge-Whitworth type, and is equipped with front wheel brakes.

The product plainly results from an extremely radical attempt to amalgamate every available feature which recent scientific practice has brought about. But its existence finds ample justification in the noisy and cumbersome service 'busses in use on London's streets, which the new machine is intended to replace, should it prove trustworthy and efficient.

A remarkable feature of its construction is the use of duplicate power plants throughout, one being applied to the drive of each of the rear wheels. The motors are of the improved four-cylinder Knight-Daimler type, with sliding sleeve valves, and are of 33-16 by 47-16-inch bore, and stroke, roughly speaking. They are rated at 12 horsepower each, making the total nominal rating for the vehicle 24 horsepower.

The transmission mechanism consists of the so-called "dynamotors," which are six-pole, shunt wound machines, capable of being used either as dynamos or motors. Their official rating is 3 kilowatts capacity, but they are capable of sustaining very heavy overloads. An accumulator is mounted under the driver's seat, which serves to equalize the load and also furnishes one of the four means of retarding the vehicle by offering resistance to the dynamo-electric machines when they are coupled to act in the capacity of generators.

The power units are mounted, one on either side of the machine, in such a way that they may be dismantled and replaced without disturbing the body or any other portions of the vehicle. They drive directly to the rear wheels through short cardan shafts and worm transmission gears. So carefully have the means of assemblage

been worked out that it is claimed that the dismantling and replacement of one of the units complete may be effected in less than half an hour.

For purposes of speed control the flexibility of the electrical system is utilized to the utmost. Whenever the vehicle is brought to rest the engines are stopped, so that there is no vibration or noise when the car is not in motion—and an astonishingly small amount when it is, so it is claimed. In order to restart, current from the storage battery is brought into effect to start the gasoline engines simultaneously with the motors. In running, an excess of power over that required for vehicle propulsion goes to charge the battery, while the same reserve also is available for overcoming heavy grades. But two levers are used for ordinary running, and they are mounted on top of the steering column. One is connected to the throttle valves of the two engines, while the other is an electrical controller connected into the fields of the dynamotors.

The braking system is unusually complete. Of the four means of retardation alluded to, one is applied through the charging of the battery, and comes into effect automatically upon the manipulation of the controller handle into a certain position. In addition there are a magnetic braking system, which acts independently upon each of the propeller shafts, and a set of front wheel expanding brakes, which may be applied either by means of pedals, or a brake lever.

The body and frame combined is of sheet steel, suitably reinforced at points of heavy stress by means of cross girders riveted in place. The lower portion of the side members is rolled into deep channel section. To prevent weaving in the structure, due to cross strains, a large rectangular box girder is placed under the driver's seat, occupying part of the space, and which, incidentally, forms the gasoline tank.

The front wheels are formed with recessed hubs carrying centrally disposed steering pivots which are directly in line with the tire treads. They are 40 inches in diameter while the rear wheels are 48 inches. Despite this enormous wheel size, the floor level of the body interior is only 27 inches above the ground, which is from 5 to 10 inches lower than in the standard type of 'bus. The ground clearance is 12 inches.

The arrangement of the engine auxiliaries is unique. Ignition is accomplished by means of magnetos which are driven from the engine crank shafts. The jacket water from both engines is run through a common cooler in front, and the circulating pump, together with the radiator fan, is driven by a ½ horsepower electric motor, independent of the engines, which draws its energy from the accumulator.

Including 560 pounds of storage battery, the total unladen weight of the machine,

ready for the road is a trifle over 7,700 pounds. The body is of the double-deck type, similar to that of the standard 'bus. But its steering lock is much wider, and its wheel base is 10 feet 5 inches, as compared with the standard length of 14 feet.

### "Dragging" in Disc Clutches.

Multiple disc clutches which do not receive proper attention occasionally exhibit the peculiarity of "dragging" when the car first is started, but of working all right after some little distance has been covered. This difficulty, though rare, generally can be traced to the use of too heavy a lubricant in the clutch housing, or one which has been allowed to remain too long. When the oil is cold, it is so stiff as to cause the clutch to spin when an attempt is being made to change gears after a long period of rest. The effect of continued running, particularly if the clutch is slipped at all, is to generate sufficient heat to cause the oil to be thinned out, after which it gives better results. In any case, it is important that only clean oil, and that of the right consistency, be used on the clutch discs.

### Tension on Rear Axle Tie-Rods.

Whenever it becomes necessary to adjust the tension of the tie-rods which are employed on certain types of live rear axle, extreme care should be taken not to throw an excessive amount of load on the rods. If the turnbuckles are drawn too tight, the effect will be to throw a greater amount of strain on the rods than they are intended to bear, possibly tending to bow the axle upward very slightly as well. The result will be that the slender tension members will be called upon to bear the brunt of any shocks which the axle receives and will be very likely to yield without warning. In addition to this, there is some tendency that the working of the transmission parts within the housing may be interfered with as a result of disalignment.

### Cause for Lubrication Clogging.

When cleaning the strainer element in an automatic lubricating system, except in the case of a hasty roadside repair, it is well to clean out the oil reservoir and all piping as well. Otherwise, because of detritus in the oil, the clogging action may be repeated immediately. To keep the oiling system in good working condition is one of the most vital necessities in automobile maintenance.

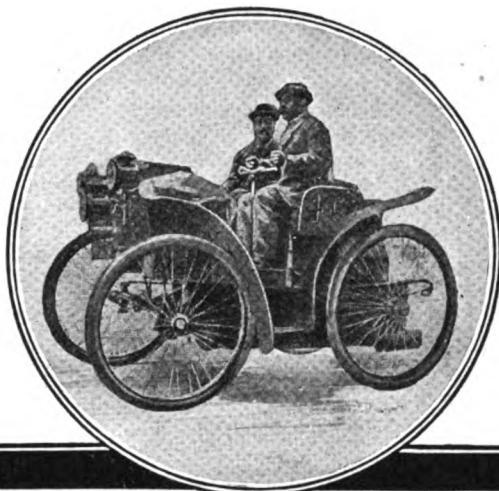
### Marks on the Body Finish.

Garagemen and automobile repairers who will devise a system to prevent their shop operatives from leaving thumb-print autographs and knicks all over the finish of the carriagework will be on the high road to fame and fortune. Carelessness in handling the body and fenders is a most objectionable characteristic of work done in many establishments of this nature.



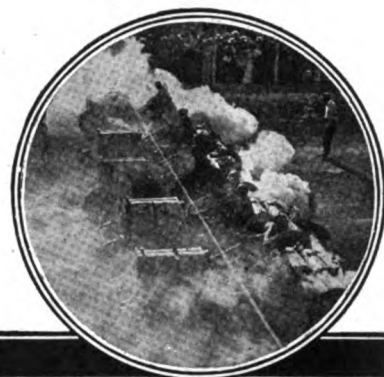
1891

Detachable bicycle tires were first  
produced by  
**MICHELIN "AS USUAL"**



1895

Pneumatic Automobile Tires were  
first produced by  
**MICHELIN "AS USUAL"**



1910

All important speed and endurance  
contests are invariably won on  
**MICHELINS "AS USUAL"**

# MICHELIN TIRES

Michelin invented pneumatic automobile tires away back in 1895 and to-day produces more than 50% of all the tires made in the world.

Michelin invented Anti-Skid Tires in 1905. The Michelin Steel Studded Leather Tread Anti-Skid prevents skidding and protects the envelope without destroying its resiliency.

Michelin invented Demountable Rims in 1906. In the essentials of simplicity, ease of operation, light weight and security Michelin Demountables have never been equalled.

The superior quality and dependability of all Michelin products have created a standard that has endured for seventy-eight years.

Michelin tires have won 95% of all the world's important speed and endurance contests since motoring began

**IN STOCK THROUGHOUT THE UNITED STATES**

and in every country in the world where cars are used

**MICHELIN TIRE COMPANY  
MILLTOWN, NEW JERSEY**

FACTORIES FOUNDED IN CLERMONT-FERRAND—FRANCE 1832—LONDON—ENGLAND 1884—TURIN—ITALY 1906—MILLTOWN—NEW JERSEY 1907



## RECENT PATENTS.

957,626. Driving Gear for Automobiles. Philip J. Rivers, New Rochelle, N. Y. Filed July 29, 1908. Serial No. 445,961.

1. In a vehicle driving mechanism, the combination with a frame, of a forward and a rear axle mounted thereon, a sleeve forming a journal for the forward axle, a wheel pivotally held to each end of the sleeve, means for moving the wheels horizontally on their pivots in unison, a gear carried by each wheel, a second gear slidably held on each end of the forward axle, intermediate gears connecting the gears on the ends of the forward axle to operate the gears of the wheels in whatever position they are placed by the steering mechanism, levers for moving the gears on the axle inwardly or outwardly, a rod connecting the levers, a hand lever, and means connecting the hand lever to one of the gear operating levers whereby the sliding gears may be operated so that the forward wheels may or may not be positively driven.

957,653. Oil-Proof Spark Plug. Eli J. Bushey, New York, N. Y. Filed March 10, 1909. Serial No. 482,471.

1. A spark plug provided with a shell having an exterior retaining flange at its terminal, and a firing cap forming with the said shell a spark gap, the said cap having a deflecting flange at the said gap.

957,713. Circuit Closer or Timer. William J. Rapp, Detroit, Mich., assignor to H. H. Creighton and Alexander Arnold, Toledo, Ohio. Filed Jan. 27, 1908. Serial No. 412,726.

1. An electrical instrument for the purpose described comprising a battery, an induction coil, a cylinder of insulating material, triple circular circumferentially arranged rows of insulated electrical contact devices carried within the cylinder and extending therethrough, a shaft rotatable within the cylinder provided with plural correspondingly arranged electrical contact devices to form electrical connection with the two outer rows of contact devices of the cylinder, and with an intermediate electrical contact device in electrical circuit with the shaft, and with the intermediate row of the contact devices of the cylinder, the contact device in circuit with the shaft arranged to be in electrical circuit with the battery through the shaft, and to be connected with leads to the coil, one of the outer rows of the contact devices of the cylinder arranged to be in electrical circuit with the coil, and the other outer row of contact devices of the cylinder arranged to be in electrical contact with independent spark plug leads, the contact device in circuit with the spark plug leads being insulated from said shaft.

957,727. Speedometer. Dillwyn M. Bell, Oak Park, Ill., assignor to William J. Anderson and George F. Lewis, Chicago, Ill. Filed Nov. 1, 1909. Serial No. 525,613.

1. In a device for indicating the speed of rotation of a wheel or other rotating object, the combination with a rotary magnet, of means whereby said magnet is driven from said rotating object, a magnet armature rotatably mounted in the field of said magnet and driven thereby, means whereby said armature is prevented from exceeding a predetermined speed, indicating means, variable speed mechanism driven at a speed proportionate to the speed of said rotating object, and means responsive to the resultant action of said armature and said

variable speed mechanism for actuating said indicating means.

• 957,731. Carburetter. Francis W. Brady, New York, N. Y. Filed Sept. 19, 1907. Serial No. 393,714.

1. A carburetter comprising a carburetter chamber and a vaporizing member rotatably mounted therein, said chamber having an air inlet port above the vaporizing member, in combination with means for feeding a stream of oil on the upper surface of the vaporizing member, and mechanism for rotating said member to spread the oil thereon in a thin film, whereby the air is caused to pass directly across the film of oil on the vaporizing surface; substantially as described.

958,023. Incased Universal Joint. Clarence W. Spicer, Plainfield, N. J. Filed Jan. 17, 1907. Serial No. 352,785.

1. The combination with an incased universal joint structure, comprising driving and driven members, means connecting said members for the transmission of the motion from one to another, and a casing inclosing said driving and driven members, having an opening through which one of said members projects, such opening substantially closed by the member so projecting therethrough, of a cover for said opening outside of said casing but coacting therewith, and mounted upon the member so projecting through said opening.

958,025. Liquid Fuel Tank. Joseph A. Steinmetz, Philadelphia, Pa. Filed Oct. 16, 1909. Serial No. 522,928.

1. A tank containing a partition forming two compartments, valve mechanism disposed near the bottom of said partition for controlling communication therethrough between said compartments, an outlet for discharging from the bottom of one of said compartments and an inlet through the top of said tank over said partition for charging both of said compartments simultaneously.

958,053. Tire Protector. John Wilmes, Maquoketa, Iowa. Filed Sept. 20, 1909. Serial No. 518,588.

A protecting device for tires comprising a series of concaved segmental plates having longitudinal flanges at the edges thereof which are apertured, the outer surface of each of said plates having a centrally disposed rib with recesses therein, sockets formed upon the outer surface of each plate adjacent to its end, lugs upon the adjacent end of the plate and projecting beyond its end, said sockets of one plate adapted to receive the lug upon an adjacent plate, bail-shaped wires engaging the recesses in said rib and passing through the apertures in said flanges and having eyes at their ends, a cable passing through said eyes and adapted to hold the plate together and over a tire, as shown and described.

958,128. Carburetter. Albert Howarth, Providence, R. I., assignor, by mesne assignments, to Star Carburetor and Supply Company, Providence, R. I., a Corporation of Rhode Island. Filed Sept. 28, 1908. Serial No. 455,194.

1. In a carburetter for an engine, the combination of a carburetter case; a shaft mounted transversely in the case and capable of oscillatory movement; means for oscillating said shaft at will to limited extents; a fixed air inlet tube opening into the carburetter case and extending from said case in an axial direction, which air inlet tube has ports through the sides thereof.

located and arranged to deliver atmospheric air into the carburetter case; an outlet pipe communicating with the interior of the carburetter case and extending therefrom to the engine; a gasoline-supply pipe extending in the axial line of the carburetter case and of the air inlet tube and discharging into the air inlet tube; a tubular valve fitting slidably in the air inlet tube and adapted alternately to cover or uncover the ports of said tube and having at its top a disk provided with a central aperture for the passage therethrough of said gasoline-supply tube, which disk has the same diameter as the tubular body of the valve and is adapted to be moved with said valve by the suction of the engine, said tubular body being provided with side openings adjacent to but beneath the disk, which openings are covered by the air inlet tube when the tubular body of said valve is wholly contained in the air inlet tube in contact therewith, but are open to the interior of the carburetter case when the valve has been moved up beyond the top of the air inlet tube by the suction of the engine; and a curved arm mounted fast at its inner end on the shaft and in contact at its outer end with the disk and adapted to move the tubular body of the valve into the air inlet tube and also to limit the extent of the upward movement of the tubular body of the valve when said valve is subjected to the suction of the engine.

958,132. Fender for Automobiles. Robert Jardine, Cleveland, Ohio. Filed Nov. 7, 1906. Serial No. 342,315.

1. A fender for a vehicle wheel comprising a cylindrical section disposed to conform with the periphery of such wheel and disposed to cover the upper portion of the same, a section continuous with the inner edge of said first-named section and disposed to inclose the inner side of such wheel portion, and a flange or rib along the forward and outer edge on the underside of said first-named section, said section being so disposed and with width of said rib being so gaged as to place the latter without the periphery of the wheel altogether.

958,147. Friction Clutch. Karl Matthias, Dessau, Germany. Filed Oct. 6, 1909. Serial No. 521,410.

1. A friction clutch, comprising two clutch halves, a pair of closed rings between the same, elastic means between said rings and one of said clutch halves, said ring and elastic means rendering the clutch halves capable of yielding tangentially, axially and perpendicularly relative to one another, and mechanism for bringing the said rings into and out of frictional engagement with the other clutch half.

958,183. Automobile Covering. Albin Schreiber and Otto Meister, Untermhaus, near Gera, Germany. Filed May 5, 1909. Serial No. 494,061.

An automobile hood, comprising a main hoop, an articulated outrigger hoop pivoted thereto and having stop-hinges intermediate its inner and outer members, a covering secured at its front end to the top of the outer member, braces connecting said outer member with the main hoop, and an auxiliary hoop pivoted to said braces intermediate the outrigger hoop and main hoop and supporting the covering back of the outrigger hoop.

958,212. Transmission Apparatus. Jacob A. Baab, New York, N. Y., assignor of one-half to Daniel Rohrer, New York, N. Y. Filed Aug. 28, 1908. Serial No. 450,706.

1. An apparatus of the kind described, comprising a pump, a primary motor operating the pump, a secondary motor detachably coupled on its driving shaft or axle, and a system of circulation pipes connecting the secondary motor and the pump.

958,242. Automobile Transmission Gear-ing. Walter C. Falk, Bluffton, Ind. Filed Feb. 3, 1910. Serial No. 541,741.

1. In a motor vehicle, the combination of a main frame, an engine mounted upon the main frame, an axle journaled upon the main frame, means for transmitting power from the engine to the axle, a casing carried by the main frame adjacent each end of the axle, a vertical shaft loosely mounted upon each of the said casings, the said vertical shafts being provided with horizontally disposed bearings, a yoke fitted to each of the vertical shafts so as to rotate therewith and formed with a bearing arranged in alinement with the bearing of the said vertical shaft, stub axles journaled within the bearings of the yokes and vertical shafts, wheels rigid with the stub axles, means for transmitting motion from the before mentioned axle to the stub axles, and means for turning the vertical shafts to swing the wheels about a vertical axis.

958,350. Vehicle Wheel. Con D. Anderson, Lima, Ohio. Filed March 30, 1906. Serial No. 308,859.

1. In a device as described, an axle, a wheel having a ball-and-socket connection therewith, and a member consisting of four arms integrally formed thereon supported on said axle and engaging said wheel at diametrically opposite points, two of said arms being slotted to permit it to be moved with respect to said axle in a horizontal plane, substantially as specified.

958,445. Starting Device for Vapor Apparatus. Percy H. Thomas, East Orange, N. J., assignor to Cooper Hewitt Electric Company, New York, N. Y., a Corporation of New York. Filed May 9, 1904. Serial No. 207,014.

1. The method of starting a vapor electric apparatus comprising a hermetically sealed and completely exhausted container, an anode and a vaporizable reconstructing cathode therein, which consists in overcoming the negative electrode starting reluctance separately from the vapor path starting resistance, storing energy externally and utilizing a portion of this stored energy to overcome the vapor starting resistance through the partial interposition of negative electrode starting reluctance within the apparatus.

958,476. Carburetter. George E. Cook, New York, N. Y., assignor of one-half to Philip Schlosser, New York, N. Y. Filed June 18, 1909. Serial No. 439,107.

1. A carburetter having a plurality of mixing chambers, each having an air inlet and a spray nozzle, an auxiliary air inlet for one only of said mixing chambers, means for automatically controlling said auxiliary air inlet, and a throttle valve for controlling said mixing chambers, said throttle valve when in its closed position, permitting a limited flow through one of said chambers and serving to bring all of said chambers into operation and simultaneously varying the flow through all of them upon an opening movement.

958,501. Motor Vehicle. Frank H. Johnson, Faribault, Minn. Filed March 11, 1909. Serial No. 482,753.

A motor vehicle comprising upper and lower main frame members, a front transverse frame, of open form, interposed between and pivoted to said frame members, a shaft journaled in the end portions of said transverse frame, ground wheels on said shaft, a sprocket gear surrounding the shaft, a universal joint interposed between the shaft and said gear, a sprocket belt extending around said gear and rearwardly from the same.

958,909. Vibrator for Induction Coils. Burton L. Lawton, Meriden, Conn., assignor to The Connecticut Telephone & Electric Company, Incorporated, Meriden, Conn., a Corporation of Connecticut. Filed Nov. 25, 1908. Serial No. 464,372.

1. In a vibrator for induction coils, a vibrator element having a fixed contact point, a bridge having a flexible arch, said bridge being mounted at opposite sides of said vibrator element but independent thereof and overstanding the same, a contact point fixedly carried by the arch of said bridge and overstanding the contact point on the vibrator and an adjusting mechanism above the arch of said bridge for adjusting the contact point carried thereby toward and from the vibrator contact point.

958,510. Shock Absorber for Vehicles. Thomas Lea, New Brunswick, N. J. Filed Dec. 8, 1909. Serial No. 531,966.

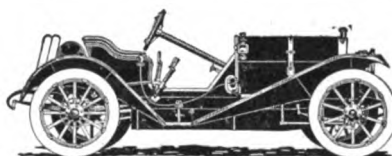
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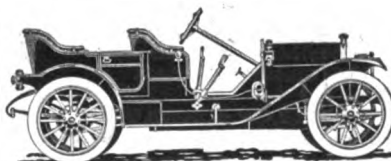
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prising a pivot bolt, two plates having loosely engaging hubs mounted on the pivot bolt and providing a casing; one plate being formed with an offset, a ratchet wheel mounted on the hubs between the plates, a lever secured to one plate, a lever secured to the other plate and the ratchet wheel, a pawl ring carrying spring pawls and surrounding the ratchet wheel, a friction ring located between the casing and the pawl ring and having ears projecting into the offset, and a screw bolt working through the offset and bearing against an ear of the friction ring for controlling the frictional contact between the pawl ring and the friction ring.

958,544. Spring Arrangement for Vehicles. Julius Rosemeyer, Berlin, Germany. Filed Oct. 23, 1908. Serial No. 459,196.

1. A spring for vehicles comprising an upper and a lower leaf spring, said springs being independent of each other, a vertical two armed lever pivoted to the vehicle body, and means for securing one of the ends of each spring to said two-armed lever, substantially as described.

958,908. Timer and Distributer. Charles Cuno, Meriden, Conn., assignor to The Connecticut Telephone & Electric Company, Incorporated, Meriden, Conn., a Corporation of Connecticut. Filed Dec. 21, 1907. Serial No. 407,515.

1. In a timer and distributor, a shaft, a case having a bearing thereon, timer segments and distributor segments carried by said case, a timer contact and distributor arm carried by said shaft, means for insulating said sets of segments from each other, a cover for said case, secondary terminals carried by but insulated from said cover, said terminals making operative connection with said distributor segments.

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## DEALERS' TIRE MARGINS TRIMMED

**Unexpected Form for the Expected Rise in Tire Prices—Kasner Asks the Federal Government to Interfere.**

Predictions relating to further increases in tire prices on July 1, which have been causing dealers and tire branches to be swamped with messenger, mail, telephone, telegraph and personal visit orders from owners during the past 10 days, appear to have actual justification in what looks like a general raise of about 20 per cent. on the part of the principal tire makers. By far the most portentous feature of the increase is the fact that it signifies, in many instances, a reduction of the dealers' discount or margin, and carries into effect the frequent threat that since retailers who handle tires are accepting less profit than that provided for them by the old discounts, the discounts will be made to approximate the margin they do business on when they cut prices.

On some lines the new discount figures are said to provide for only 9 per cent. for small dealers and 14 per cent. for large quantity buyers. This permits the manufacturers to get more for their tires without greatly advancing the list prices to owners. In fact, it is suggested that they are killing two birds with one stone, in being able to claim that they are as considerate of the owner as possible, by only boosting list prices a little, and in readjusting the trade discounts.

Naturally enough, the raise is ascribed to the continued high price of rubber, and to the further fact that the tire makers are "holding off" and refusing to buy rubber at present, rather than go into the market and raise prices on the crude material still further by heavy purchases.

One of the new phases to the tire "situation" is an effort of A. H. Kasner, of New York City, a Chambers street dealer in low price tires, to interest the Depart-

ment of Justice in Washington, in a prosecution of what he describes as a conspiracy of the tire companies in "blacklisting" himself and other dealers, refusing to sell them tires. He claims that the tire companies act together in maintaining a "blacklist," whereby a dealer is prevented from buying tires from any of the companies in the agreement if he has a dispute with one of them. He has asked, therefore, that the Federal Government interfere.

### Jewel Encounters Financial Stringency.

Receivers have been appointed for the Jewel Carriage Co., of Cincinnati, O., on application of Albert E. Schaefer, a stockholder. It is claimed that the company, which makes the Ohio car and controls the Ohio Motor Car Co., is embarrassed because of delay in receiving raw materials and that various creditors are pressing it rather hard. The assets are stated to exceed the liabilities by as much as \$200,000. Judge Cushing on the 24th inst. named Charles F. Pratt and O. M. Bake as receivers, Pratt being president of the concern and Bake a stockholder.

### Mathews Family Buys All of Jackson.

George A. Mathews, the active head of the Jackson Automobile Co., of Jackson, Mich., has purchased the entire interest of Charles Lewis, the company's president, and of F. L. Holmes, making Mathews and his three sons the sole owners, although Holmes will remain with the company. In resigning the presidency and retiring from the company, Lewis has bought the Mathews' interests in the Clark Motor Co. and in the Lewis Spring and Axle Co. Lewis sailed this week for a European trip, accompanied by his family.

### Welch Acquired by General Motors.

Although the Welch Motor Car Co., of Pontiac, Mich., has figured as a General Motors "constituent" for the past year, the sale of the plant to the "merger" was announced only this week. Formal transfer is indicated as having taken place on Monday, 27th inst.

## BANKERS' BOYCOTT A BOOMERANG

**Attempt of Country Bankers to "Do Up" Automobile Dealers Brings Penalty—Causes Withdrawal of Deposits.**

In trying to put a damper on the enthusiasm for automobile buying in the western states, bankers in Kansas City, St. Louis, Chicago and the smaller towns have thrown what now appears to be a boomerang and which is giving them a scare that is calculated to make them extremely cautious in the future about attempting to prevent farmers and others from buying motor cars or anything else that they like. Their effort to prevent the flow of money toward automobiles has resulted in their being "hoist with their own petard" and in the bringing about of a condition that they by no means anticipated.

It has been apparent for some time that a number of western and southwestern bankers have united in taking steps to discourage their customers from buying motor cars, the reason being that the bankers resent the heavy movement of money out of their coffers to those of the automobile agents and manufacturers. But it transpires that their campaign, instead of reducing the outgo of cash from their vaults, has brought about a rush of cash withdrawals that is alarming.

The situation is indicated as amounting to a panic under the surface, becoming quite acute during the last few weeks. This condition is expected to be manifest in actual figures in the next statement of reserve banks in St. Louis, Chicago and Kansas City, in the way of greatly reduced country deposits. According to a Kansas City banker, it is largely the result of the attempt of the country bankers to "do up" the automobile dealers, and the bankers would seem to have come out "second best."

Following resolutions which various groups of the country bankers adopted at gatherings called for the purpose, a num-

ber of the banks began not only to refuse loans to motor car dealers but to dissuade farmers from buying machines, when they came to draw their money for the purpose. Those who wanted loans to buy cars were refused on the plea that money was tight. The banks were so highly successful in creating an uneasy feeling that farmers and small merchants, taking the scare quite seriously, began to withdraw their deposits, as being safer at home than in the banks. The effect has been to punish the banks severely for their interference, as is made evident by the statement that one Kansas City bank has had a sudden slump of over \$2,000,000 in its country bank deposits, a proof of the depletion of cash that the small banks are suffering in consequence of their "automobile boycott."

The attitude of the bankers is that too much money is being spent for automobiles, their statisticians having prepared figures to show that in Kansas alone over \$32,000,000 has been invested in machines during the last twelve months, while Graham G. Lacey, a banker of St. Joseph, Mo., as the result of inquiries to a list of 600 small banks in Kansas, Nebraska, Missouri and Iowa, is quoted as saying that he has obtained figures from 427 of them, showing a total of more than \$15,000,000 recently withdrawn for automobile purchase.

#### **Ford to Have Eastern Assembling Plant.**

The erection of an eastern assembling plant and storehouse for the Ford Motor Co., of Detroit, Mich., on the property in Long Island City which the company recently bought from the Long Island Railroad, is provided for in building plans which the Ford company has filed with the building bureau of the Borough of Queens, New York City. The site is at Jackson avenue and Hunnewell street, adjoining the big Sunnyside freight yards of the Pennsylvania railroad, across the East River from Manhattan. The plans call for a building of brick and steel construction, 225x70 feet, three stories high, and to cost \$80,000. Work is to be commenced within two weeks.

#### **Chicago Show Blanks in Preparation.**

Application blanks for the 1911 Chicago automobile show are being promised for circulation about the first of September by Manager S. A. Miles, of the National Association of Automobile Manufacturers, 7 East 42nd street, New York City. It is indicated that so far as the manufacturers of pleasure vehicles are concerned there will be no important change over the old plans for shows at Chicago. The show will, as heretofore, be open to all manufacturers, subject to the rule which gives members of the N. A. A. M. the first choice of space. Commercial vehicles will be given the right of way during the second week, but an effort will be made to provide space for any manufacturer of pleasure cars who may be

unable to exhibit during the first week. The old rule, which prevents the admission to the Chicago show of any manufacturer who participates in any unsanctioned show, will continue in force. The first week's show will open January 26 and close February 4. The second week will commence February 6 and end February 11.

#### **New York Has not Ordered Fire Engines.**

Despite the widely published news announcing the letting of contracts and giving of orders for automobile fire engines to be used in New York City, the local fire department is no nearer to having an automobile fire equipment than previously was the case. When a Motor World man called at fire headquarters, 157 East 67th street, Commissioner Waldo was out of town, but Chief Edward F. Croker stated that not only had no contracts been let or machine or machines been ordered, but that the whole thing as yet was nothing but talk. He said that although the matter of equipping New York City with automobile engines had been discussed frequently of late, it was by no means definitely settled. Beyond making this statement, the chief, in the absence of the commissioner, declined to commit himself in any way.

#### **American Makers in Canadian Association.**

Manufacturers of automobiles in Canada, including the branch factories established by American companies, have organized as a department or branch of the Canadian Manufacturers' Association, for the promotion of the automobile industry in Canada and for common cause in matters arising in connection therewith. The present members of the motor car branch are: Ford Motor Car Co., of Canada, Walkerville; Dominion Motors Co., Ltd., Walkerville; Regal Motor Car Co. of Canada, Walkerville, and the Kennedy Motor Car Co., of Preston. The executive committee consists of T. A. Russell, R. S. McLaughlin, R. B. Hamilton, Fred Sager and Hugh T. Tudhope.

#### **Body Plant for E-M-F. in Pontiac.**

The E-M-F. Co., of Detroit, Mich., has acquired a five acres tract of land in Pontiac, Mich., for another body factory. The site fronts on Grove, Baldwin and Howard streets, and adjoins that of the Monroe Mfg. Co., a body building concern in which the E-M-F. company has the controlling interest.

#### **Disagreement Leads to Receivership.**

A receiver has been appointed for the assets of Barthel, Daly & Miller, of New York City, importers of ball bearings, in a suit for a dissolution of the partnership brought by Christial Barthel and Edward F. Daly against Albert R. Miller. The litigation is the result of a disagreement among the partners. Judge Page, in the New York Supreme Court, appointed George

W. Mills, Jr., as receiver. The liabilities are said to be \$47,000 and the assets \$65,150. Although a dispute has arisen as to whether or not the firm retains the agency for Schafer ball bearings, of which it has been the importer, the receiver states that for the present the business will be conducted on its usual lines and that all contracts for Schafer bearings will be carried out without interruption.

#### **Palace Show Promoter Incorporates.**

The promoters of an "independent" or unlicensed show at Grand Central Palace, New York City, appear to have formed a corporation for the purposes of their project. Its incorporation under New York laws is under the name of the American Motor Car Manufacturers' Exhibit Co., a name which is calculated to sound very like that of the American Motor Car Manufacturers' Association, which in the past has been responsible for the Grand Central Palace shows, but which passed out of existence last February after nearly all of its members had taken out Selden licenses from the Association of Licensed Automobile Manufacturers. The directors include George C. LeComte, Fred C. Claessens and William A. Dunne, of Troy, N. Y. Last April it was announced by C. C. Conant, the active worker in the show enterprise, that the exhibition would be conducted by the Journal Co., of Troy, which publishes a carriage trade paper.

#### **Gramm Launches Texas \$1 Truck Project.**

B. A. Gramm, of the Gramm-Logan Motor Car Co., Bowling Green, O., and Z. Z. Brandon, of Toledo, are the moving spirits in a new motor truck company which is to be established in San Antonio, Tex., and which is to be known as the Commercial Motor Car Co. It is to be capitalized at \$100,000, with shares at \$1 each. A factory site has been secured on Nueva street, west of Flores street. The slate of officers is as follows: Z. Z. Brandon, president; B. A. Gramm, first vice-president; L. E. Lamb, of Bowling Green, O., second vice-president; F. J. Brandon, Toledo, O., secretary and treasurer; James L. Glass, of San Antonio, assistant secretary; L. J. and C. J. Le Comte, general sales managers.

#### **Kelsey Shows First Spartan Car.**

C. W. Kelsey, who organized the C. W. Kelsey Mfg. Co. in Hartford, Conn., for the manufacture of the Spartan car, is showing the first of the company's product. It is a four cylinder 30 horsepower model for \$1,000, equipped with a torpedo or "vestibule" body. The cylinders are 3 $\frac{3}{8}$ x4, cast in pairs, with valves on opposite sides of the head. The design provides for three point suspension of the motor and gear box unit. C. H. Kuhn, who, like Kelsey, previously was in the Maxwell-Briscoe organization, has joined him in the enterprise in an engineering capacity.

**ENGINEERS HAVE A FULL PROGRAM**

**Summer Meeting at Detroit Promises Good Entertainment for the Visitors—To Inspect Representative Factories.**

Designed to prove the "largest and most interesting meeting of the organization," the summer meeting of the Society of Automobile Engineers, which is to be held in Detroit, Mich., on July 28, 29 and 30, will be marked by an unusually comprehensive program. Visits to some eight or nine of the representative Detroit car and accessories plants have been planned, and in addition to the regular Society deliberations there will be a number of entertainment features.

The program for the sessions of the convention is as follows:

Thursday, July 28.—Morning—Business session. Afternoon—Reading and discussion of professional papers. Evening—Society dinner; reading and discussion of professional papers.

Friday, July 29.—Morning—Visits to manufacturing plants. Afternoon—Lunch on yacht; reading and discussion of professional papers. Evening—Visit to Light House Inn, participated in by ladies accompanying husbands attending convention.

Saturday, July 30.—Morning—Reading and discussion of professional papers.

Afternoon—Visit to New Michigan Central railroad tunnel.

The local Detroit committee for the meeting consists of Howard E. Coffin (ex-officio), H. W. Alden as chairman, George W. Dunham, Russell Huff, H. M. Leland, F. E. Watts, E. T. Birdsall, A. P. Brush, F. H. Floyd, G. M. Holley and G. E. Merryweather. The proposed list of Detroit factories to be visited includes Ghalmers, E-M-F., Packard, Cadillac, Timken-Detroit, Burroughs Adding Machine, Aluminum Castings, Gear Grinding and Detroit Steel Products.

**Salvador Amends Motor Car Duties.**

By a recent decision of the Treasury Department of Salvador, automobiles, both new and second-hand, are to be subject to a duty of 10 centavos per kilo, beginning with the first of July. This amounts, roughly, to 1.7 cents per pound. The method of collecting duty in Salvador is peculiar. Only 83 per cent. of the duty specified in the tariff is collected, of which 37 per cent. is payable in gold and the remaining 46 per cent. in silver. To this must be added a surtax of 6 pesos gold per 100 kilos, or about \$2.25 for every 220 pounds, and 30 per cent. of the aggregate amount of duty.

**Detroit Boat Makers Turn to Cars.**

For the purpose of manufacturing cars of a model to sell for \$1,000, Hugo Scherer and F. E. Wadsworth, president and secretary of the Michigan Steel Boat Works, of Detroit, Mich., have purchased a site at

Jefferson and Bellevue avenues, and are breaking ground for a three-story plant, 191 feet front, with wings 228 feet deep. The contracts call for the completion of the work in 90 days.

**Mechanical Experts Visit Rambler.**

Thinking to take a leaf or two from the book of the automobile makers, the Superintendent's and Foreman's Club, of Chicago, Ill., an organization of 85 managers of the greatest mechanical plants in the Middle West, recently visited the factory of Thomas B. Jeffery & Co., at Kenosha, Wis., to study the Rambler system of advanced physical and chemical tests. A special study was made of the methods in standardizing and making interchangeable the Rambler parts, and of the processes for treating and hardening metals, and considerable time was spent in the Rambler laboratory where so much labor is expended over uniform horsepower formula, chemical tests of materials and torsion tests of all parts that are subject to strains.

**Pope Gets an Export "Drawback."**

The Treasury Department, at Washington, D. C., has extended the "drawback" allowance on exported automobiles to cover the cars made by the Pope Mfg. Co., of Hartford, Conn. The allowance applies to the import duties on the Bosch magnetos and coils that are used.

**South Dakota Loses Its Spark Plug.**

The Ball Multi-Spark Plug Co., which has had its factory and headquarters in Aberdeen, S. D., has moved to Minneapolis, Minn. Offices and a factory have been taken at 917 Hennepin avenue, where Ball Multi-Spark plugs will be made and distributed.

**Denver Gas-Electric Gets Indiana Plant.**

The Universal Motor Co., which evolved a gasoline-electric truck in Denver Col., has received sufficient inducements from Newcastle, Ind., to establish its factory in the latter place. It has purchased the buildings and property of the Safety Shredder Co.

**Reynolds Moves Top Plant to Omaha.**

The E. W. Reynolds Mfg. Co., making automobile tops, has moved to Omaha, Neb., from Kansas City, Mo. The Omaha factory, which just has been completed for the company, is at 710-712 South 15th street.

**Dorian Rims to be Made in Brooklyn.**

The Dorian Remountable Rim Co., of New York City, making the Dorian remountable rim, has taken factory space in the Bush Terminal buildings in Brooklyn.

**Pope's First Dividend on Common.**

The Pope Mfg. Co., Hartford, Conn., has declared an additional dividend of 2½ per cent. on its common stock, payable June 30.

**PROGRESS TOWARD SELDEN DECREE**

**Licensed Meeting Brings Announcement of Date for Really Final Hearing—Makers Review Trade Conditions.**

Definite progress in the obtaining of the decree in the famous Selden cases against Ford and Panhard, in the United States Circuit Court for the Southern District of New York was reported at the meeting of the Association of Licensed Automobile Manufacturers in New York City on Tuesday, 28th inst. It developed that the final hearing on the interlocutory decree before Judge Hough has been fixed for the morning of July 19. The testimony on both sides in the supplemental bills and answers has been closed, and now awaits only the hearing of the application for the entry of the decree, the decision favorable to the Licensed interests having been rendered last September.

The meeting largely was given over to a discussion of trade conditions. According to an official announcement of the proceedings, it was shown that there is a continuance of the healthy demand for motor cars, and that a particularly strong demand for commercial vehicles is being felt.

"Reports and figures of the manufacturers," it is stated, "indicated very clearly the reason why bankers and railroad men have been decrying the buying and using of automobiles, as many people are buying motor cars now instead of putting their money into Wall Street with its usual uncertainty."

In addition to a meeting of the executive committee on Tuesday, there also was a meeting of the directors of the Association Patents Co., the patent division of the Licensed Association. Alfred Reeves, the general manager of the A. L. A. M., was elected secretary and treasurer of the Patents company, in the place of Coker F. Clarkson, who resigned recently upon becoming secretary of the Society of Automobile Engineers.

**Garage Equipment Building New Factory.**

The Garage Equipment Co., of Milwaukee, Wis., which manufactures an extensive line of motor car accessories, has purchased a site at South Pierce street and Eleventh avenue, on which a \$40,000 factory now is in process of erection. The plant is to be completed on or about the first of August.

**Detroiters Form Shock Absorber Company.**

Frank B. Hibbler and Maximilian K. Golden, of Detroit, Mich., have formed the Detroit Shock Absorber Co., to manufacture shock absorbing devices. The concern is capitalized at \$5,000, which sum later will be increased.



**The Week's Incorporations.**

Detroit, Mich.—Detroit Shock Absorber Co., under Michigan laws, with \$50,000 capital.

Detroit, Mich.—Hale Motor & Machine Co., under Michigan laws, with \$125,000 capital.

Milwaukee, Wis.—Door County Automobile Association, at Sturgeon Bay; no capital. Corporators—Joseph Wolter and seven others.

Fort Plain, N. Y.—H. B. Gray Co., under New York laws, with \$5,000 capital; to conduct automobile garage. Corporators—H. B. Gray, H. G. Gray, John C. Jackson.

Yonkers, N. Y.—Yonkers Garage Co., under New York laws, with \$3,000 capital; to maintain garages, etc. Corporators—H. R. Kimball, M. L. Weiss, W. Fairchild.

Utica, N. Y.—Gunn Motor Co., under New York laws, with \$300,000 capital; to manufacture and deal in motors, engines, etc. Corporators—J. K. Gunn, W. T. Baker, W. I. Taber.

St. Louis, Mo.—Percival Auto Repair Co., under Missouri laws, with \$20,000 capital; to conduct general garage business. Corporators—Geo. F. Percival, I. W. Percival, Houston Jones.

Birmingham, Ala.—Birmingham Motor Co., under Alabama laws, with \$5,000 capital; to deal in automobiles and automobile supplies. Corporators—Leo Loeb, J. H. Loveman, M. L. Lenk.

Chicago, Ill.—Monsen Auto Garage Co., under Illinois laws, with \$10,000 capital; to manufacture and deal in engines, vehicles, machinery, etc. Corporators—W. Brown, W. S. Hay, J. M. Wright.

New York City, N. Y.—North Side Coach and Auto Co., under New York laws, with \$150,000 capital; to maintain and operate an automobile livery stable. Corporators—J. J. Fox, W. J. Boyd, F. A. Orpp.

Cleveland, Ohio—Perfect Tire Co., under Ohio laws, with \$50,000 capital; to manufacture automobile tires. Corporators—M. J. Kirby, W. H. Enyon, W. C. Enyon, W. A. Moyer, F. L. Smith, J. Hopple.

New York City, N. Y.—American Stepney Co., under New York laws, with \$100,000 capital; to manufacture and deal in rims and wheels of all kinds. Corporators—L. W. Lissberger, J. Jacobs, W. H. Moser.

Camden, N. J.—Auto Motion Picture Co., under New Jersey laws, with \$100,000 capital; to manufacture automobiles and moving picture machines. Corporators—V. A. Murray, H. G. Elliott, J. R. Bradley.

Chicago, Ill.—Inland Motor Parts Co., under Illinois laws, with \$2,500 capital; to manufacture and deal in motors, motor vehicles, and accessories. Corporators—H. C. Carter, F. M. Lindgren, C. A. Garner.

Cleveland, Ohio—Auto Body and Top Co., under Ohio laws, with \$25,000 capital; to manufacture automobile tops. Corpo-

rators—G. W. Patterson, E. P. Dowling, C. C. Warden, G. F. Mallaby, S. S. Hammer.

Kenosha, Wis.—Thomas B. Jeffery Co., under Wisconsin laws, with \$3,000,000 capital; to take over the business of Thomas B. Jeffery & Co. Corporators—Kate E. Jeffery, Charles T. Jeffery, Harold W. Jeffery.

Selmer, Tenn.—Selmer-Savannah Auto Hack Line, under Tennessee laws, with \$10,000 capital, to do general livery and sales business in automobiles. Corporators—S. W. Gooch, H. P. Wood, C. C. Wright.

New York City, N. Y.—Peoples' Taxicab Co., under New York laws, with \$200,000 capital; to deal in, manufacture and operate motor cars and taxicabs. Corporators—J. M. Whitteman, E. I. Merry, T. H. Wilson, all of New York.

**Increases of Capital.**

Milwaukee, Wis.—Kamlee Co. increases capital from \$500 to \$15,000.

Chicago, Ill.—Armac Motor Co. increases capital from \$50,000 to \$75,000.

Pontiac, Mich.—Cartercar Co. increases capital from \$350,000 to \$650,000.

Detroit, Mich.—Motor Appliance Co. increases capital from \$25,000 to \$50,000.

Cleveland, Ohio—Auto Valve & Mfg. Co. increases capital from \$10,000 to \$25,000.

Dayton, Ohio—Cooley Motor Car Co. increases capital from \$10,000 to \$25,000.

Jeannette, Pa.—Pennsylvania Rubber Co. increases capital from \$1,500,000 to \$2,000,000.

Detroit, Mich.—Northway Motor Mfg. Co. increases capital from \$250,000 to \$1,000,000.

**Ann Arbor to Aid Automobile Project.**

Ann Arbor, Mich., is lending what seems like a willing ear to a project by which the Huron Mfg. Co., of Constantine, Mich., is to move to Ann Arbor and take up the manufacture of "Ann Arbor" motor cars and "Fawn" magnetos. The Board of Commerce has promised its assistance, and plans for stock selling and factory building are being carried forward together.

**To Build Cars in Saskatchewan.**

Having secured the Canadian manufacturing rights for Brush and Overland cars, the interests back of the Brush Canadian and the Canadian Overland companies have completed arrangements for the erection of their new factory at Regina, Sask. The buildings are to be completed by October, and the output is expected to be ready for the market by next spring.

**Americans Planning a Show in Mexico.**

Efforts are being made for the giving of an automobile show in Mexico City, Mex., next September. The promoters, Harry Hamm and Wilbur Cook, two young Americans, plan to make it a three days' affair.

**Changes Among Prominent Tradesmen.**

Harry Sellig has resigned as superintendent of Croxton-Keeton Motor Car Co., of Massillon, O. His future plans are not announced.

V. M. Palmer, chief engineer of the Selden Motor Vehicle Co., Rochester, N. Y., has resigned that position to go with the Sheldon Axle Co., of Wilkes-Barre, Pa. He will be chief engineer of the latter company, which makes automobile axles and other parts.

G. P. Blackiston has joined the advertising forces of the Berger Mfg. Co., of Canton, O., manufacturers of sheet metal products for the automobile and other trades. He has had a wide experience in metal trades advertising, and will manage the Berger campaigns.

F. E. Stuyvesant, who at one time was the Cleveland sales manager for White Co., of Cleveland, O., has developed a car of his own, which is to be called the Stuyvesant. His project contemplates the manufacture of three models, including a large six, a small six and a four.

L. W. Rinear has been made advertising manager of the White Co., of Cleveland, O., succeeding R. H. Johnston, who now is manager of the company's New York branch. Rinear has been advertising manager of Halle Bros., a Cleveland dry goods house, for the past six years.

R. G. Kelsey, who has been prominent in metropolitan automobile racing, has been appointed general manager of the Carhartt Motor Vehicle Sales Co., which is to handle the Carhartt "35" in the East. The car is built by the Carhartt Automobile Corporation, of Detroit, Mich., at the head of which is Hamilton Carhartt, a wealthy textile and clothing manufacturer of Detroit.

**Saturday-Closing Movement in New York.**

Dealers and branch houses in New York City are confronted with the question of whether they shall close their showrooms on Saturdays during July and August. A committee has been appointed by President Budlong of the Licensed Automobile Dealers, to act with a committee of the New York Automobile Trade Association in the effort to secure an agreement for Saturday closing. Out of 60 dealers already canvassed 44 favor closing, 9 are doubtful and 3 are opposed.

**Doherty Goes to Pacific Coast.**

Harry W. Doherty, sales manager of the Car Makers Selling Co., Chicago, Ill., has gone to the Pacific Coast to establish a distributing company for De Tamble and Anhut pleasure cars and Dart delivery wagons, for all of which the Chicago company is the general distributor. The new company on the coast is to handle the states of California, Oregon, Washington, Idaho and Nevada, and will have branches in Los Angeles, San Francisco and Seattle.



## IN THE RETAIL WORLD.

J. F. Billings has opened a sales room on West Seventh street, St. Joseph, Mo. He will sell Pullman cars.

The Wilkesbarre Automobile Co. has opened a new garage in the rear of Saunders hotel, Wilkesbarre, Pa.

The Pier Auto Co. is the style of a garage which has "opened up" at Richland Center, Wis. Keith Pier is the manager-owner.

The W. L. Hibbard Motor Car Co., of Milwaukee, Wis., has been dissolved. Notice of the dissolution has been filed in the Milwaukee courts.

The E. J. Willis Co., of 8 Park place, New York City, is about to move into new quarters, at 85 Chambers street. The concern deals in accessories.

Under the style the Ranson-Norton Motor Car Co. a new concern has opened up in Wheeling, W. Va. Stearns, Pullman and White cars will be featured.

C. J. Edwards just has opened a new fireproof garage on East College avenue, Appleton, Wis. He will specialize in repair work, but will also deal in accessories.

Richard M. Shaffer is building a two-story brick garage at 408-410 North Calvert street, Baltimore, Md. The structure will be 31 x 110 feet, and will cost \$5,000.

G. C. Seidel has gone into the automobile business in Philadelphia. He is building a garage, one story high, 50 x 50 feet, on Broad street, near Logan station.

H. D. & L. D. Porter have opened a garage and salesroom at 370 Golden Gate avenue, San Francisco, Cal. They have obtained the agency for Rapid Motor trucks.

L. B. Austin and Jesse Strough, of Beatrice, Neb., have purchased the garage and business of the Beatrice Automobile Co. The new owners will re-open the business on July 1.

Caused by explosion of gasoline vapor, fire started in the garage of W. S. Crowe, Manistique, Mich. Before it could be checked, damage amounting to over \$1,600 had been caused.

H. V. Hoffman, formerly with Thos. B. Jeffery & Co., Kenosha, Wis., has purchased the motor repair department of the C. F. Megow Co., 1003 Madison avenue, South Milwaukee.

Long & Bloom, who until last week conducted an automobile garage and repair shop at Churubusco, Ind., have dissolved partnership, Bloom retiring. Long will continue the business.

Charles W. Larson, Waukesha, Wis., has opened a garage at 524 Main street, and will conduct it under the style the Auto Supply Co. Overland cars are to be his chief stock-in-trade.

C. and H. C. D. Ryan, Phillipstown, N. J., are building a garage at 513-523 West 24th street, New York City. The new structure

will be two stories in height, 150 x 88.9 feet, and will cost \$55,000.

The building on Main street, Marshall, Texas., occupied by E. L. Stanley as a garage, was destroyed by fire last week. The loss has been fixed at \$3,000, partly covered by insurance.

The F. S. Hoaglin Auto Co., Oshkosh, Wis., is erecting a new fireproof garage near the Hotel Athern. The building will be 58 x 150 feet, one story high, with brick walls and cement floor.

Barberton, Ohio, is to have a new automobile garage. George Cook is building it. Only repair work will be done in the new place, as Cook has a sales room where he is showing Mitchell cars.

W. Baldwin and P. W. Rindfleisch, Plainfield, Wis., have rented a brick building and are putting in a cement floor and otherwise transforming it into a garage. They will do business as Baldwin & Co.

The new garage built for Harry Woods & Sons, at 402 State street, Santa Barbara, Cal., has been opened for business. It is 50 x 80 feet, and has a wing 30 x 50 feet, which is used as a repair shop.

Under the style of the Jefferson Auto Supply Co., Wm. Wagner and Frank Lamach, both of Two Rivers, Wis., have opened an accessories supplies store in Jefferson, Wis. Repair work also will be done.

Within a week the Utah Motor Car Co. will be installed in its new quarters at 125-127 State street, Salt Lake City, Utah. Besides doing general garage work, the company will carry a complete line of accessories.

Cambridge, Wis., soon is to have an up-to-date garage and automobile sales room, where Ford, Oakland, Buick, Oldsmobile and White gasoline cars are to be shown. O. H. Hanson and Theodore Tellefson are the owners.

I. L. Bell, B. C. Whitaker and A. B. Whitaker, all of St. Louis, Mo., have formed the American Garage Co., and opened a garage and repair shop at 5875-81 Delmar avenue. Everitt "30" and Rambler cars will be shown.

Pending the completion of its own new building at 427 North Meridian street, Indianapolis, Ind., the Interstate Automobile Co. has removed from its quarters at 10th street and Ft. Wayne avenue to 1512-1514 North Alabama street.

Dallas, Tex., has added another garage and salesroom to the already long list of such concerns doing business in that city. The new comer is styled Davis-Turney Automobile Co., and represents the Stevens-Duryea and Everitt "30" cars.

A. M. Hawley, who for some time has been associated with J. W. Foy in the automobile repair business on West Colorado street, Pasadena, Cal., has bought out his partner's interests. He will continue the business along the former lines.

The Curtis Automobile Co., Milwaukee, Wis., has moved into its new quarters at 142-144 Eighth street, four doors from Grand avenue. The structure is two stories high, 50 x 150 feet, and will be the future home of the Reo, Corbin and Hupmobile.

"Spontaneous combustion" in a box of excelsior was responsible for a blaze in the garage of the Independent Messenger Co., at 37 Stillson street, Rochester, N. Y., on June 21st. Two automobile delivery wagons were burnt before the blaze could be extinguished.

Fred D. Luescher, a well-known theatrical manager and owner of playhouses, has retired from the theatrical field and gone into the automobile business in Rochester, N. Y. He has located at 745 Park avenue in the Kodak city, where he is handling Rambler cars.

What is said to be the best equipped garage in any town of its size will be opened on July 1, in Mulvane, Kan., by the Nessley Automobile Co. The building is two stories high, 50 x 100 feet, of brick and concrete, and will shelter Hudson, Chalmers and Reo cars.

Creditors of Charles W. Louk, of Omaha, Neb., have filed a petition for involuntary bankruptcy against him. The creditors are the City National Bank (\$11,500), Empire Tire Co. (\$1,319.12), and Charles W. Partridge (\$400). Frank N. Clarke has been appointed receiver, under a bond of \$5,000.

Carl W. Fort & Co., agents for Gramm trucks, and J. Wyckliffe Goldsmith, Speedwell agent, have joined forces and opened large display rooms and a garage at 247-249 Peachtree street, Atlanta, Ga. The new firm will operate under the style Fulton Auto Supply Co., and handle a complete line of accessories and supplies.

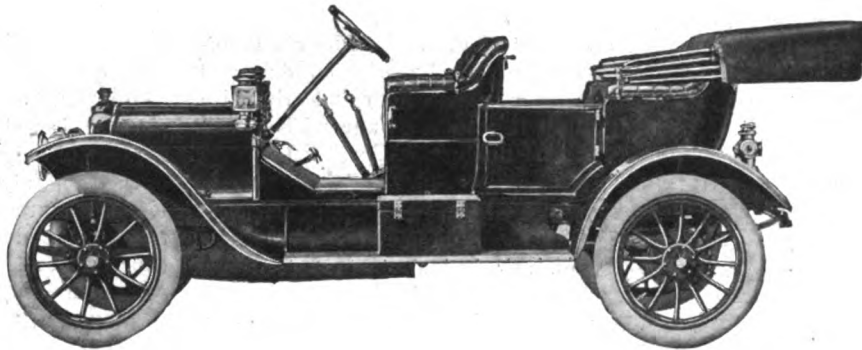
Hook & Pettebone, who conducted the Square Garage in the rear of the Globe store in Wilkesbarre, Pa., have dissolved partnership. Roy Hook is to manage the business in the future, while Stephen Pettebone is making arrangements to have a new garage erected on North Main street, where he will hang out his own shingle.

Boldly invading the home city of the Studebaker company, the Rauch & Lang Electric Co., of Cleveland, Ohio, has established a co-operating agreement with the Otis Motor Car Co., of South Bend, Ind., under which the latter company will act as distributor for the Rauch electric. C. J. Martin represents the interests of the R. & L. Co.

A short but extremely dangerous blaze occurred last week on the top floor of the four-story garage at 104 West 107th street, New York City, owned by George Shaw. One of the automobiles stored there suddenly burst into flame, while being varnished, and before the blaze could be controlled, damage amounting to over \$2,000 had been caused.

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## for 1911



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**QUALITY**—The only moderate sized car wherein every part is just as well built as in the highest-price, high-powered cars.

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#### Keeping Clear the Car's Exterior.

One point of marked difference in the appearance of most cars of recent construction and their predecessors of a year or two ago is in the freedom of the exterior of the newer products from needless encumbrances. The present tendency is to free the running boards of everything that possibly can be dispensed with. In the torpedo types of body construction, this results in leaving both sides of the car practically uniform and innocent of all dust-catching protruberances. Incidentally, it results in concentrating within the chassis line the relatively small, though by no means insignificant, weights which the running boards have been called upon to support in the past.

The tendency is a good one because it distributes the extraneous load at points where it better can be taken care of, and also because it affords better protection for the auxiliaries and supplies than otherwise

could be afforded them. One manufacturer now conceals his gas tank behind a tool box, another suspends it in the rear of the chassis, taking advantage in this way of the fact that he uses a gasoline tank under the front seat of the body; still another places the tank in front of the radiator, where it has the advantage that a very short length of piping is required in order to serve the headlights. One maker has carried out the principle to the extent of mounting the battery box under the tonneau floor in certain types of his product. In the torpedo types, of course, the same general purpose is served to good advantage by the mounting of spare tires on the rear of the tonneau.

While there is no very great objection to the lumbering up of the vehicle exterior with accessories and containers, still it is obvious that where it is possible to locate them somewhere else without inconvenience or great expense, it is better to do so for the sake of appearance as well as for other reasons already noted. The space under the tonneau floor on either side of the propeller shaft is available with many forms of chassis construction, as is a narrow space at each side of the chassis directly beneath the frame. The under side of the running board also may be used to good advantage in certain types of car. Without sacrificing luggage carrying capacity in the least, it would be possible to secure a much more economical stowage of tools, batteries, tires and tanks on many cars, and the result would effect a considerable improvement in outward appearance and convenience.

#### The Stock Car and the A. A. A. Rules.

The communication of Mr. H. E. Coffin, chairman of the rules committee of the Manufacturers' Contest Association, bearing on the stock car controversy, which is printed in another column, probably is the most enlightening contribution to the subject which yet has been made public. But we do not believe that it will serve to change the general opinion that a stock car or a stock chassis which has been so altered that it no longer is "identical in specification, materials and design" with the "cars offered for sale and sold in a bonafide manner to the public"—to quote the language of the rules—has ceased to be a stock car or a stock chassis. We do not believe that Mr. Coffin himself will be able to disagree

with this view, and it represents the chief point involved.

If it was the intention of the rules that the stock car, as such, should mean an "identical" car, save for tops, windshields and tires, the definition of a stock chassis is in serious conflict with Rule 4, which requires that stock chassis also shall be "identical in specification, materials and design."

Substantially every reason enumerated by Mr. Coffin for the options or alterations permitted embodies merit, but not one of them affects the main issue. If it is safe and proper to use a car equipped with a body it is just as safe or safer to use a car without a body even though the latter may be denominated "stripped stock chassis," provided only that it truly is identical with the other. The body does not constitute the car.

Every option permitted is a premium on the exercise of ingenuity to make the most of it, and that there are those who are doing that very thing and stretching the options to the snapping point is self-evident. And so long as such options—why not call them alterations?—are sanctioned so long will the practice continue and grow worse instead of better.

The Motor World's whole contention is that no options or alterations of any sort should be permitted under any circumstances or for any reason. If for the purposes of high speed, changes are desirable or necessary in a car or a chassis, then find a designation for it into which the word "stock" does not enter. Call them Class A or Class B or Class X racers, if need be. But whatever is done, let the stock car and the stock chassis be neither more nor less than what the term implies. Let them be "identical in specification, materials and design" with those offered for sale to the public, exactly as the rules state is the case and as the public is led to believe is the case. Let them be such cars as the manufacturer will be glad to sell in Maine or Texas, or however far removed from the factory.

We thoroughly appreciate that the new rules represent a vast amount of thought and effort, and, as we have said on a previous occasion, they constitute no small improvement on their predecessors; but they can be bettered, and the adoption for an inflexible stock car and stock chassis definition is one way of bettering them. It is generosity on Mr. Coffin's part to wish to

## COMING EVENTS

turn the responsibility from the American Automobile Association to the Manufacturers' Contest Association, but without prejudice or desire to offend, may we point out that the M. C. A. is wholly without standing in the world of sports and that anything it may do is without force or effect until it is adopted and promulgated by the A. A. A.? The A. A. A. is the governing body; it is the one which other governing bodies recognize and with which they deal and enter into and maintain alliances. It is wise that it should desire the expert technical assistance of such men as comprise the Manufacturers' Contest Association, but any rules that result are the rules of the A. A. A. and the responsibility rests there and nowhere else.

Sport and Business are such direct opposites that any close relation that may be created at best can be but temporary. Business ultimately returns to its knitting, leaving Sport to go it alone, at which time Sport usually sadly is in need of a tonic. That automobile sport is "thoroughly commercialized," a fact which Mr. Coffin seems to question, is best attested by the existence of the Manufacturers' Contest Association and by Mr. Coffin's own observation in connection with a purely sporting situation, i. e., that the particular position to which he refers "would be dictated by business common sense." It is a matter of history—it is a foregone conclusion that manufacturers do not long retain interest in sport. It is not a part of their business, however desirable or profitable it may prove for the time being.

### Selling Cars on the Highroad.

Reverting to the good old days when traveling salesmen in the employ of carriage houses used to start on their routes towing a string of buggies over the road and staying out until they were all sold, it has been predicted more than once that automobile selling of certain limited sorts ultimately would assume somewhat the same aspect of door to door canvassing. While the industry has not arrived exactly at the stage where this method has become either expedient or profitable, it is yet to be observed that selling forces gradually are coming to make greater use of the high roads in getting about from point to point. This defrauds the railroads of a certain amount of freight tolls, it is true, but it also saves time, is more convenient and direct, and is a perfectly logical thing.

June 14-30.—American Automobile Association's seventh annual national touring and reliability contest for the Glidden trophy, starting from Cincinnati and finishing at Chicago.

June 28-30, St. Louis, Mo.—St. Louis Manufacturers' and Dealers' Association's endurance run for "Star" trophy.

June 28-July 2, Denver, Col.—Denver "Post" 700 miles reliability run.

June 30, Winnipeg, Man.—Winnipeg Automobile Club's annual tour; 455 miles.

June 30, Lexington, Ky.—Bluegrass Motor Club's 160 miles sealed bonnet contest.

July 1, 2 and 4, Indianapolis, Ind.—Grand Circuit meeting on Motor Speedway.

July 2, Wildwood, N. J.—North Wildwood Automobile Club's roadability run from Philadelphia to Wildwood.

July 2, 3 and 4, Chicago, Ill.—Automobile races at Hawthorne track.

July 2-4, New York City—Touring Club of America's sociability-guessability run to Waterbury, Conn., and return; 200 miles.

July 4, Indianapolis, Ind.—Chicago Automobile Club's second annual race for the Cobe trophy on Motor Speedway.

July 4, Wildwood, N. J.—North Wildwood Automobile Club's annual beach race meet on Ocean Drive.

July 4, Cumberland, Md.—Cumberland Fair and Agricultural Association's automobile races at fair grounds.

July 4, Muskegon, Mich.—Gentlemen's Driving Club's automobile race meet at Driving Park.

July 4, Birmingham, Ala.—Birmingham Automobile Club's race meet at state fair grounds.

July 4, Denver, Col.—Denver Motor Club's 200 miles road race; postponed from May 30.

July 4, St. Paul, Minn.—Minnesota State Automobile Association's race meet.

July 4, Cheyenne, Wyo.—Cheyenne Motor Club's race meet on motordrome.

July 4, Auburn, N. Y.—Auburn Automobile Club's hill climb.

July 4, Dallas, Tex.—Dallas Automobile Club's race meet.

July 4, Bloomington, Ind.—Bloomington Automobile Club's reliability contest.

July 7-9, Buffalo, N. Y.—Buffalo Automobile Trade Association's race meet.

July 8-9, Louisville, Ky.—Track meet at Churchill Downs; Homer George, promoter.

July 9, Plainfield, N. J.—Plainfield Automobile Club's second annual hill climb on Johnston's Drive, Watchung mountain.

July 9, Morrison, Col.—Town of Morrison's hill climb on Mount Morrison.

July 10, Cincinnati, O.—Track meet at Latonia Park; W. H. Wellman, promoter.

July 11, Plainfield, N. J.—Plainfield Automobile Club's annual hill climb.

July 11-15, Aberdeen, Wash.—Aberdeen Automobile Club's races on Cohasset Beach.

July 12, Charleston, S. C.—Charleston Automobile Club's beach races at Isle of Palms.

July 13, Winnipeg, Man.—Winnipeg Automobile Club-Winnipeg Motor Trades Association joint racemeet.

July 14, Chicago, Ill.—Chicago Automobile Trade Association's Orphans' Day.

July 14, Newport, Ind.—Newport Motor Club's second annual hillclimb.

July 15-16, Riverhead, L. I.—Motor Contest Association's second Long Island Stock Car Derby.

Thus dealers located in small towns in more or less isolated communities frequently find it to their advantage to take deliveries from the nearest factory branches over the road. This gives them opportunity to run in and adjust the machines, and upon arrival at their homes they are ready to turn the cars over to their customers as soon as they have been cleaned up. Similarly, dealers selling to customers some distance removed from their headquarters generally prefer the road method of delivery to using the railroad, because it enables them to turn over the machine in perfect running order. Likewise, instances have been known in which buyers, avoiding their own local dealers have gone to some metropolitan agent or branch, possibly several hundred miles away, and there secured the

services of a factory man for the tour home over the road. The advantage is that they can combine expert instruction with a good long maiden trip in the new car.

Even more suggestive in its possibilities is the experience of one man who, at the present time, is demonstrating a motor fire engine on the western coast. Making all the small towns, he finds it very much to his advantage to go from point to point over the road. Besides saving delays and securing direct routes, he makes considerable capital of the road-worthy qualities of the machine, and it may be noted that the machine has withstood creditably the effects of crossing a couple of mountain passes in addition to carrying out a number of demonstration in its own particular field of service.

# GLIDDEN TOUR NEARING ITS END

With One Day to Go, but 11 Survivors Remain—None Has Clean Score but Competition for Both Trophies is Close—Good Roads Follow the Frightful Ones—Disgruntled Participant Tries and Fails to Stop Contest.



MAXWELL CREW SWEARING ALLEGIANCE TO THE CAUSE OF GOOD ROADS

## Oklahoma Proves a Revelation; 15 of the 26 Starters Still in the Hunt

Oklahoma City, Okla., June 23.—Fifteen contesting cars that started from Cincinnati on June 14 arrived here this afternoon in various stages of dilapidation. Tell it not in Europe! Publish it not in automobilism! Only one of these still retains a clean score, and whether it is in perfect condition remains a guessing contest until the technical committee examines it in Chicago. So much has been said in the way of innuendoes reflecting upon its condition that each day hereafter a member of the technical committee will ride on the car as observer. The car is Chalmers No. 5, driven by Bill Bolger. This action was determined upon because other observers have reported penalizations against this particular car which the technical committee has wiped out as regularly as they were entered.

The slim line of cars that is parked in Oklahoma City this evening represents seven contestants for the Glidden Trophy and five for the Chicago Trophy, together with a pilot car and a pacemakers' car.

Where are the others? Ask the winds; perhaps they know.

Every non-competing car, including all the press cars, are somewhere in the rear. They did not get into Lawton last night. The scribes are Gliddening by train from control to control, and achieving greater punctuality in arriving than ever before.

Among the cars still out are Chalmers No. 3, Joe Matson, driver; Cole No. 6, driven by Henry Knight; Cartercar No. 8, W. C. Mahoney, driver; Parry No. 9, driven by Lester Marvelous Dull; Ohio cars No. 11 and 12, driven by J. W. Stockard and Ben Hilleck; Cole runabout No. 104, driven by A. L. Martin; Parry No. 105, driven by George Neff; Falcar No. 106, driven by C. F. Van Sicklen; Carter runabout No. 108, driven by Ray Landsheft, and its companion, No. 109, driven by F. R. Pendleton; Lexington No. 110, driven by E. O. Hayes; Westcott No. 111, driven by C. C. Bevington; both of the Cadillac "gunboats," manned by the cadets of the Northwestern Military College, and driven by Maj. A. P. Davidson and E. C. Garland; the Westcott press car; the Columbia pacemakers' car; the secretary's Reo car; the Chalmers press car; the two Cutting press cars; the Halladay press car, and the Great Western press car.

Those who can say "Hitherto the Lord helped us" are the drivers of Premier No. 1, Ray F. McNamara; Premier No. 2, Charles L. Ballinger; Chalmers No. 3, Joe Gardham; Chalmers No. 5, Bill Bolger; Maxwell No. 7, H. E. Walls; Glide No. 10, Fred Castle; Cino No. 15, Walter Donnelly; Moline No. 100, C. H. Van Dervoort; Moline No. 101, J. A. Wicke; Moline No. 102, F. W. Salisbury; Lexington, No.

103, J. C. Moore; and Maxwell No. 107, J. Illingsworth.

Five cars were penalized in today's run. The Premier No. 2 was taxed 156 points, the Glide 52 and the Cino 57. These were in the Glidden contest. In the Chicago trophy class, Moline No. 100 was penalized 4 points.

The tourists' began the day by lodging a kick against the management of the Midland hotel of Lawton, because no more than one-half of them could get breakfast. To them this appeared to be "rubbing it in," after they had to sleep anywhere from three to eight in a room.

The cars were checked out beginning at 7 o'clock, and because a short horse is soon curried, the last one was checked out at 7:15. The road out of Lawton was smooth, and 3 miles out entered the Indian reservation with the United States flag floating over Fort Sill, afar to the right. It was here that the old Apache tiger, Geronimo, was confined before being sent to Atlanta. Few Indians were seen during the run through the reservation, but outside the boundary they were encountered driving in wagons with cotton canopies and loaded to the gunwales with squaws and papooses. Sometimes an Indian cabin was passed with the "noble redskin" sitting calmly in the doorway watching Nokomis Minnehaha ply the hoe in his corn patches. Sometimes



# The Daily Score and the Standing at the Close of the Sixteenth Day

## FOR THE GLIDDEN TROPHY.

No.	Car and Driver	Date—	PENALIZATIONS																Total Tech.	Total Cont.	Total Penalty
			14th	15th	16th	17th	18th	19th	20th	21st	22nd	23rd	24th	25th	27th	28th	29th				
1	Premier, R. F. McNamara...		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9		
5	Chalmers, Wm. Bolger...		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	39		
7	Maxwell, H. E. Walls...		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	59		
2	Premier, C. L. Ballinger...		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	500		
15	Cino, Walter Donnelly...		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	220		
10	Glide, Fred Castle...		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	720		
3	Chalmers, Joe Gardham...		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	500		
9	Parry, L. M. Dull...		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	220		
8	Cartercar, W. C. Mahony...		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	720		
4	Chalmers, Joe Matson...		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1168		
11	Ohio, J. W. Stockard...		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	977		
12	Ohio, Ben Hillock...		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2145		
6	Cole, Harry Knight...		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
14	Pennsylvania, M. O'Donnell		51	18	94	0	0	1338	0	0	0	0	0	0	0	0	0	0	0		

## FOR THE CHICAGO TROPHY.

100	Moline, C. H. VanDervoort	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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\* Had not reported when control closed.

\*\* Withdrawn.

\*\*\* Disqualified.

\*\*\*\* Non-contestant.

it was a squawman who was seen in this role, his Indian wife and copper colored progeny doing all the work there was being done in sight. The Indians were greatly interested in the cars and asked "What going on in town tonight?" They appeared to think that something was going to happen in Apache, Anadarko or Chicasha.

The entire Oklahoma prairie appeared to be under cultivation outside of the reservation, and the tourists' eyes opened wide in wonderment at the endless fields of cotton, corn and alfalfa.

There was a stretch of sand for two miles out from Lawton, but it was nothing to the sand stretches of the day before. At a point three miles farther on there was a sudden drop into a rock bottomed creek. The water got into the clutches of some of the machines, and several were stalled and had to be pushed out by hand, the crew wading to their knees. It was a succession of prairie roads, generally good from there on.

At Chickasha there was a half hour stop, while members of the Elks' Club did the honors, entertaining all comers with a Dutch lunch. The city is a handsome one and has more miles of pavements in proportion to its population than are to be found in the entire state of Texas. El Reno was another live city that entertained the tourists at the noon stop. The automobile association and commercial club received the Gliddenites at the Elks' Club and served a Dutch lunch; also they spread hay over the half mile of sand in the neighborhood of the South Canadian river and a committee met the tourists at the bridge and escorted them to the city. El Reno showed the visitors what a live Oklahoma city is. It is 18 years old and has a population of 1,300, 152 blocks of pavements and holds its first fair on September 20.

Moline car No. 100, driven by C. H. Vandervoort, was delayed at a crossroad by the absence of confetti. Finally the driver asked a boy which way the cars had gone. The boy pointed to the left.

"But where is the paper that was thrown along here," asked driver Vandervoort.

"The goat et it," replied the boy pointing to the animal browsing along the route.

Vandervoort started off and the goat fled ahead, the Moline still following the confetti.

The automobile dealers of Oklahoma City gave the Gliddenites another Dutch lunch at 6:30 o'clock this evening at Belmont Park, and President Brock, of the board of trade, and Mayor H. M. Scales welcomed their guests with short speeches.

The run for tomorrow is 216 miles to Wichita, Kansas. The start will be made at 6 o'clock. The running schedule is 13 hours 30 minutes for the runabouts and 12 hours for the touring cars.

A late dispatch tonight reported that the Westcott press car, which was being shipped to this city to continue the tour was

smashed in a freight wreck. The Cadillac "gunboats" were reported to have arrived

in Lawton and are coming on after the vanguard. The Falcars, one of the Cutting

press cars and Cartercar No. 8 passed through that point at 8 o'clock this evening.

## "Miracles" Wrought by Healing Waters; Easy Going from Oklahoma into Kansas

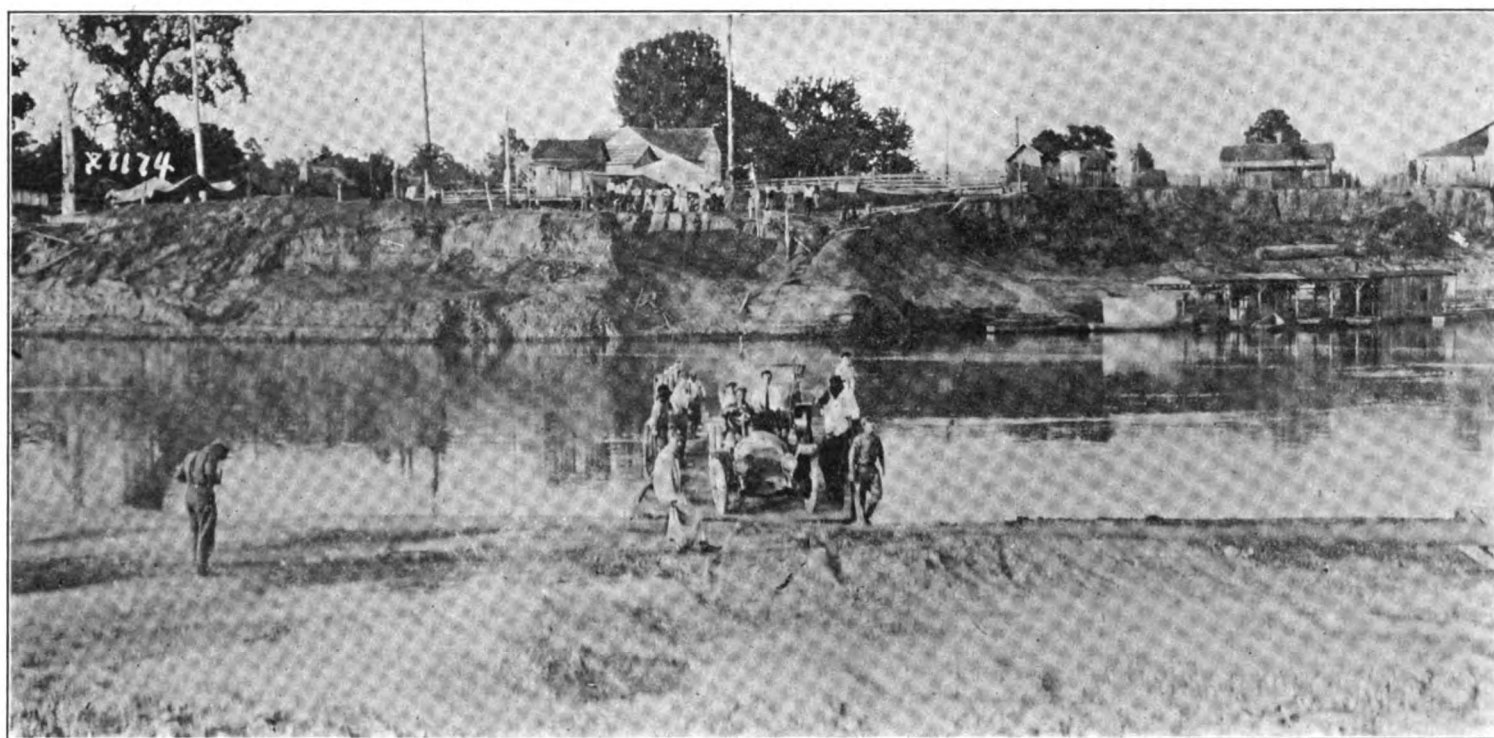
Wichita, Kan., June 24.—The tenth ordeal of heat and thirst and rough roads and long mileage has been survived, and men and machines have stood up admirably, considering. Some of the Gliddenites are nearer the hospital and many of the cars are nearer the scrap heap, but that both have not attained those mournful destinies before this is almost miraculous and is creditable to the stability of both men and

on guard over the cars all night, and at Quebec the official garage was a warehouse. But in the morning, Tommie Forbes's Reo rolled out of the official garage with two brand new tires. In place of the two old ones worn to the fabric were two that looked as if they had just come from the tire factory.

The officials were amazed. There were the rules and the locked warehouse and the

ites. Even Mr. Forbes regarded it as plausible. To this day he attributes those new tires to the interposition of St. Anne.

But greater miracles even than this are being seen by the Gliddenites of 1910. When the cars arrived at Hot Springs they were severely shaken up and some were shaken apart. The 20 miles an hour schedule over the primitive forest roads and cowpaths of Kentucky, Tennessee, Mississippi and Ar-



THE FERRY AT FULTON, ARK., WHERE THE CARS CROSSED TWO AT A TIME

machines. Speaking of miracles, the Gliddenites are talking daily of prodigies that have taken place before their very eyes. They know now that the day of miracles is not past, and any wicked generation seeking a sign has missed it by not being upon this tour, where wonders grow daily over miracles taking place over night. The last miracle vouchsafed to the Gliddenites before this tour took place in the Glidden tour of 1906. Some of the survivors of the "Canadian Glidden," as it is called, because part of the route was in that country, recall the thrill experienced when it was announced one morning that a miracle had been accomplished during the night. The Reo car driven by Tommie Forbes was put in the official garage at Quebec with two worn and frazzled tires. In that tour time was not allowed for tire troubles, and nobody was allowed to work on tires or any other part of the car, once it was in the hands of the garage committee. To enforce this rule two watchmen were posted

two watchmen, but, on the other hand, there were the two new tires and the old ones had vanished. The watchmen swore stoutly that they saw and heard nothing all that night—no sound of tools knocking off the old and putting on the new. Mr. Forbes was equally mystified, but naturally delighted. Then it was recalled that the garage was in the jurisdiction of St. Anne de Beaupre, whose shrine was located a few miles away. Many of the Gliddenites had visited the place the previous afternoon, which was Sunday, and had seen the sick, the maimed, the halt and the blind climbing the holy stairs on their knees, praying for healing at every step. The Gliddenites had seen crutches stacked up, attesting to the efficacy of prayer, and waxen models of parts of the human body hung up in the church, votive offerings of the healed. Then it was suggested that if St. Anne could heal the sick and restore the blind, why not renovate and rejuvenate old tires? Simple explanation. It was accepted by the Glidden-

kansas had done well the work of dilapidation calculated by the officials of the contest committee. In particular, there was havoc with the radiators. Cars that survived the terrific jolting otherwise disclosed leaks.

The roads were sprinkled with drops as if the cars were sweating their lives out. It cost a penalization of 3 points every time a radiator was filled within 100 miles of the morning or noon control. To leave them emptied meant possible cracking of the cylinders from the heat. In this stress they arrived at Hot Springs last Sunday afternoon.

Now, the waters of the hot springs are celebrated for healing in letters so large that he who runs may read. But nobody supposed for a moment that they would exercise any healing influence on the running gear or the leaky radiators of the cars. But that Sunday radiators were filled with Hot Springs mineral water. And ever since, incredible as it may appear, strained

radiators have stopped leaking. In some instances the healing was instantaneous. Cars that stood in the street where they were parked with little pools under the radiators betraying the fatal drain, arrived that night in Texarkana as tight as a rivet. Others ran along for a day or so, but with one or two exceptions, there is not a leaking radiator in the tour today. The most peculiar feature of the miracle is that apparently natural methods were followed by the healing waters. Little patches of lead and traces of soldering can be seen by all but the members of the technical committee. Thus it often happens that wonders are revealed to babes and hidden from the wise and prudent. Some of the contestants apparently were discriminated against by the supernatural healing agency, for they had to stop between controls to stop leaks, thereby incurring penalizations. Why the Hot Springs water did not work in their cases as it did with the others is one of those things that nobody can find out.

Thus, among the penalizations meted out tonight were 21 points against Moline car No. 101, J. A. Wicke, driver, for filling a radiator seven times during the day's run; and the companion Moline, No. 102, suffered a penalization yesterday for repairing a

radiator leak. Chalmers No. 5, the only car that had a perfect score to date, lost it today and was penalized 3 points for repairing a broken fender iron. Moline No. 102 was penalized 15 points for five fills of its radiator, and the Cino car, which went out of the contest with a broken axle and entered again, was penalized 7 points.

The novelty of the day's run was the cool



WHERE THE PARRY WAS "IN BAD"

morning. There was almost a chill in the air when the Gliddenites left Oklahoma City

at 6 o'clock. At 21 miles out they ran into a shower. The effect on the clay road was like soaping the steps. Cars skidded for the ditches like ducklings scooting for the nearest water. Tire chains were resorted to, but the shower lasted only a few minutes. When the road dried, the chains were taken off. Then another shower came up and the chains had to be slapped on again.

The Gliddenites noted with satisfaction the gradual elimination of the black population in traveling northward. They were tired of seeing the colored element that infests the South like so many pernicious parasites, and the majority changed their views as to the political and social equality of the blacks with the whites after seeing the former breeding in their squalid and miserable cabins.

The Automobile Club of Enid, Okla., gave the tourists an appreciated welcome. They conducted them mysteriously to a place where beer was secreted in a huge tank and covered with ice. Talk about an oasis! After a 100 miles ride, the latter part of which was in a temperature of 101 degrees in the shade, and no shade—the beverage and the sandwiches were priceless boons. Enid is a dry town in a dry state, where even cigarettes are prohibited from sale.

## Disappointment on the Santa Fe Trail; One Car is Disqualified

Oh, the mayor sat in his office chair  
With a spy-glass clapt to his eye.  
"Has anyone seen this Glidden tour  
Of one hundred cars go by?  
A hundred cars they said to expect,  
And five hundred men or more,  
But I've waited around the whole blamed  
day,  
And darned if I've seen a score."

Kansas City, June 25.—It was not the mayor alone who was disappointed at the size of the Glidden tour that reached town by fragments at long intervals this afternoon and evening. The disappointment was general throughout the day.

"I've knocked off work to see this Glidden tour go by," said a farmer, perched on a fence with his family to the members of a contesting car that stopped right there.

"They tell me there's a hundred-odd automobiles in it. When does it come through?"

"Forget the hundred. The odd is all there is to it," replied one of the Gliddenites.

"Well, I swan," marveled the Missourian, adding: "It's odd enough all right."

Thirteen cars are not an unusual sight along the Santa Fe Trail, any day, so the Glidden tour did not occasion any great splash anywhere along the route. There were no crowds collected to see them pass through except in small towns, and they soon scattered when they learned that all there was to it was an occasional car, perhaps once in 15 minutes. As a spectacle the tour proved a disappointment.

The competing cars which arrived here were the three Molines, the Lexington and the Maxwell, the sole survivors of the Chicago division; the two Premiers, the two Chalmers, the Maxwell and the Glide, competing for the Glidden trophy, and the Chalmers No. 4, now being used as a pilot car; the Columbia, pacemaker; the Falcar, the Cino, the Cadillac "gunboats" and Ohio No. 12 all non-contestants arrived, some before dark and some past midnight. The Rapid truck is reported broken down on



COLUMBIA "BUMPING" THE BRIDGE

the other side of Oklahoma City. The Great Western press car is in trouble just outside the city. The Halladay press car eventually got through. Cartcar runabout No. 108, which broke down seven days

ago, undertook to come on by a short cut through the passes of the Ozark mountains from Mena, Ark. After incredible hardships its driver, F. R. Pendleton, and Pete Hanlon, together with a local guide, F. F. Roach, reached Lake Side Park, 150 miles from here; then the friction shaft broke and the car is there yet.

Sections of the old Santa Fe Trail traveled over today were found in what might well have been its primitive condition. It rained along it two days ago. The Gliddenites missed this, with their usual good luck. But the roads were rough and the cars went over them jiggety-jig. The vibration might well shake teeth loose, and did make the drivers swear. But there were smooth sections, and on the whole the going was a great improvement upon former conditions. In view of the betterment of the roads it made ridiculous the actions of the contest board in reducing the pace to 16 and 18 miles an hour. When the roads were at their worst over the second, third and fourth days of the tour, the pace was 18 and 20 miles an hour. The reason assigned was that the officials had awakened to the absurdity of entering the remaining night controls without any cars, realizing that the machines were dropping to pieces from the early indiscretions in the matter of too hot a pace in bad going.

It is proper to record that at Wichita the local automobile club welcomed the tourists with beverages prohibited throughout the state.

Two showers were encountered during the day, necessitating the precaution of tire chains.

The automobile club of Kansas City gave a Dutch lunch and vaudeville entertainment in honor of the tourists at the Savoy this evening. Tomorrow (Sunday) they take the visitors around the city on an

automobile ride to view the various sights

Chalmers car No. 3 was disqualified today for entering a blacksmith shop off the route for repairs. Driver Gardham stated he thought it was all right as long as the observer was there, too. The violation took place on the run to Dallas. In addition it was penalized 20 points for repairs.

The Glide was penalized 22 points for late arrival, and Moline No. 101 74 points for adjusting the steering gear.

The race from now on will be a close one for the Glidden trophy between Premier No. 1 and Chalmers No. 5, and for the Chicago trophy between Moline No. 100 and the Maxwell runabout.

## Parry Asks Court to Stop Tour; Some Penalizations are Remitted

Kansas City, June 26.—The worm has turned. As foreshadowed in these chroni-

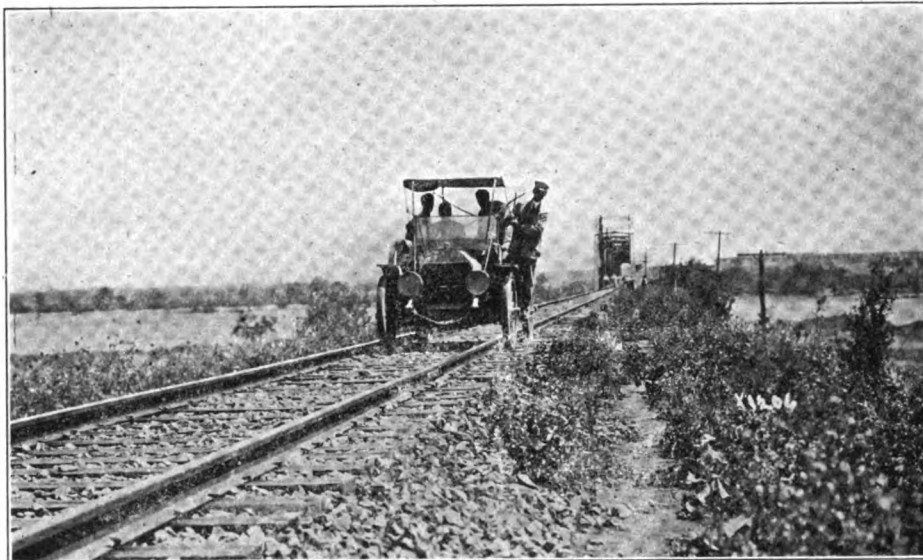
Parry might slap an injunction upon them after midnight, stopping the tour instanter.

runabout No. 109 burned out an engine crank bearing on June 17, caused by swimming through the swamps of Mississippi on the run from Sheffield to Memphis.

Officials of the tour say that Mr. Parry also alleges that the Chalmers representative on the tour has the technical committee "buffaloed" and dominates the body, dictating the reports of the various observers. The officers deny these allegations and defy the allegator.

The officers profess to be puzzled to see where Mr. Parry has any standing in court, inasmuch as he is no longer entrant or contestant. If an injunction does not prevent, they propose to go along with the tour tomorrow and leave a lawyer here to fight it out in the courts.

Today the officials revised the penalizations from the start. No. 10, the Glide, had the penalizations of June 15 remitted, occasioned by getting water in the carburettor at an unsounded ford while following a false trail of confetti. No. 111, the Westcott, got a penalization for a



ONE OF THE MOLINE CREWS "COUNTING THE TIES"

cles, the entrants in the Annual Reliability Contest have begun to act, and on this the 13th day of the tour the poor old Glidden is up against it. After running against tree snags and tree stumps, and saw-tooth pavements, and fording creeks, and traversing forests trails on sometimes two wheels or three wheels at a time, the Glidden is now in the courts.

Today Max Parry, an observer and representative of the Parry Automobile Co. of Indianapolis, served notice by a local attorney upon the officials of the contest board that he proposes to stop the Gliddenites from further Gliddening. Clipped of legal verbiage, the notice proposes to enjoin the officers of the contest board from publishing the penalization sheets of the tour, and from using the score sheets in making up the final awards of the tour, and finally from continuing the tour itself beyond Kansas City. The notice advises Alan H. Whiting, referee; Alden L. McMurry, chairman, and David Beecroft, F. E. Edwards, Henry Souther, Alexander Churchward and Berne Nadel, of the technical committee; E. L. Ferguson, starter, and Chairman S. M. Butler to appear in the Circuit Court of Jackson county, Missouri, tomorrow morning and show cause why they should not be enjoined from doing all of the above things. But what worried the officials most was the possibility that Mr.



ABANDONING THE "RIGHT OF WAY" FOR NO WAY AT ALL

Chairman Butler was out late tonight looking up a lawyer to meet this contingency. As the tour is to start for Des Moines at 5 o'clock, some of the officials may sit up all night.

The score sheets which Mr. Parry objects to have published daily show that Parry car No. 9, Dull, driver, broke a crank shaft on Tuesday, June 21, and withdrew from the Glidden contest. Also that Parry

stalled motor remitted, no work being done on it. Other penalizations remitted were to the Cole runabout, Moline runabout No. 102, the Cino, Ohio No. 12, Cartercar No. 8, Chalmers No. 5, for troubles occasioned at Buffalo ford; to Parry No. 105, for getting a piece of iron wire; to Chalmers No. 4, for terminals on a spark plug and for water; To Maxwell No. 7, for gasoline required by following the pilot car 2 miles and back



on the wrong road; to the Glide for stopping the engine on spare time out of con-

trol and helping the pacemaker car up a hill, and to Parry No. 9 for a vent in the

gasolene tank which had been patched up by the ever obliging technical committee.

## Parry Suit Dismissed and Tour Moves On; Sunshine and Enthusiasm Follow Rain

Omaha, Neb., June 27.—"The dog it was that died," said the news heading of a mad dog scare.

Instead of the Parry Automobile Co., through Max Parry, enjoining the Glidden tour from Gliddening, the officials of the tour have ruled Mr. Parry's cars out of the tour, so that they no longer may continue even as non-contestants.

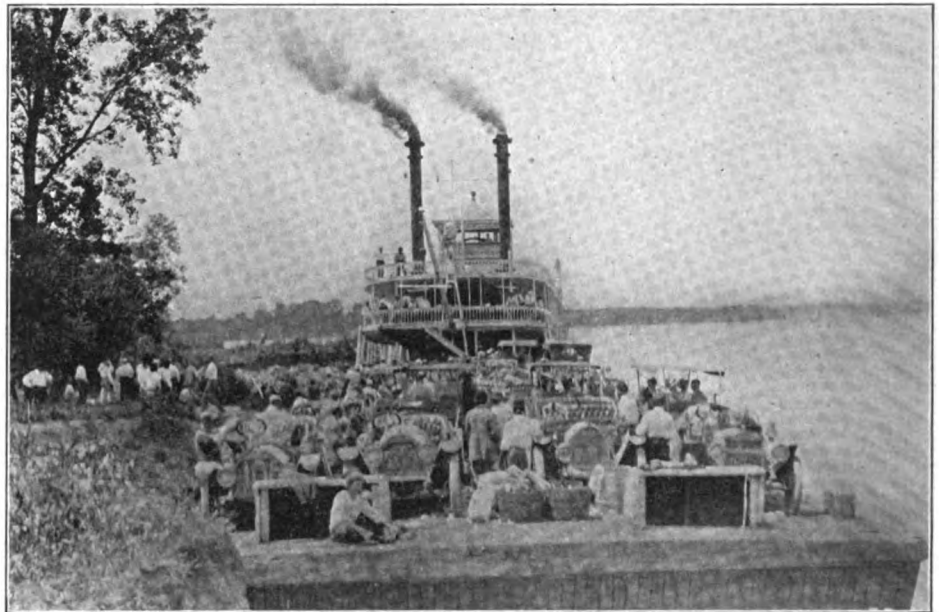
This action was decided upon at a meeting at the Rome hotel this evening. The committee started in to make Rome howl and succeeded very satisfactorily. The action of the officials was taken as a comeback at the attempt of the Parry representative to tie up the tour.

This morning Chairman S. M. Butler and Alden L. McMurtry appeared before Justice Seehorne in Kansas City and filed an answer, which was a general denial of all the allegations of Mr. Parry. They waived the formal summons and complaint in order to expedite matters. After waiting some time, Justice Seehorne dismissed the proceedings, the plaintiff, Mr. Parry, not putting in an appearance.

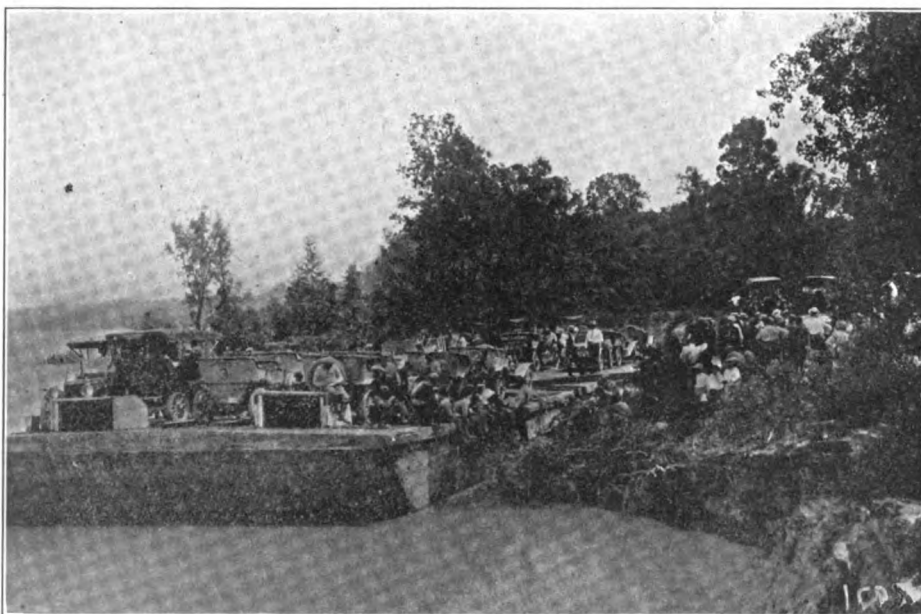
Justice Seehorne also informed Chairman Butler and Chairman McMurtry of the technical committee that he had denied three separate applications for a temporary

committee, for the Parry cars were ruled out of the contest. Of course the committee could not prohibit the Parry cars from using the same public highways as the Gliddenites used, and at the same time,

ever achieved in a Glidden tour. The 242 miles from Kansas City to this place required 17 hours for some of the contestants, especially those who had tire trouble. It was also a big day for penalizations.



HOW THE GLIDDENITES CROSSED THE MISSISSIPPI



THE CROSSING OF THE MISSISSIPPI ACCOMPLISHED

injunction which would have held the Gliddenites in Kansas City pending the settlement of the case in court.

Upon the arrival of the officials in this city this evening they notified Mr. Parry to appear before them and show cause why the Parry cars should not be eliminated altogether from the tour. Apparently the Parry representatives failed to satisfy the

but they could and did enjoin them from using any Glidden tour designations on the cars. So now the tour is smaller than ever. The officials intimate that the matter may be presented to the contest board for their further action.

While the officials were fighting in the courts, the contestants and non-contestants were reeling off the longest day's run

Premier No. 2 was penalized 18 points for making a new spring clip, and Chalmers No. 5, which has been in the lead for the Glidden trophy, was penalized 20 points for a new part on the steering knuckle. This gives the car a total penalization to date of 23 points; the Glide was penalized 118 points for tightening a fan belt and putting in a new front spring. The Cino was penalized 3 points for cleaning the magneto; Moline No. 101 was penalized 3 points for putting in gasolene out of control, and the Lexington roadster was penalized 10 points for adjusting the carburetter and tightening the lamp brackets.

There were gloomy forebodings when the last of the Gliddenites retired at midnight Sunday after their day of rest in Kansas City. A heavy shower was falling, and thoughts turned to slippery gumbo. When the tourists were called from their beds at 3:30 o'clock this morning, forebodings deepened. The rain was still falling heavily. The start was at 5 o'clock and a slow schedule of 16 and 14 miles an hour was adopted. The sun broke through, however, about 6:30 and the storm area was found to extend from Kansas City only as far as Leavenworth, Kan. The drivers crept for the first 20 miles. The gumbo was as slippery as a banana skin. Cars driven ever so carefully would slide off the crown of the road and sprawl toward the ditches. It was ticklish, especially when they started to skid toward



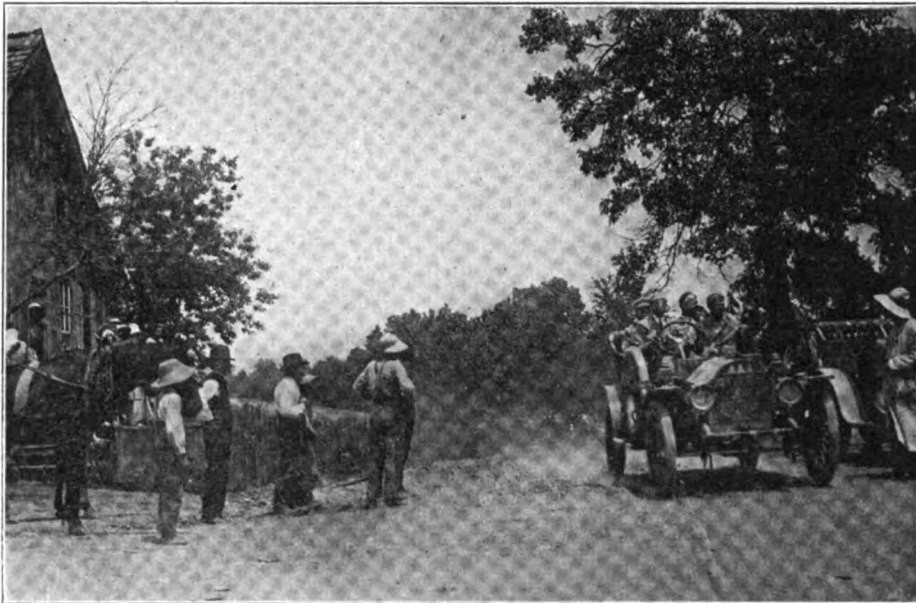
gullies and the approaches of culverts and bridges. After leaving Leavenworth, however, the roads were delightful, and the pleasures of touring were enjoyed as never before during the trip, when the cars started northward from St. Joseph. The country was rolling, and the cars played a never-ending game of see-saw. They climbed

hills and then dropped away into valleys. It was rise and fall constantly. The people along the route were enthusiastic. Approaching Maryville, Mo., the visitors found an overhead banner bidding them welcome and another at the opposite county line bidding them God-speed. At Maryville the members of the automobile club and Elks

provided a Dutch lunch. Outside the town line a group of young women stopped the cars and presented dishes of ice cream and cake to the Gliddenites.

At Tarkio the most appetizing basket lunch enjoyed thus far was given to some of the visitors. All declared that it was a most charming and hospitable country.

## Joy Ride Across Iowa; Penalizations That Intensify Competition



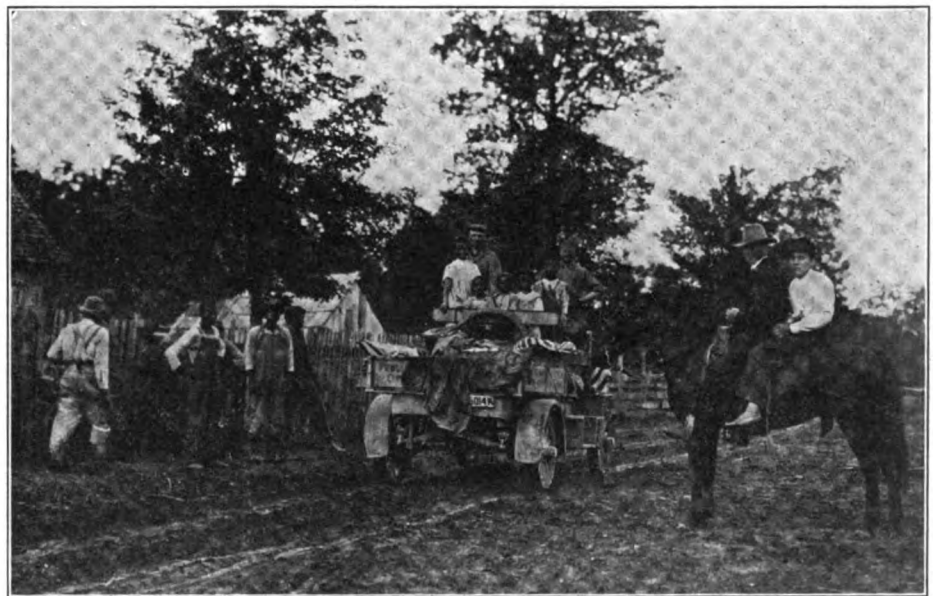
"PROSPECTIVE PURCHASERS" VIEW THE COLE IN TENNESSEE

Des Moines, Iowa, June 28.—All that the run of today required to constitute a genuine joy ride was a chorus girl and a reservation at the Waldorf-Astoria restaurant at 11:30 o'clock this evening. So sage and experienced members of the seventh annual American Automobile Association's reliability contest and Glidden tour assured one another this evening. All the other elements—smooth roads, good weather and absence of mechanical and tire troubles descended on the travel-worn Gliddenites like a benison.

Tonight they had accomplished 2,500 miles of the 2,851 miles set before them as a stunt by the contest board of the A. A. A. The finish was in sight, and they got here before dark, so the spirits of the contestants were exalted.

The Gliddenites today followed the "river to river" route across Iowa. It was as smooth as dry weather, and the King split log drag could make it. The roads were the apotheosis of dirt roads. There was a rain yesterday which the Gliddenites missed by one day. It was their usual luck, not only this year but also last year, and during the five preceding tours. The rain has always been one or two days ahead. It has been so this year, all through the southwest and the west.

Today the route was marked all the way from Omaha to Des Moines with signs denoting topographical conditions and direc-



"DEMONSTRATION" IN THE BLACK BELT OF ARKANSAS

tions. Each sign was marked by a small American flag by the Guthrie Automobile Association. Popular enthusiasm and interest reminded the participants of former tours. The river to river—Mississippi to Missouri—route was lined with people nearly all the way from Omaha to Des Moines. This means that every farm yard and farm gate has its group, and that every city and village poured out their entire pop-

ulations to see the attenuated procession. There were flags and tri-colored bunting and "welcomes" galore. The young women waved their hands and blew kisses. Everything indicated that Iowa takes the automobile seriously, and that the Iowa farmer reads all he can about it. In spite of the smooth road, penalizations were many—souvenirs of the days when the going was worse.

Premier No. 1 was penalized 2 points for a new fan belt, and Premier No. 2 was penalized 114 points for a new front spring; Chalmers No. 5 was debited 16 points for adjusting lift rods and other repairs, making a total to date of 59 points. Moline cars Nos. 101 and 102 were penalized 6 and 3 points, respectively, for taking on water outside of control, and Lexington car No. 103 was penalized 10 points for adjusting the carburetter and tightening lamp brackets.

This intensifies the struggles between the Premier and the Chalmers for the Glidden

trophy, and between the Moline No. 100 and Maxwell No. 107 for the Chicago trophy. The Maxwell arrived in control after the close of business this afternoon, and there were rumors of heavy penalizations for repairs to coils. It is indicated by the drift of betting showing that Moline No. 100 and Premier No. 1 are the favorites. Two more days will tell. Each car is sharply watched by its rivals, and there is

a great deal of talk of skullduggery. Accusations are flying back and forth that there is an understanding among different combinations of entrants that their observers shall favor their friends, and that there is a good deal of work being done upon cars between controls, behind barns and under many a green tree. There is considerable basis for the talk. There has not been a tour so loosely managed since the one of 1906, when there were no observers. But when the observers cannot be relied upon by the officials, the latter appear to be helpless. Quis custodiet ipsos custodes? The entrants, on the other hand, justify themselves with the assertion that they were flim-flammed into entering the tour and kept in the dark as to the actual road conditions, and therefore are entitled to do all they can to do justice to their cars.

The two Parry cars which were barred from continuing on the tour as non-contestants were meek followers of the procession today. The lettering telling of their being participants in the tour was rubbed off the bodies and bonnets with turpentine. Tonight the contest committee also issued the following announcement further prescribing the Parry cars:

"At a meeting of the contest board of the American Automobile Association held

having given wide publicity to such false allegations, all of which conduct on the part of the said Parry Automobile Co. is unseemly and prejudicial to the welfare of the sport and industry;

"It is therefore ordered and directed that the Parry Automobile Co. of Indianapolis,

sheltering the farmhouses from the prairie winds. Motor cars were thick throughout today's route, too. Where, they all came from was the subject of constant comment among the Gliddenites. And the same speculation arose as to where all the people came from. They lined the route in



ONE OF THE "BALLOON DESTROYERS" CHARGING A ROCKY FORD



"BALLOON DESTROYING" CADETS WHO ENCAMPED ENROUTE

at Des Moines, Iowa, June 28th, 1910:

"The Parry Automobile Co. of Indianapolis, Ind., having violated the rules of the contest board of the American Automobile Association, and having on June 25th, 1910, filed with the Circuit Court of Jackson county, Missouri, a petition containing false allegations against the members of the contest board and the officials appointed by it, and thereupon seeking to enjoin the American Automobile Association from the publication of official records of its 1910 annual tour in accordance with the rules, and from further continuing such tour, and

Ind., are hereby disqualified and rendered ineligible for entry in all contests held under the sanction of the contest board of the American Automobile Association until further notice."

In today's run the Gliddenites declared that they never saw so many dollars running around on hoofs as they did in field after field and farmyard after farmyard. Hogs worth almost their weight in silver and cattle above prices were as common as bull thistles in Texas. The distinctive charm of the Iowa landscape were the ever-recurring clumps of trees embowering and

buggies, farm wagons and automobiles, and without doubt for the next week little country weeklies along the route will be filled with such items as these:

"Mrs. Jed. Hasede gave a veranda party to see the Glidden tour on Tuesday. She entertained friends and relatives from Hawbuck....Mr. and Mrs. Si. Cornassel were visited by a large party of friends and relations during the Glidden tour....Mrs. Amanda Wheatgrower and daughter, Miranda, have as an attractive guest during the passing of the Glidden tourists Miss Hannah van Porkbreeder, of Jenny's Crossing, and in her honor gave a family dinner party last evening....Miss Mabel Stubblefield, who is in boarding school at Centerville, called at her father's house last Friday to see the Gliddenites go by. After the last car had passed, tea was served on the porch....The Ladies' Aid Society gave an ice cream festival on Friday evening, when the Glidden tourists passed the village. The festival netted \$11.25."

There was diversity on the travel today that made the run seem very short. The tourists raced up the prairie swells and dropped down other sides like a coon dropping out of a tree, as one expressed it. One could look miles back or ahead at any time during the day and see cars climbing or descending these great land swells.

At Guthrie, the noon control, the Ladies' Aid Society of the Methodist Episcopal Church was on the job again. They had spread a lunch in a grove on the outskirts of the town, and the Guthrie Automobile Club presented lunch tickets to every tour-

ist. The Ladies' Aid Society charged the club a quarter for each ticket, and if any

of the Gliddenites failed to get a ticket and sat down to lunch, the ladies pounced upon

him for 35 cents. The lunch was poor. But the crowd resembled circus day.

## Lining Up for the Last Day's Run; Branding the Sheep and the Goats

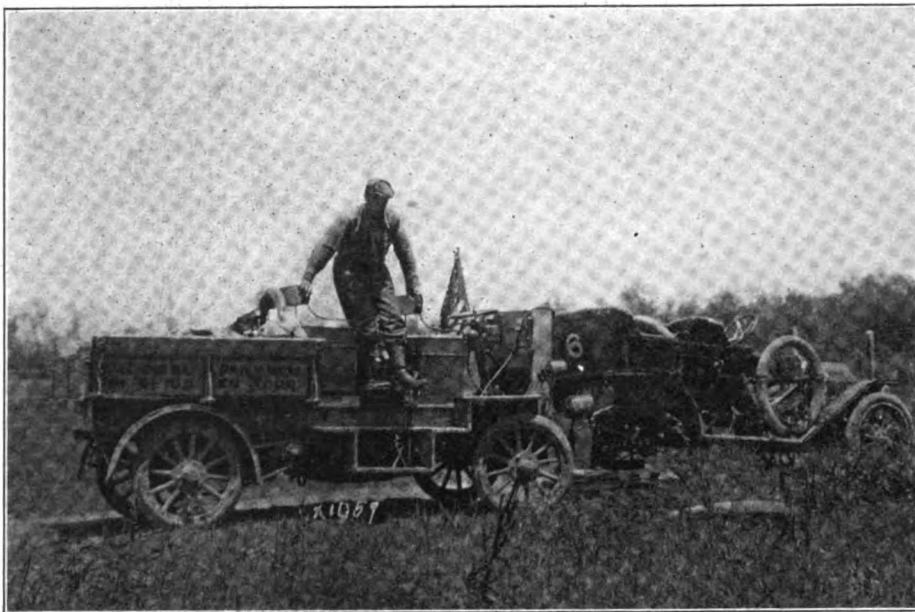
Davenport, Iowa, June 29th.—It will be a sick bunch of cars which Chairman Butler and Referee Whiting will lead across the finish line in Chicago tomorrow afternoon. All that started from Des Moines this

final lap is creditable to themselves and the skill of their drivers. Hats off to the eleven!

Today's run of 220 miles, which was easy, as it seemed on paper, produced its crop

dash oiler. The Glide in the Glidden class did not arrive in time to have its penalization for the day determined.

"String along, bossy, string along, and make all the show you can!" admonished the farmer to his lone cow, when unexpectedly friends came from a distance to see the great stock farm which he had been bragging about in letters. Chairman Butler finds himself in about the same predicament as to the showing the Glidden tour will make in Chicago tomorrow night. This will be the third time that Chicago has been the finish line for the Glidden tour, but never were there so few to finish as this time. It is not possible to run the cars in procession around and around a block, like a stage army to convey the impression of hosts, because of the numbers and names on the cars. Somebody would be sure to detect the trick. So orders have been issued that when the cars check in at Garfield Park, the official checking station in Chicago, tomorrow they be arranged in numerical order and will parade through the city. The line of march will be along Michigan avenue "automobile row" to 28th street, where the cars will be put into the official garage to await the doom of the recording angels of the technical board.

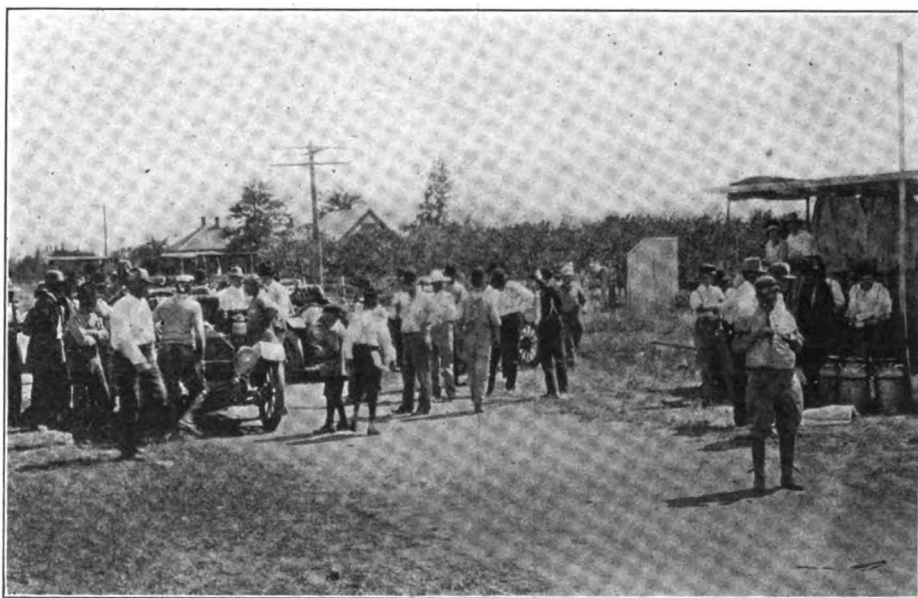


WHERE THE COLE BROKE ITS AXLE

morning arrived here tonight, but some of them were pretty groggy on the steeper ascents. They just managed to drag themselves over the crests with little to spare. The going was good, but they are all suffering more or less from premature breakdown induced by the ordeal of the Mississippi, Kentucky and Tennessee roads.

Eleven contestants survive to fight out the last round tomorrow. Six remain in the Glidden contest, including Premier No. 1, Premier No. 2, Chalmers No. 5, Maxwell No. 7, Glide No. 10 and Cino No. 15. The Premier seems to maintain a safe lead for the Glidden trophy, and has always been regarded as the probable winner. The five remaining in the Chicago trophy contest are Moline Nos. 100 and 102, Lexington and Maxwell No. 107. Moline No. 100 seems to hold a safe lead for the trophy and is expected to win, barring accidents or act of God. Of course there is a possibility that the technical examination may spring some surprises, but taking things as they lay, Premier No. 1 and Moline No. 100 will be the winners.

"These are they, which have come up out of great tribulation" would be an appropriate description of the contestants when they arrive in Chicago. Never were cars so severely tried as they have been in the tour which closes tomorrow, after 2,850 odd miles of motor-car-smashing combinations. That so many survive to make the



TERRAL (OKLA.) GREETING THE TOURISTS

of penalizations, mostly in the Chicago trophy class. The Cino was the only one of the Glidden class to be penalized; it lost 3 points for adjusting rocker arms.

Moline No. 101 got 69 points for radiator troubles, and Moline No. 102 3 points for taking on water. Maxwell No. 107, the nearest competitor to Moline No. 100 for the Chicago trophy, was set back 10 points for a new spring clip and adjusting the

In order that interlopers be barred and that those which have made the present tour with enough wheels, motors and steering apparatus to move under their own power may have proper recognition, the officials have affixed to the tonneau doors of the cars which have gone the full distance, either as contestants of non-contestants, an aluminum ring with the number of the car in white, which will indicate that

the cars bearing it have gone the entire distance of 2,853 miles. The press cars will have the letter "P" instead of a number, and the non-contestants the letter "N." So shall the public know the proper place and the proper objects to applaud. This precaution has been taken because several cars which fell by the wayside have been shipped here by freight in order to take part in the triumphal entry into Chicago.

It was the subject of hopeful comment on the run today that one of the drivers had become rich quick. The story as passed from tourist to tourist was that Rudolph Fass, driver of the Halladay press car, had learned during the tour that he

pants with sandwiches and bottles of beer from a well filled with ice. Under the circumstances, hot sun, many miles of dust, etc., the thoughtfulness of the Samaritans was appreciated. They were members of the Automobile Club of Iowa City, and held the function outside of the city limits, because the presentation and consumption of beer is frowned upon darkly in Iowa City by people who have a standing to maintain. There was the same widespread enthusiasm along the route as yesterday; the road was marked by flags and banners proclaiming that it was the river to river road; it was not as smooth as the section from Omaha to Des Moines.

was second, and John B. Bird, White, was third best forecaster.

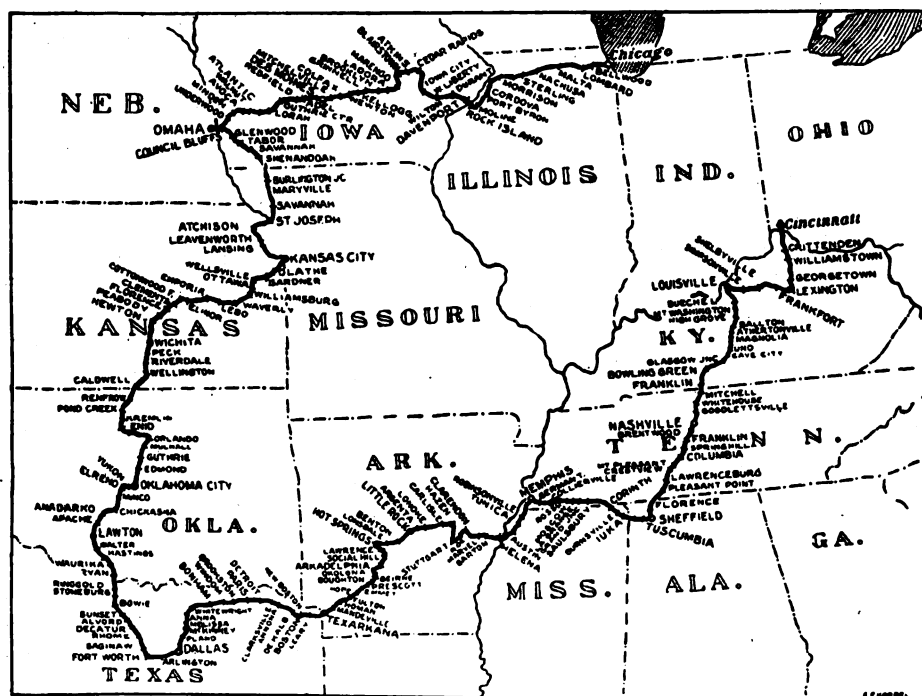
The contestants were the following: John R. Wilson, Stevens-Duryea; Howard D. Ross, Apperson; C. G. Cann, Maxwell; Coleman B. Harris, Cadillac; Courtland E. Pierson, E-M-F; Dr. John C. Fahey, Stoddard-Dayton; T. C. Marshall, Stanley; William C. Corey, Stevens-Duryea; J. D. Bush, Courier; E. M. Pennypacker, Peerless, and John B. Bird, White. All of the contestants finished. Oxford, Pa., was the turning point of the run, where the motorists stopped for dinner. The outward run was 30 miles, and the return trip over a different route amounted to 42 miles. Not only were the motorists thrown around in the tonneaus like dice in a shaker, by the thank-you-ma'ams, but they also were forced to get out and help push the leading car through a sink hole near London Grove, the whole party being stalled there by the miring of the first car.

#### Perils of Touring in Austria.

Now that the touring season is in full swing, the experiences of two innocent Saxon motorists, who just have been convicted for "smuggling" in Austria, are of more than usual interest. In both cases the "malefactors" unknowingly passed the customs. The first, having taken a wrong turn and thereby missed the Austrian "douane," was peacefully pursuing his way, when he was stopped by a gendarme, as his Austrian sign plate was missing. His astounded query whether he was on Austrian soil was promptly answered by a fine. In the second case, the motorist was in possession of all the legal documents demanded—and remained for some time in Austria. He desired a prolongation of his "trip-tique," and on its being handed in at the official quarters it was found that the frontier stamp was missing. He also was fined. An appeal was lodged in each case, but was not granted, as the finance ministry in Vienna declared that passing a "douane"—whether accidentally or intentionally—without complying with due formalities "involved intended smuggling" and would be punished accordingly.

#### Touched Nine States in 24 Hours.

Touching nine states within 24 hours is a feat accomplished by a Metz car, driven successively by J. C. Robbins, D. H. Miller and John McGann, and which, it is believed, establishes a record of its sort. The route was from Iron Hill, Md., to Winchester, N. H., and during a trip of 23 hours and 44 minutes the car, after leaving Maryland, passed through Wilmington, Del.; Philadelphia, Pa.; Trenton, N. J.; New Brunswick, N. J.; Newark, N. J.; New York, N. Y.; Bridgeport, Conn.; New Haven, Conn.; Springfield, Mass.; Holyoke, Mass.; Greenfield, Mass.; Vernon, Vt.; Winchester, N. H. The car left Iron Hill at 12:01 a. m. on June 21st.



THE ROUTE OF THE GLIDDEN TOUR

had fallen heir to \$1,500,000 from his grandfather in Germany. It was the general sentiment that the story would be important if it were only true, but in view of the fact that Mr. Fass was the driver of a press car—well, you cannot always tell.

The day's run was marked by two incidents that relieved the monotony of driving over the prairie swells of Iowa on smooth roads. One was a reception arranged at Marengo in honor of Cecil Dillon and J. A. Wicke, of the Moline "Dreadnought Squadron," both of whom are residents of the village. In honor of their homecoming, the citizens of the place arranged a dinner provided by the ever-on-the-job Ladies' Aid Society of the Methodist Church. The dinner was participated in by all the Gliddenites, and was voted a great success; they even awarded a vote of thanks to Messrs. Wicke and Dillon for having been residents of Marengo.

The other incident took place at the top of a small hill between Cedar Rapids and Iowa City. Here a group of Samaritans stopped each car and presented the occu-

The start tomorrow morning will be at 6 o'clock. The noon control will be at Rochelle, from which there will be a quick run for Chicago. The schedule for the run is 8 hours 43 minutes for the Glidden contestants and 9 hours 43 minutes for the Chicago trophy class.

#### Delaware "Guessabilites" Get Jolted.

Guessing the number of jolts which they received in the 72 miles which were studded with waterbreaks, ruts and gullies would have been a more appropriate mental exercise for the contestants in the Delaware Automobile Association of Wilmington's sealed time or "guessability" run on Saturday, 26th inst. Small as it is, the Peachtree state boasts of some mighty uneven roads, as the party discovered. Despite the bad roads, however, good time was made; the winner, Coleman B. Harris, Cadillac, calculating his schedule within five minutes of the official figures in the envelope. His running time was 4 hours 19 minutes, or 5 minutes more than the official allowance. Courtland E. Pierson, E-M-F,



**IOWANS IN A "LITTLE GLIDDEN"**

**More Perfect Scores than in the Big Event,  
However—Two Protests Against  
Perfect Score Cars.**

In adopting the appellation "Little Glidden" for their first endurance contest, held on the 20-23inst., the Iowa Automobile Club of Des Moines must have intended to do honor to the real Gliddenites, who were their guests a few days later, for as far as real resemblance went the disparity between the two was 1 to 1,000. With the disallowance of the protests filed against the Locomobile and Auburn, which were found to have been based on unreliable and questionable grounds, 7 cars finished with perfect scores as follows: Class A—Cheney R. Prouty, Locomobile. Class B—M. E. Leasure, Auburn; American Motor Car Co., Cadillac; Cruzan & Co., Inter-State. Class C—Cruzan & Co., Cartercar. Class D—Edward Southwick, Ford; Max Hamilton, Buick. The others who, although penalized, received prizes were the following: W. H. Fowler, Premier; Milton Goldman, Mitchell; Craven Garage Co., Cole; and Herring Motor Car Co., Ford. Twenty-one cars finished.

In one respect, however, the Iowa contest resembled its more famous namesake, in that it attracted nearly as many starters, 24 contesting cars being sent away on Monday morning as follows: Class A—Iowa Auto & Supply Co., Locomobile (2); John H. Gibson, Thomas; Jesse O. Wells, Wells; Herring Motor Car Co., Premier. Class B—Strong Motor Car Co., Apperson; Riddell Auto Co., Ohio; Brown-Williams Co., Auburn; Cruzan & Co., Inter-State; American Motor Car Co., Cadillac. Class C—Wells Auto & Livery Co., Moon; Cruzan & Co., Cartercar; Craven Garage Co., Cole; L. C. Perkins, Overland; Des Moines Motor Sales Co., Petrel and Halladay; Musgrave Fence & Auto Co., Black-Crow; Milt Goldman, Mitchell; Sears Automobile Co., Reo. Class D—Riddell Auto Co., Buick (2); Ideal Auto Co., Overland; Herring Motor Car Co., Ford (2).

Four days allowed for 450 miles was much in the nature of a go-as-you-please affair, rather than a contest, in view of the good roads which were encountered most of the way, and loafing on approaching controls was the usual order of things. The route took the motorists through the northern and central sections of the state, the night controls being as follows: Monday, Jefferson; Tuesday, Spirit Lake, and Wednesday, Fort Dodge. Despite the good roads only nine cars made the 71 miles run to Jefferson without penalization. The best roads were encountered in Greene county where they showed much evidence of recent preparation for the run. About the most un-

pleasant feature of the day's run was the heat and dust from which the tourists suffered. Most of the day's penalties were inflicted for minor mechanical troubles, none of the cars experiencing serious mishaps. When the scores for the first day were posted somewhat of a sensation was caused by the failure of the report to indicate any penalties for No. 1 Locomobile in Class A, although it was alleged by several that the motor was stopped during the day. This car later was protested.

Upon the arrival of the cars at Spirit Lake Tuesday night only seven perfect scores remained, the long run of 162 miles coupled with some bad stretches having ousted four contenders from the honor division. The heaviest sufferer was the Moon No. 23, which ran out of oil and "gas" near Poca-hontas and was docked 38 points. It was noticeable on Tuesday that some of the contestants evinced a desire to steal a slice of the pilot car's thunder by slipping past it and heading the procession as the cars rolled through the towns en route.

Protests were filed against two perfect score cars, the Locomobile No. 1 and Auburn, on Wednesday, and await the decision of the technical committee at the conclusion of the contest. While some of the penalized ones received further assessments on the run to Fort Dodge the perfect score coterie escaped unscathed. The final day's run home on Thursday was comparatively easy, all of the cars finishing on time early in the afternoon. On the last leg, the pilot flags were transferred twice on account of mechanical and tire troubles, and the officials barely arrived as per schedule. After being checked in the cars were turned over to the technical committee for examination.

**Thirty Days for Two Joy Riders.**

Using his employer's car without the latter's permission cost a Philadelphia chauffeur thirty days in jail. The same sentence was imposed by the same judge on another chauffeur who, while employed in one of the large garages, helped himself to one of the cars stored there, the owner of which was out of town at the time of "borrowing." Justice Davis, in imposing these sentences, declared he intended to make it an unhealthy sport for chauffeurs or other garage employes to use other people's cars without even asking or saying: "By your leave."

**Where Motorcycles Outnumber Motor Cars.**

Denmark boasted a sum total of 700 motor cars at the time of the last accounting in September, 1909. Of these, more than half, or 375, were in Copenhagen, this number including 138 motor cabs. There are also about 3,500 motorcycles in the country. Practically all the cars have been imported from Germany, France, England and the United States, and most of the well known European and American marks are represented.

**WOMEN GOOD TWO-DAYS GUESSERS**

**Capture Most of the Numerous Trophies in  
Philadelphians' Run—Private Prize  
for Control Committee.**

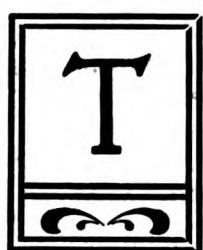
Longer than most functions of the sort, the two days' guessability run of the Automobile Club of Philadelphia (Pa.) to Lake Hopatcong, N. J., and return on Saturday and Sunday, 25-26, was notable for the number of trophies offered and the fact that women drivers won most of them on the first day's run. In addition to the handsome prizes offered by the club and the contest committee, the intermediate towns on the route also hung up trophies. Mrs. Edward Wilkie, Buick, captured the Somerville cup for closest adherence to the secret schedule to that town, and Mrs. D. Walter Harper, Stanley, was awarded the Lake Hopatcong cup for a similar performance to that point. Mrs. Wilkie was off schedule less than a minute, and Mrs. Harper came within 5 seconds of the official figures.

On the homeward run, on Sunday, however, the men came into their own and captured all of the remaining prizes offered. Allan Lund, driving a Marmon, was awarded first prize, a grandfather's clock, for the best time average for the two days, varying but 2 minutes 59 seconds from the official running time of 15 hours 10 minutes and 16 seconds. D. W. Harper, Pierce-Racine, whose wife was a prize winner on the first day, duplicated her performance by taking second award, a lunch hamper, for second best time for the two days. He was penalized 3 minutes and 45 seconds. Although Joseph Hutchinson drove a Marmon during the two days, with but 10 seconds penalization, strange to say he did not win first prize, although on the face of things he clearly was entitled to it. However, his performance did not go unrewarded for he was given the trophy offered by the Morristown Automobile Club.

An innovation introduced by the contest committee indicated a high sense of moral ethics on the part of the members of that body, who, desiring to compete in the contest, felt that inasmuch as they would have to pass judgment on the winners, in fairness to all they would put up a prize of their own to be competed for exclusively by themselves. This was a handsome old-fashioned clock on which was mounted a miniature silver replica of a car. This trophy was won by Committeeman Frank Eveland, who drove a Stevens-Duryea and was 20 minutes 36 seconds off schedule. The official time to Lake Hopatcong was 6 hours, 54 minutes and 10 seconds. Thirty cars participated in the run, spending the night at Lake Hopatcong and returning Sunday via Hackettstown, Easton and Norristown.



# HUDSON AND



THE HUDSON MOTOR CAR CO. has been an entirely separate organization since January 1st, 1910, complete in itself and allied with no other concern. From the beginning, the controlling interest has been held by the present officers. Our production plans comprise the closing of this season in the fall.

We are now supplying our dealers at the rate of 800 cars per month. Many of our Agency contracts are now expiring, and we are ready to talk business on certain territory in various sections of the country—possibly yours—which we have open, including two or three of the larger cities where we desire exclusive representation. Contracts have already been closed, with deposits for over 4,600 cars. Applications to our sales department can be made by letter, wire or “phone” and will be filed and handled in order received. If your territory is closed, we will give you immediate notice. We suggest that you use night lettergram giving full information.

The new half million dollar Hudson factory is well under way and will be one of the finest automobile plants in

## HUDSON MOTOR CAR CO

Licensed un

# ANNOUNCEMENT

the country when finished in October. The personnel of the Hudson Motor Car Co. insures every season well built, well finished cars and prompt shipment. Mr. H. E. Coffin, one of the most famous of America's designers, and president of the Society of Automobile Engineers, is Vice-President of the Hudson Motor Car Co., and at the head of our engineering department. He is devoting his time exclusively to the Hudson Line.

## **THE OFFICIALS OF THE HUDSON MOTOR CAR CO. ARE:**

President, R. D. Chapin, formerly treasurer and general manager of the Chalmers-Detroit Motor Co. Vice-President, H. E. Coffin, formerly vice-president of the Chalmers-Detroit Motor Co. Secretary, F. O. Bezner, formerly secretary of the Chalmers-Detroit Motor Co. Treasurer and General Manager, R. B. Jackson, formerly general manager of the E. R. Thomas Motor Co. Sales Manager, E. C. Morse, formerly sales manager of the E. R. Thomas Motor Co. Chief Engineer, C. H. Taylor, formerly engineer for DeDietrich and Gobron-Brillie of France and E. R. Thomas Motor Co. of Buffalo. Purchasing Agent, W. J. McAneeny, formerly purchasing agent of the Chalmers-Detroit Motor Co. Technical Manager, F. H. Tregow, formerly secretary of the Chicago Motor Club and one of America's best known technical authorities. Superintendent, J. F. Richman, recently of the manufacturing department of the Maxwell-Briscoe Co.

## **COMPANY, Detroit, Michigan**

Selden patent

**OLDFIELD & CO., SAVE THE MEET**

**Four Days Affair at Minneapolis Gives them a Chance to Gather "Records"—Harroun Wins a Match.**

Barney Oldfield & Co. played a four days' engagement at the Twin City aviation meet at Minneapolis, Minn., June 22-25, and really were the salvation of the carnival, for although "nine of the twelve greatest aviators in America" were present, their combined feats of daring did not surpass the thrilling performances of America's premier troupe of motoring barnstormers. Something like half a dozen "world's circular dirt track records" were lowered, all excepting one of which gave way before the onslaughts of the star himself.

Record trials formed a large proportion of the automobile events, and on the opening day, Wednesday, Oldfield drove the Benz one mile in :49 $\frac{3}{4}$ , and two miles in 1:40, both of which were announced as "world's records." Shortly afterward, Kerscher emulated his chief by assaulting the three miles mark and establishing new figures of 2:36 $\frac{3}{4}$ . On Thursday a record trial by Oldfield reduced his mile figures of the previous day from :49 $\frac{3}{4}$  to 49 $\frac{3}{8}$ . (Loud applause.) Ray Harroun, Marmon, defeated McLane, Buick, in the first heat of a match race.

Oldfield sent the four miles record glimmering on Friday, and also defeated Harroun in a five miles match. It was a bad day for Harroun all around, for he also lost the second heat of his match with McLane. The Marmon "Wasp" was off its feed all day. Kerscher also gained more fame by trimming Clark, Cutting, in a three miles match. The long continued hot spell was broken on Saturday, the final day of the meeting, by a torrential rain, which fell in fits and starts and kept the spectators scurrying between the open and cover. Although the storm cleared the air and benefited the sky pilots, it converted the mile track into a sea of mud and forced the speed merchants to take to the inner half-mile oval in order to finish their program. Nevertheless, Oldfield established a new "mile record for a half mile track" in 1:08 $\frac{3}{8}$ . Harroun won the deciding heat of his match with McLane and the "\$1,200" purse that went with it, according to the management. It seems almost too good to believe that Oldfield would let \$1,200 in real money slip by him so easy without attempting to annex it.

**First Day—Wednesday, 23rd.**

Liberal use of space in the local papers drew a crowd of 18,000 persons to the state fair grounds for the opening day, but although the bird men were touted as the star attraction, the air was not suited to

skylarking and, as their flights were weak and generally ended in their return to earth in a wheat field, it devolved upon the Oldfield aggregation to give the crowd their money's worth of thrills. Barney opened the ball with an attack on the track record of 0:50 $\frac{3}{4}$  for a mile, made by De Palma last year. He reduced it to :49 $\frac{3}{4}$ , which was duly announced as a world's mark for a dirt circular course. He also broke his own two miles figures of 1:44 $\frac{3}{4}$ , made at the Los Angeles (Cal.) Motordrome in April, tearing off the two circuits in 1:40. This performance apparently does not redound to the credit of the planked dish on the shores of the Pacific, when a record made thereon can be shattered on a flat dirt course.

Kerscher also participated in the embezzling of records from DePalma by annexing his three miles figures. He made the three circuits in 2:36 $\frac{3}{4}$ , bettering the previous time by 2 $\frac{3}{8}$  seconds. The record trials out of the way, the competition events were staged. Through a too liberal handicap, Clark in the Cutting won the 5 miles handicap in 5:23 $\frac{1}{2}$ . He had 35 seconds on Oldfield, who was on scratch, and won by 9 seconds, Oldfield taking second. The racing for the day wound up with a five miles match between Kerscher and Harroun, which was won by the former. Time, 5:05 $\frac{3}{8}$ . The summaries:

Time trials—1 mile by Oldfield, Benz. Time, 0:49 $\frac{3}{4}$ . Record. 2 miles by Oldfield, Benz. Time, 1:40. Record. 3 miles by Kerscher, Darracq. Time, 2:36 $\frac{3}{4}$ . Record.

Five miles handicap—Won by George Clark, Cutting (35); second, Oldfield, Knox (scratch); third, Harroun, Marmon (5). Time, 5:23 $\frac{1}{2}$ .

Ten miles handicap—Won by Oldfield, Knox; second, Clark, Cutting. Time, 10:14 $\frac{3}{8}$ . Kerscher and Perkins also ran.

Five miles—Won by Kerscher, Darracq; second, Harroun, Marmon. Time, 5:05 $\frac{3}{8}$ .

**Second Day—Thursday, 24th.**

To compensate for their failure to come up to expectations on the opening day, the aviators were told that they would have to do better on Thursday, and the day practically was given over to air stunts. Only two speed events were held, a time trial by Oldfield and the first heat of a match between Harroun and McLane, Buick. Oldfield kicked up a lot of dust, and brought a volley of cheers from the crowd, which was not as large as on the opening day, by skirting the oval in 0:49 $\frac{3}{8}$ . Harroun easily trimmed McLane in the first heat of their 5 miles match. The summaries:

Time trial—1 mile, by Oldfield, Benz. Time, 0:49 $\frac{3}{8}$ . Record.

Five miles match between Harroun, Marmon, and McLane, Buick. First heat won by Harroun.

**Third Day—Friday, 25th.**

Both motor cars and aeroplanes shared honors on Friday, each furnishing suffi-

cient thrills to make the large crowd feel that it was repaid for coming. In raising "record" crops Oldfield is quite successful, and harvested another bunch in his granary. This time it was the "four miles circular track record" which fell, and which was credited to DePalma in 3:34 $\frac{3}{8}$  on the same course. Oldfield bit off a big morsel of time by being clocked in 3:24. He topped off this achievement by beating Harroun in a five miles match, and incidentally cut the existing "dirt track record" from 4:52 $\frac{1}{2}$  to 4:50.

Having finished his part, Oldfield left the stage—or, rather, track—and his understudy, Kerscher, came on. He started well by defeating Clark, Cutting, in a 3 miles match, but failed in his attack on Oldfield's 2 miles record of 1:40, established the previous day. The Dutch pilot was timed in 1:41 $\frac{3}{8}$ . Harroun's engine was out of sorts, which accounted for his defeat by McLane in the second heat of their match at 10 miles. Time, 10:50 $\frac{3}{8}$ . The summaries:

Three miles match—Won by Ben Kerscher, Darracq; second, George Clark, Cutting. Time, 3:26 $\frac{3}{8}$ .

Five miles match—Won by Oldfield, Knox; second, Harroun, Marmon. Time, 4:50. Record.

Time trials—2 miles by Kerscher, Darracq. Time, 1:41 $\frac{3}{8}$ . 4 miles by Oldfield, Benz. Time, 3:24. Record.

Match between Harroun, Marmon, and McLane, Buick. Second heat, 10 miles—Won by McLane. Time, 10:50 $\frac{3}{8}$ .

**Final Day—Saturday, 25th.**

With only a fair crowd present, the final day's card was staged under adverse weather conditions. Shortly after the meeting opened, rain began to fall, and although it benefited the air men by clearing the atmosphere, it also played hob with the mile course, so that the automobile end of the program was shifted to the inner half mile oval, the clay surface of which better withstood the attacks of the elements.

The capers of the aeronauts were comparatively tame and interest centered in the doings of the cars. The chief thing on the tapis was the deciding heat of the match between Harroun and McLane, and the former captured it easily. The distance was 10 miles, which was reeled off in 4:11 $\frac{3}{8}$ . Harroun signalized his final appearance of the meet by winning the 3 miles handicap in 4:52 $\frac{3}{8}$ . The switch to the small track gave Oldfield an excuse to establish a "mile record for half mile tracks," the time being 1:08 $\frac{3}{8}$ . The summaries:

Three miles handicap—Won by Harroun, Marmon. Time, 4:52 $\frac{3}{8}$ .

Match between Harroun, Marmon and McLane, Buick. Ten miles, final and deciding heat—Won by Harroun. Time, 14:11 $\frac{3}{8}$ .

Time trial—1 mile by Oldfield, Benz. Time, 1:08 $\frac{3}{8}$ . Record for half mile track.

**OVERSHADOWED BY "INVADERS"**

**Port Jefferson Amateurs Eclipsed in Local Club's Hill Climb—De Palma Takes the Free-for-All.**

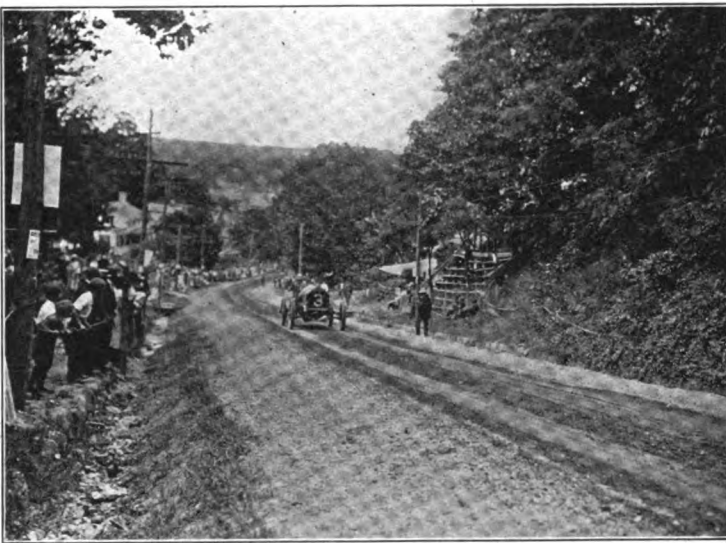
"Invaders" from New York City were the whole show at the hill climb of the Automobile Club of Port Jefferson (L. I.) on last Saturday, 25th inst., and captured every event in which they were eligible. The only classes which they did not win were a few amateur divisions which were confined to local drivers. For a maiden effort in staging a climb, the club did itself proud, putting on a card of 15 events which

out a field of larger cars. He went up in 0:29.30, the last to get inside the half minute mark.

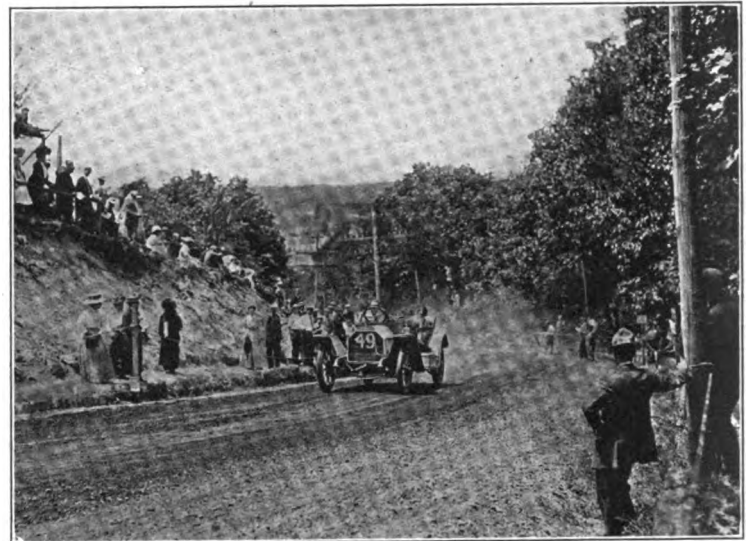
Knox cars were the largest mark winners and the most consistent performers, capturing four firsts in addition to third in the big class. Belcher was at the wheel of two of the winners, capturing his class in the price division in 0:30.45, and again leading the field in the 301-450 stock chassis aggregation with a flight in 0:28.60. C. M. Rutherford, National, was the runner up both times. Louis Disbrow gained more laurels for the Knox by piloting one of these machines to victory in the 451-600 stock chassis class. He went the route in 0:31.09. W. J. Fallon rounded out the Knox quartet of winners by annexing the class

J. A. Turner, Matheson, easily defeated W. Jones, Thomas, for the spoils in the \$3,001-\$4,000 contingent, in which they were the only starters. The winner's time was 0:35.93. The high priced division, \$4,001 and over, was carried off by Martin, Houpt, in 0:33.95.

With an average grade of 10 per cent., rising to 15 in places, the course was in fine shape, having been well prepared by the county highway supervisor. Deputy sheriffs patrolled the road, but were not called upon to exert themselves much, the 5,000 spectators keeping well outside the danger zone. The cars were allowed a take-off of 400 feet, the course beginning in the main street of the town and finishing at the Belle Terre Club, which thoughtfully



BELCHER (KNOX) MAKING HIS FAST FLIGHT



SWAN (STEARNS) ROUNDING THE ELBOW AT SPEED

attracted a record-breaking entry of nearly 100 cars. The contest was a most successful one from every standpoint.

Ralph DePalma with his big 200 horsepower Fiat was the headliner of the day, and outclassed all of the others excepting his "amateur" stablemate, Caleb Bragg, who trailed him close in the stellar division, the free-for-all. De Palma was bent on winning this premier class, and with his great surplus of power there was nothing to prevent him accomplishing his purpose, except accident, and fortunately there was none. With a roar that made the ground tremble, the big red car leaped from the line and hurtled up the 2,000 foot incline at a 60 miles clip, and flashed past the finish tape in 0:20.48. This, the best time of the day, set a record for the hill, but Bragg came dangerously close to erasing his mate's figures by a flight in 0:21.30. This performance was quite a surprise, as Bragg drove a much lower powered car. Fred Belcher had a Knox with a spiteful bark which indicated business, and proved it by running a good third. The electric apparatus caught him in 0:27.61. Another creditable showing was made by J. R. Kirkpatrick, Columbia, who ran fourth and beat

comprised of Port Jefferson owners only.

Good time and close finishes made the amateur events quite exciting. Jackson cars made a clean sweep in the \$1,201-\$2,000 class for amateurs, E. J. Hutchinson driving the winner. His time was fast, 0:39.55. After participating in several of the trade classes and being creditably placed, Rutherford came into his own in the amateur class for cars costing over \$2,000 and topped the figures of his competitors with a climb in 0:31.84, fast enough to win and then some. C. G. Goddard in another National was the runner up. Kingsley Swan had an easy victory with his Stearns, in the class open to members of the Long Island A. C. and Crescent A. C. He "trimmed" his only rival, H. A. Trimm, Buick, by 16 seconds, crossing the finish line in 0:36.93.

The minimum stock chassis class 161-230 cubic inches, was hotly contested, H. P. Holt, Pope-Hartford, taking first honors by a close margin in 0:32.32. Joseph Taylor, Correja, was second with 0:32.44. Taylor also captured his class, defeating Charles Jones, Buick. The winner's time was 0:36.24. Among the little cars, D. M. Bellman, Hupmobile, and W. Blair, Ford, were the high score men, each winning his class.

offered a special cup for the free-for-all class. The results in detail follow:

**\$800 and Under.**

D. M. Bellman, Hupmobile.....	1:10.07
A. C. Dam, Hupmobile.....	1:12.22
E. B. Libby, Hupmobile.....	1:15.09

**\$801-\$1,200.**

W. Blair, Ford.....	0:44.57
H. A. Bauer, Oakland.....	0:47.57
Charles Jones, Buick.....	0:53.08
C. M. Bishop, Ford.....	0:53.76

**\$1,201-\$1,600.**

Joseph Taylor, Correja.....	0:36.24
Charles Jones, Buick.....	0:46.62
A. C. Dam, Everitt.....	0:49.75
Richard Dyett, Jackson.....	1:13.54

**\$1,601-\$2,000.**

Philip Hines, Buick.....	0:31.36
H. Cassidy, Marion.....	0:43.39
H. A. Bauer, Oakland.....	0:43.49
Dr. W. H. Nafis, Buick.....	0:44.45
R. C. Van Deventer, Velie.....	0:45.20

**\$2,001-\$3,000.**

Fred Belcher, Knox.....	0:30.46
C. M. Rutherford, National.....	0:32.91
Schenck Bergen, Chalmers.....	0:35.10
Joseph Bell, Chalmers.....	0:35.56
C. S. Rice, Palmer-Singer.....	0:45.44

**\$3,001-\$4,000.**

J. A. Turner, Matheson.....	0:35.93
W. M. Jones, Thomas.....	0:47.13



**\$4,001 and Over.**

Stanley Martin, Houpt.....	0:33.95
Jules Devigne, Zust.....	0:36.00
Kingsley Swan, Stearns.....	0:36.42
T. Wright, Knox.....	0:37.25

**Free-for-All.**

Ralph DePalma, Fiat.....	0:20.48
Caleb S. Bragg, Fiat.....	0:21.30
Fred Belcher, Knox.....	0:27.61
J. R. Kirkpatrick, Columbia.....	0:29.30
Joseph Bell, Chalmers.....	0:30.08
L. A. Disbrow, Knox.....	0:30.64
C. M. Rutherford, National.....	0:30.80
Jules Devigne, Zust.....	0:32.97
Kingsley Swan, Stearns.....	0:37.91
W. D. Sloat, Onlycar.....	0:40.29

**Stock Chassis, 161-230 Cubic Inches.**

H. L. Holt, Pope-Hartford.....	0:32.32
Joseph Taylor, Correja.....	0:32.44
Ferdinand d'Ziuba, Pope-Hartford.....	0:33.04
F. J. Norton, S. P. O.....	0:33.97
Jean Juhasz, S. P. O.....	0:35.33
Charles Jones, Buick.....	0:37.91
F. E. Boland, Knox.....	0:56.56
H. B. Tucker, Corbin.....	1:14.27

**Stock Chassis, 301-450 Cubic Inches.**

Fred Belcher, Knox.....	0:28.60
C. M. Rutherford, National.....	0:31.35
S. H. Clapp, Berkshire.....	0:32.56
V. P. Pisani, Zust.....	0:32.66
Joseph Bell, Chalmers.....	0:33.76
Schenck Bergen, Chalmers.....	0:33.84
R. C. Van Deventer, Velie.....	0:38.92

**Stock Chassis, 451-600 Cubic Inches.**

L. A. Disbrow, Knox.....	0:31.09
Jules Devigne, Zust.....	0:32.14

**Class A—Amateurs, \$1,201-\$2,000.**

E. J. Hutchinson, Jackson.....	0:39.55
Richard Dyett, Jackson.....	1:05.24

**Class B—Amateurs, \$2,001 and Over.**

C. M. Rutherford, National.....	0:31.84
C. G. Goddard, National.....	0:36.35
Joseph Bell, Chalmers.....	0:37.22
A. Ferguson, Lancia.....	0:39.62
E. B. Hawkins, Knox.....	1:36.58

**Amateurs, Residents of Port Jefferson and Vicinity.**

W. J. Fallon, Knox.....	0:56.69
Richard Dyett, Jackson.....	1:02.72
Long Island A. C.-Crescent A. C. Members.	
Kingsley Swan, Stearns.....	0:36.93
H. A. Trimm, Buick.....	0:52.21

**Hughes Signs the "Horse Trot" Bill.**

Governor Hughes evidently agrees with Mayor Gaynor of New York that it is "just" to set aside a midsection of a popular public highway for horse racing purposes and to make trespassers of all citizens who in motor cars or on bicycles dare venture on the road. At any rate on Monday last the governor signed the so-called "horse trot" bill which turns over a mile and a half of the Coney Island boulevard in Brooklyn to a handful of horsemen who own highsteppers. When the opposition to the measure was at its height, some of the opponents threatened to test its legality if it became a law.

**Reading Club Elects a President.**

Although the Reading (Pa.) Automobile Club has been organized a little over a month, it was without a president until last week, when the members elected E. S. Wertz to that office.

**CLAIM SMITH IS NO "GENTLEMAN"****Contenders in Mt. Vernon Club's tame Meet Protest a Winner—Accuse Him of Too Much Imagination.**

With only five of the thirteen programmed events decided, the course many inches deep with dust, and a double protest filed against the winner of one race, it cannot be said that the first annual race meet of the Mt. Vernon (N. Y.) Automobile Club at the Empire City track, Yonkers, on Saturday last, 26th inst., was an overwhelming success. Although styled a "Gentlemen's meet," in which only amateurs were eligible, it would appear that some black sheep found their way into the fold and provoked some unlamblike feeling.

Of some 35 competitors, Spencer Wishart, the youthful Long Islander who made his racing debut in the last Vanderbilt, was the most conspicuous, and although he drove a 7 year old Mercedes, it had an abundance of speed and simply walked away from his rivals. Wishart captured the feature race, the Westchester County Gentlemen's handicap at 10 miles. It was run in four 5 miles heats, and a 10 miles final, the heat winners starting in the latter. In the final Wishart was on scratch and gave various allowances to the others, but the handicapping was so poor that he caught the limit man at three miles and won as he pleased. M. P. Batts, S. P. O., was second. The time, 12:25½.

Russell Smith, a crafty youngster upon whom the order of professional was conferred by the Federation of American Motorcyclists a year or two ago, started in the 10 miles Westchester County Interclub race as the representative of the "Bronx Valley Automobile Club." He won the event and immediately was protested on two counts by other entrants, who alleged that he did not own the stripped Buick which he drove, and that the alleged "club" which he claimed to represent existed only in his imagination. The protests were referred to the Contest Board of the A. A. A. for adjudication. J. M. Boyle's Midland took second, the remainder of the field being lost in the dust. Time, 13:22.

The obstacle race, which was held in two sections, was tame and uninteresting. The distance was a quarter mile, and M. P. Batts, S. P. O., won the first class in 0:19½. Byron Chanler, Fiat, captured the second in 0:21. Chanler scored again in the Mendel Cup race for cars under 300 cubic inches, doing the 5 miles in 7:37½. O. F. Rost's Black Crow took second. Smith won the 5 miles club championship in 6:50, running the last two miles on a flat tire.

**The summaries:**

Five miles, Mount Vernon A. C. members—Won by Byron Chandler, Fiat; sec-

ond, O. F. Rost, Black Crow. Time, 7:44.

Ten miles Westchester County Interclub—Won by Russell Smith, Buick (Bronx Valley A. C.); second, J. M. Boyle, Midland (Mt. Vernon A. C.). Time, 13:22. Two protests filed against winner.

One quarter mile obstacle race—Class A, cars 110 inch wheelbase or under—Won by M. P. Batts, S. P. O.; second, W. W. Swan, Hudson. Time, 0:19½. Class B, over 110 inches—Won by Byron Chandler, Fiat; second, W. H. Mendel, Isotta. Time, 0:21.

Five miles club championship, Mt. Vernon A. C.—Won by Russell Smith, Buick; second, M. A. Isaacs, Mercedes. Time, 6:52½.

Ten miles Westchester handicap—Won by Spencer Wishart, Mercedes; second, M. P. Batts, S. P. O. Time, 12:25½.

**Morgan Heeds Cry from the Catskills.**

Although he announced his sad farewell only a few days before, the Motor Contest Association, otherwise W. J. Morgan, again has heard the call of the hotel-keepers. This time it is the call of the Catskill bonifaces that has reached him. Desiring to advertise their resorts and furnish entertainment for their guests and, incidentally, swell their receipts, what more natural than that the Catskillers should cry out for Morgan; they actually "petitioned" him, he says. And as his heart is not of stone, he hearkened to their cry, despite his "farewell." He formulated one of those nice little reliability runs and hill climbing contests and obtained a sanction for it. The affair will last three days—July 16, 17 and 18—and the New York automobile trade, as usual, is expected to "pay the freight." The first day, the reliability runners will meander to the land of Rip Van Winkle and summer boarding houses. The second day will be devoted to rest and summer girls and to the circulation of money, and the last day to a hill-climb up Clove mountain, one of the most dangerous grades in the Catskill range.

**Brooklynites Plan a Montauk Run.**

Disregarding the lessons taught by the Motor Contest Association's Montauk Light or Bust run recently, when one car burned up and three others were marooned all night in the Montauk bad lands, the Brooklyn (N. Y.) Motor Vehicle Dealers' Association has decided that it wants to explore the eastern end of the island, and has scheduled a 400 miles reliability contest for July 19-20. It will average 200 miles a day and is intended to thoroughly cover the island from shore to shore, and pathfinders soon will start to log a definite route. In addition to the contesting division, there also will be a touring class which will travel on a secret time schedule. Hidden controls will be established at various points on the route, and the cars will be checked as they pass. The car adhering closest to the schedule will be designated the winner.



## COFFIN ON STOCK CAR RULES

**Defends them and Says A. A. A. is Not to Blame—Explains Reasons for the "Options" Permitted.**

Editor of the Motor World:

I notice in your issue of June 16, 1910, page 643, that you have jumped upon the American Automobile Association hard for what you term the "Association's half-hearted effort to define a stock car." I know that you will pardon me for suggesting certain corrections in connection with this article.

The rules and classifications governing "Stock Car" and "Stock Chassis" events were formulated by the Active Rules Committee of the Manufacturers' Contest Association, made up of the representatives of five of the leading motor car manufacturers and importers of the country, and were afterward criticized, amended and finally accepted by the General Rules Committee of twenty-five of the representative manufacturers and importers, before being passed on to the Contest Board of the American Automobile Association for incorporation in the 1910 rules. You are certainly, therefore, in error in placing upon the American Automobile Association the responsibility for this portion of the rules.

I believe that you will permit me also to correct the statement in your issue of the 16th by calling your attention to the fact that there are no options whatever permitted in a stock car competition other than the removal of tops, wind-shields and extra tires, even where furnished as regular equipment. It is recognized of course that these parts might lend a very considerable element of danger, particularly in speed contests.

This Stock Car Definition, with its accompanying percentage table was given a lot of time in preparation by a Committee who really pulled off their coats and worked hard last August and September, when most of their friends were taking a vacation, and even at that there has developed an ambiguity in the working of the explanatory clause in connection with the Stock Car Definition which has given rise to the little ill-feeling and opposition to which you refer.

You will note that the "Options Permitted" which you mention, refer entirely to stripped chassis competitions. An ordinary stock chassis, when lightened by the removal of the body and tuned up for fast work, has a speed capacity over the ordinary country roads of from 60 to 90 miles per hour. At such speeds the safety of the occupants of the car and of the spectators is best insured by the permission of such changes as are listed. I will explain these options and the reasons therefore briefly from the standpoint of the men who formulated these rules:

First: Lighter Springs. Logical because

of the removal of from 600 to 1,500 pounds of super-structure weight. Lighter springs are more liable to breakage, but the option is permitted for reasons of comfort to the driver and mechanic.

Second: Piston Diameters. The demands of motor car speed sufficient to drive a car over the road continuously at 70 miles an hour necessitate an additional .001 of piston clearance, for each inch of cylinder diameter. Pistons for this extreme high speed work are a little too loose for satisfactory touring conditions. A few thousandths reduction in piston diameters is necessary as a protection against the wrecking of the motor by the seizing of pistons within the cylinders.

Third: Change of Steering Post Angle. Necessitated by the removal of the body and by the lowering of the seat in such a way as to render the car safe for high road speeds and fast turns.

Fourth: Length and Angle of Change Gear, Brake and Other Control Levers. Necessary because of changed seating conditions just mentioned. Not one of these things can possibly affect the performance of the car, although they may add much to the ease of control upon the part of the operator.

Fifth: Change of Driving Gear Ratio; Wheel Diameters Excepted. Options upon driving gear ratio are given by nearly every manufacturer in the business. Consequently, no restrictions necessary. Wheel diameters, however, must remain as per stock, as well as must spoke sizes, hub flanges and all other parts where entering into the strength factor.

Sixth: Length of Clutch, Brake, Auxiliary and Other Pedals. Option necessary on account of changed seating conditions.

Seventh: Tire and Rim Equipment. Option permitted in accordance with racing practice, both international and national. It is considered that speed competitions are between cars and not between tires. Moreover, tire trouble in high speed contests seems not to be greatly influenced by tire size, many makers uniformly fitting smaller tires for racing purposes than for regular equipment.

Eighth: Style of Dash, Seat and Body Equipment. Option necessary because of removal of body. Many makers also build cars in which dashes are an integral part of the body.

Ninth: Form, Volume and Location of Fuel and Oil Tanks. Option necessary because many tanks located in body or in such position that driver of chassis would be obliged to sit upon the tank, making his position entirely unsafe for racing work. It will be noted that the system (whether gravity, pressure feed or pump) must in either case remain unchanged.

Tenth: Exhaust Header and Exhaust Pipe. Under the Stock Chassis Definition, any parts non-essential for racing conditions may be removed. Safety, however,

dictates that the direction of the exhaust shall be such as not to raise dust.

Eleventh: Shock Absorbers and Winding of Springs. A necessity upon any car to be driven at high speed over American roads. Without them it is doubtful whether the operator could remain in his seat or properly control his car.

Twelfth: Bonnets Must be Carried Throughout Contest. This for the reason that a car with a bonnet removed is not a particularly attractive spectacle.

Thirteenth: Bonnet Straps Must be Added. Nothing is more dangerous to the occupants of a car moving at 70 miles an hour than to have the bonnet become loosened and blown back against them. Not only is the operator apt to lose control of the car momentarily, but the sharp edges of the sheet metal bonnet have been known to inflict serious injuries.

The suggestion made at the close of the Motor World article, to the effect that any car competing shall be understood as purchasable at the list price fixed by the manufacturer's catalogue, at the finish of the contest, is one that has been made many times and that the committee has seriously considered. It has been deemed, however, impractical for a very good reason. This reason is that, inasmuch as it cannot be denied that the motor car manufacturer is largely depended upon by race meet promoters all over the United States for the support of all contests through the entry of cars, it would be entirely too great a hardship to impose upon the maker, were he asked to supply for every contest in which his cars may be entered from Maine to Texas a new car, without any guarantee upon the other side as to whether these cars would really be purchased. It would be a very easy matter and a very certain result that within thirty days' time he would have from ten to twenty second-hand motor cars scattered about and over the country. This condition I believe you will agree to be an impossible one to incorporate in any set of rules for the government of national contests.

The suggestion has been made many times that the cars for entry be obtained at each manufacturer's local agency, but not a maker in the country would be willing to risk the reputation of his product by the entry list of an old agent's demonstrator or by the entry of any car which he did not know to be in A-1 condition. Such a position I believe it may be conceded would be dictated by business common sense.

I note that you refer to the motor car contest as a "sport thoroughly commercialized." I am very glad to be able to say to you that the Manufacturers' Contest Association and the American Automobile Association stand together for the A. A. A. control of the motor car contest. We won't accomplish it all this year, and many faulty places will probably be found in the

1910 rules, but this is the first season that has seen the introduction into the government of contest affairs even the semblance of those same business methods and principles which we would expect in any other work of similar importance.

If Motor World will kindly indicate in the regular method upon one of the Suggestion Blanks, which can be had upon application at the office of Mr. Russell A. Field, assistant secretary-treasurer of the Manufacturers' Contest Association, 1780 Broadway, New York City, wherein the 1910 rules cater to commercialism or are unfair to any entrant, either amateur or professional, I can vouch for it that the committee having this work in hand will be pleased to accord the suggestion every consideration.

I have gone thus into detail in order that you may correct in your next issue the allegation that the American Automobile Association is in any way to blame for the stock car contest situation. The A. A. A. is moving ahead with the best business organization that it has ever had in the performance of a work in which it should and will have the strong support of every trade organization, motor car club and individual owner in the country.

Will you please pardon the length of this communication? I have tried to place matters before you exactly as they stand, and I trust that you will make such use of some portion of this epistle as may correct the impressions conveyed in your issue of June 16th.

Very truly yours,

H. E. COFFIN,

Chairman, Rules Committee,  
Manufacturers' Contest Association.

#### Accident Due to Runaway Wheel.

What probably is the most peculiar accident ever reported as having happened to a touring car in ordinary travel, occurred last week near Hammond, Ind. Charles Bailey, a resident of Hammond, and his family were driving to Lovell at a speed of about thirty miles an hour, when suddenly the front axle broke in such a way that the left wheel ran away from the car, and kept on spinning in the direction in which the car had been going. At the moment of the break, a touring car came at a fair rate of speed from the opposite direction, and the racing wheel headed straight for the center of the onrushing car. Before anything could be done, the runaway dodged under the radiator of this car, which was owned and driven by Charles Larsen, of Lovell, compelling it to hurdle over it and breaking the axle of the Larsen car in almost the identical place in which the Bailey machine had been damaged. Both cars were ditched, but owing to the high grass and soft ground none of the passengers was seriously hurt, although all were more or less bruised and badly frightened, is it needless to add.

## JOKER IN NEW SMOKE ORDINANCE

**New York City's Prohibition Applies to "Dense" Smoke from Automobile Motors—Goes into Immediate Effect.**

After today, any automobile that gives forth dense smoke anywhere in New York City may get its driver in trouble. The Board of Health has so decreed. Until Tuesday last it was likely that any sort of smoke would be illegal but the arguments brought to bear resulted in a substantial modification of the rule when it was finally adopted at the meeting of the board on the 28th inst. While it had been understood generally that all kinds of smoke were to be banished from the atmosphere in, around and above the Big Village, it now appears that only "dense" smoke is tabooed, and that medium dense, thin, attenuated, light blue, and the other 57 varieties of smoke still may soar upward. The anti-smoke resolution which first was discussed in April last came up again on Tuesday last, when it was passed with the important addition of the word "dense" before the word "smoke." It is possible that the new rule will tend to curb the most careless among the "smoking" chauffeurs, insofar as it will provide any policeman with a cause for arresting offending chauffeurs, even if it should be proven later by the defendant, through experts in smoke matters, that the particular kind of smoke his car was alleged to have emitted was not sufficiently dense to come within the meaning of the ordinance.

The full wording of the rule, which goes into effect tomorrow, is as follows:

Sec. 181. No person shall cause, suffer or allow dense smoke to be discharged from any building, vessel, stationary or locomotive engine or automobile, place or premises within the city of New York, or upon the waters adjacent thereto, within the jurisdiction of said city. All persons participating in any violation of this provision, either as proprietors, owners, tenants, managers, superintendents, captains, engineers, firemen or automobile enginemen or otherwise, shall be severally liable therefor.

#### Threaten Farmers for "Mud Trap."

Washington motorists and tourists using the Washington-Baltimore boulevard are up in arms over the remarkable disclosures made during an investigation into the inner workings of an alleged automobile "mud-trap" at Contee, Md. It had been stated at various times that the rural "good Samaritans," who have made an excellent living during the past winter by using their horse teams and logging chains to haul stalled automobiles out of the mire, have viewed with considerable disapprobation the approach of the dry summer season and the consequent drying up of the mud holes. In fact some very strong circumstantial evi-

dence had been submitted tending to show that these same ruralists had hauled barrels of water to the road, so that the mud holes might be maintained in the best possible condition from their own personal points of view.

On Sunday, June 19, two farmers were observed waiting with their teams a short distance away from a depression of the road which had been made impassable by mud and water, and this despite the fact that in that particular part of the district no rain had fallen for several days past. E. J. Terry, of Baltimore, did get stuck in the mud, and in a minute both of these farmers were at his side offering to pull him out for the regular fee of ten dollars. Terry, however, was "wise" to the scheme and struck a hard bargain, under which the farmers agreed to pull him out in ten minutes for a fee of \$4. In a twinkling they produced planks, blocks, tackle, etc., from the near-by underbrush, and rescued the stalled automobile.

Threats of criminal proceedings against the farmers for interfering with traffic and interstate commerce are being heard on all sides, since these facts became known, and the sudden publicity given to their scheme probably will prevent the ingenious farmers from continuing it with any kind of success.

#### Miller's Map of Berkshire Region.

For the benefit of those who may find it possible to tour in the Berkshires, a comprehensive folding map, entitled "To and Through the Berkshires" and showing the principal routes in red, has been prepared by Charles E. Miller, the well known supply man, of New York City, who will send the map to any one upon receipt of three cents in stamps. Requests may be addressed to his home office at 97 Reade street, New York, or to any of his ten branches in the various cities. Eastern New York, Western Massachusetts, Connecticut and Vermont are shown, with eight individual maps giving inter-city routes for such places as New Haven, Hartford, Springfield, Pittsfield, Brattleboro, Poughkeepsie, Albany and Troy.

#### Helps When a Car is Stalled.

While it seldom happens that a bank of sand, dry enough and deep enough to stall a car, occurs within carrying distance of a well or other source of water supply, when such a combination of circumstances does arise it may be considered fortunate. A relatively small quantity of water poured into the wheel tracks will be sufficient to increase the weight of the sand enough to afford a good grip for the tires. Similarly, if a mud hole should be encountered within reach of a sandpit, it is possible to seek salvation by means of a few shovelful of the dry earth, which will absorb sufficient water to stiffen the mud and afford a temporary footing for the wheels.

**CHAMPIONS FOOT ACCELERATOR**

**Engineer Answers the Objections Made to it and Shows its Advantages—Effects on the Motor.**

Incidentally disclosing that the new model Chalmers cars will be equipped with a different form of accelerator pedal from that which is in use on the models now current, G. W. Dunham, consulting engineer of the Chalmers Motor Co., Detroit, Mich., expresses a high degree of confidence in the worth of that type of engine control. While a large proportion of the motorists at the present time are inclined to favor

his citation of which is as follows:

"(1) That it is hard on the motor by applying the power too suddenly; (2) that it is hard on the carburetter; (3) that it makes it impossible to drive the car steadily over rough roads; (4) that it tires the foot."

Answering these objections in order, Mr. Dunham explains:

"It is hard to see where an instant application of power harms the motor. If the motor is properly constructed and the compression not too high (a medium or low compression being the best accepted practice today (an instant throwing open of the throttle can not do damage. While the impulse of the gas engine, as many people believe, is like a hammer blow, at the same

or fore and aft as on our 1911 models in Fig. 1, the foot may be pressed firmly on the floor and there will be no chance of rough roads shaking it up and down on the accelerator.

"The objection of tiring the foot is met by the lever accelerator. The type which we use allows the foot to lie flat on the toe board, sliding forward and back. One may operate this accelerator by placing the ball of the foot on the middle of it, and rocking the foot sideways. Again in the case of fast work in crowded traffic, the toe may be rested on the highest point of the accelerator, which can then be used as a push button. The possibility of operating this accelerator in several ways allows one to shift the position of the foot if it tires.

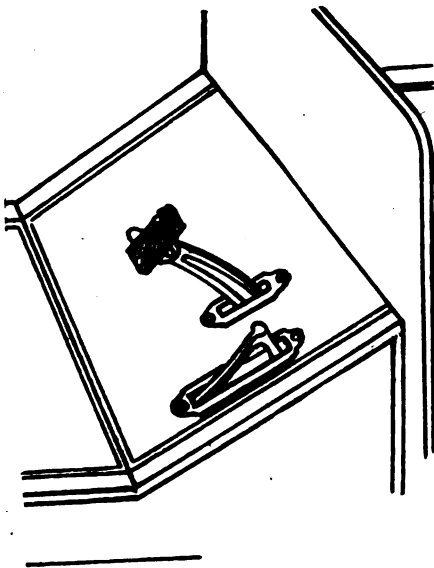


FIG. 1

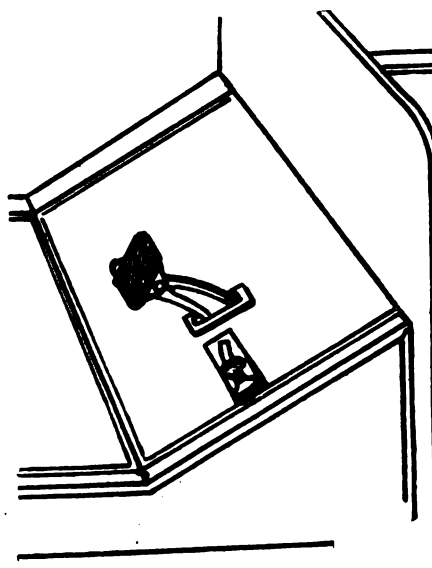


FIG. 2

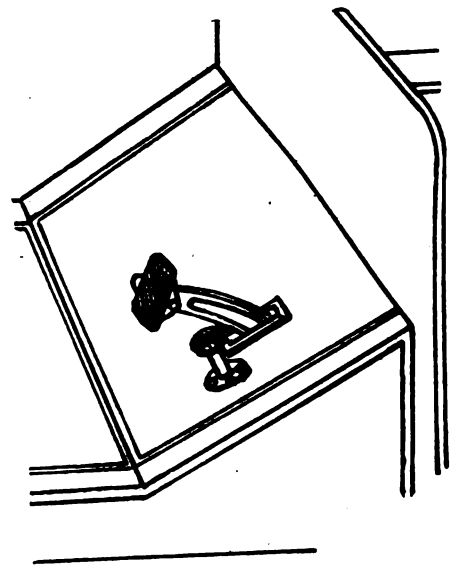


FIG. 3

the use of the foot accelerator from the standpoint of convenience in operation, it remained for the authority in question to point out its advantages from the mechanical standpoint.

In a word, the use of the foot-actuated throttle pedal results in better treatment for the engine, other things being equal, than could be possible with the entire regulation of the motor confined to the hand levers on top of the steering wheel. He even argues that it is a better method of engine control than the automatic governor, for the reason that whereas the latter is capable only of responding to variations in speed, manual operation permits the driver to anticipate conditions which are likely to cause speed changes in the motor and thus to regulate the motor to more uniform speed than would be possible by automatic means. The advantage of the foot pedal in this connection, as he points out, is that it enables the operator to regulate the engine in a proper way regardless of how he otherwise may be engaged in handling the machine at the instant.

Opponents of the foot accelerator have advanced four arguments against its use,

time there is a cushioning effect of the gases which makes the stroke much stronger than many people think.

"As to its being hard on the carburetter—it is hard on the carburetter. That is to say it requires a better carburetter to get a uniform mixture if the throttle is thrown wide open instantly, or is instantly closed. The carburetters which we are using on the Chalmers cars, however, are responding satisfactorily to this test. You can take any of those cars and throw the throttle wide open and the motor will get away without a miss or a skip. I mention our own cars because I know most about them. There are some makes of cars that do not use the accelerator, but a hand throttle control instead, in which cars the motor will spit back and hesitate before getting away. It would, therefore, seem that an accelerator control is better, inasmuch as it compels the car builder to provide a good carburetter.

"The third objection, of course, is valid with a push button accelerator like that shown in Fig. 3. If, however, a lever accelerator is used, alternating either side-ways like Fig. 2, as on the 1910 Chalmers,

"When it comes to operating a car in heavy traffic, an accelerator is practically indispensable, that is, if one wishes to drive one's car smoothly and without racing the motor. It is obvious that you cannot operate a car in heavy traffic with a hand lever and do it easily.

"Further, if one wishes to shift gears properly, an accelerator is absolutely essential. When starting up, to shift gears smoothly, one throws in the first speed, then accelerates rapidly. Just as the clutch is released, slow down the motor, slip the gears across, drop in the clutch, accelerate again, repeating the same performance when going into third. By doing this one can shift the gears nicely and get away with a smooth, uniform acceleration of the car. In going backwards and shifting from third to second, and from second to first, the opposite action is necessary—one should touch the motor up slightly in shifting back. It is obvious that this is impossible with any other control except an accelerator.

"In this matter of shifting gears it is easily seen that the accelerator is easier on the motor than the hand throttle. For

instance, what can be harder than shifting gears without an accelerator control—you set the throttle lever so that there is no danger of stalling the motor, you release the clutch, the motor accelerates rapidly while you are shifting the gears, and when you drop in the clutch the motor is suddenly checked down to the speed of the car. You then shift into third, and this performance is repeated, and again if you have a fourth speed. With the accelerator, as explained above, all this strain is avoided.

"The use of an accelerator is much easier on tires than any other form of control. With an accelerator one is able to start up the car without jerking or vibration in passing from one speed to another. An uneven control, as is well known, causes a jerking of the car which is communicated to the tires, working the fabric back and forth and gradually weakening it. Some may consider this a small point. There is little doubt, however, that the constant working of the layers of fabric one on the other is hard on the tires, and many a blow-out has been due to the tires having been subjected to this kind of a strain."

#### Squeaks Traceable to Grease Cups.

Occasionally the apparent location of a squeak at some point which is provided with a compression grease cup and the application of the usual lubricating means, does not suppress the noise. In such a case, it is well to make certain that the noise actually does occur at the suspected point, and then to remove the bearing or dismount the part, cleaning it thoroughly and giving it plenty of engine or transmission oil. It sometimes happens that the grease in the bottom of a compression cup becomes reduced to a dry cake, which refuses to go through the feeding duct until the latter has been cleared and a fresh supply of grease put in. Another cause of failure on the part of a lubricating device of this class is the use of dirty grease, or the filling of the duct with a short splinter, broken from the end of the paddle with which the grease is ladled into it and unobserved in the process.

#### Semaphores for Taximeter Cabs.

For the benefit of intending patrons who never seem able to locate the taximeter, or who fail to remember which position of the little red flag indicates that the vehicle is disengaged, a foreign inventor has contrived a semaphore arrangement which is intended to be mounted on the roof of the cab and which carries a "For Hire" sign. When the taximeter flag is up, signifying that the machine is available for use, the semaphore also is raised. But when the flag is turned down into the running position which starts the recording mechanism, the semaphore automatically is dropped down on the roof of the cab and so becomes invisible.

## HAS GLASS HOOD ON HIS TORPEDO

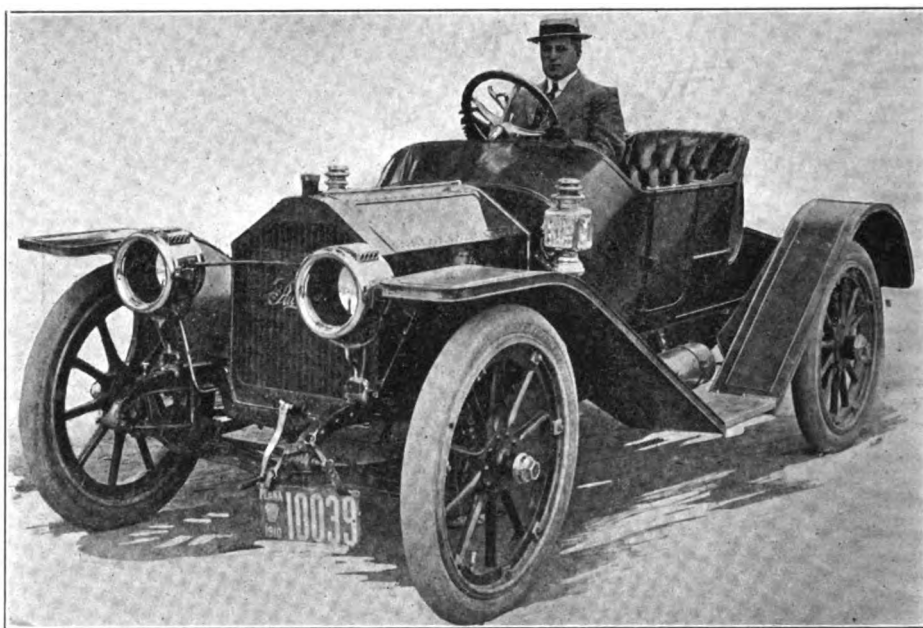
Pullman Sales Manager "Demonstrates" while Touring in Special Runabout—  
Features of the Body.

It might be supposed that a man as intimately associated with the automobile as a sales manager has to be would be glad to "get away from business" whenever he could, and especially would not be inclined to exercise a particular taste in the matter of the car which happened to be devoted to his own use. Factory people know that such is not the case, however, but quite the reverse. The accompanying picture af-

it may be mentioned that even after much hard usage over standard Pennsylvania roads, no flaw has developed in the glass of the hood, despite its fragile character.

#### Economy in Electric Lights.

Ordinarily the use of electric lights on motor cars is recommended on a basis of illuminating efficiency and convenience of operation. That the system also may be made to yield better economy than either oil or gas is the claim of the Fostoria Incandescent Lamp Co., Fostoria, O., which has just prepared a special bulletin on the subject and also a booklet on the subject in more condensed form. In the latter publication the assertion is made that two headlights equipped with 16 candle power



SPECIAL PULLMAN TORPEDO RUNABOUT WITH GLASS HOOD.

fords an ocular demonstration of the fact.

The light torpedo runabout shown is a special "job" put up according to the ideas of Sales Manager Herbert R. Averill, of the Pullman Motor Car Co., of York, Pa. It is built on the standard model "O" Pullman chassis, which is a light, four-cylinder machine of 30 horsepower rating. The body lines disclose a compact, two-passenger body, with the high sided effect which is valued for its exclusion of dust and chilling draughts, while the oval gasoline tank mounted in the rear affords a neat method of finishing off the posterior section. The car is painted a dark slate color with "satin" finish.

By way of adding a touch of the "demonstrator" to the car, and also as a perpetual novelty, the glass paneled type of hood is employed. For evening use, arrangements are made to have the interior electrically illuminated so that the working of the engine is plainly visible from the outside. As having a bearing on the smooth running qualities of the motor and also on the easy properties of the spring suspension,

Mazda improved tungsten filament lamps will give three and a half times as much light on any given point in the roadway as two acetylene headlights with standard sized burners, and at less than half the cost. Putting the comparison another way, it is stated that two 16 candle power searchlights, two 2 candle power side lights, and one 2 candle power tail-light may be operated for considerably less than the cost of operating two acetylene headlights supplied by a gas tank. The claim is based on the assumption that the headlights will be used only about half the time.

#### Charcoal for Valve Grinding.

Although it is commonly supposed that for valve-grinding purposes the use of emery powder or pulverized glass is indispensable, an experienced gas engine man vouches for it that a simple and easily procurable substitute for the usual abrasives may be found in ordinary willow charcoal. Mixed with kerosene oil, he asserts, the charcoal will work the valve and seat down to a fine surface.

**NEW "SERIES" REVEALED BY KNOX**

**Definite Abandonment of "Yearly" Models  
—Changes and Modifications in the Offerings—Two Chassis Used.**

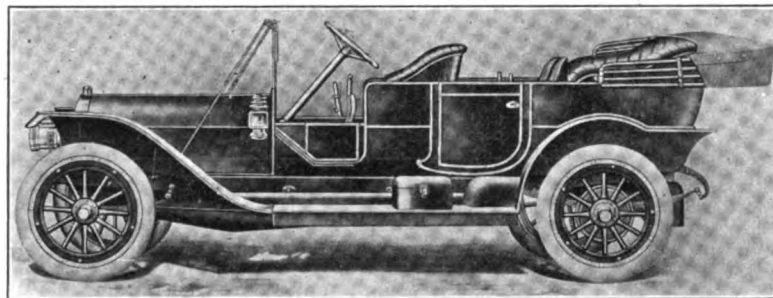
Although a large number of American manufacturers long since have abandoned the practice of rating their product on the season basis, comparatively few have emphasized the fact by eliminating the year

fications for their immediate successors. Model "R," which is the four-cylinder machine, has been altered to this extent:

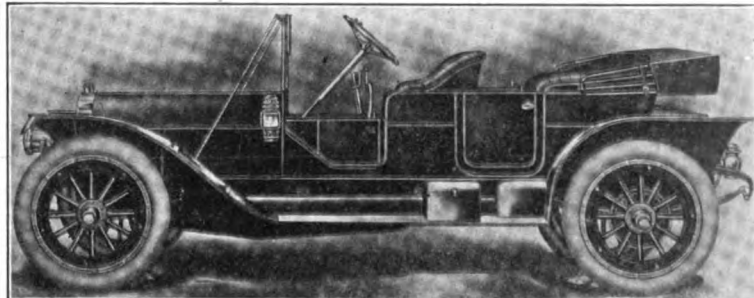
The wheel base has been increased to 122 inches from 111, the former specification for the touring model. The front axle has been moved 2 inches farther forward than before, now is made of nickel steel, heat treated; and its pivot bearings (which, like the front wheel bearings, are Timken mounted) are adjustable for wear. Incidentally, in adopting Timken roller bear-

the gearset and the extension of the shifting slide across the case to prevent binding and rattling are other significant changes. Such other changes as have been made are of a minor nature.

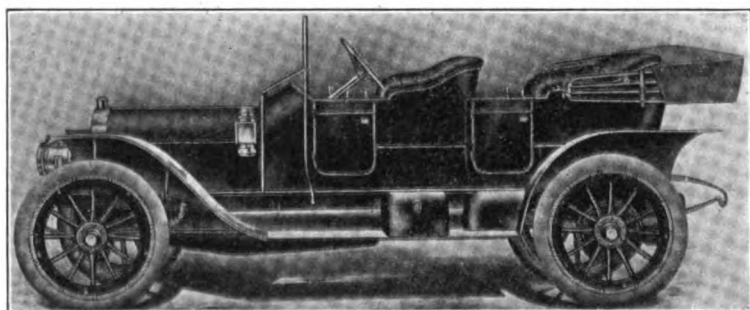
The six-cylinder chassis, model "S," has been modified even less than the four-cylinder car. The engine timing gears and gearset have the same modifications which have been mentioned as applying to model "R." The new front axle is made from extra heavy nickel steel drop forgings, heat



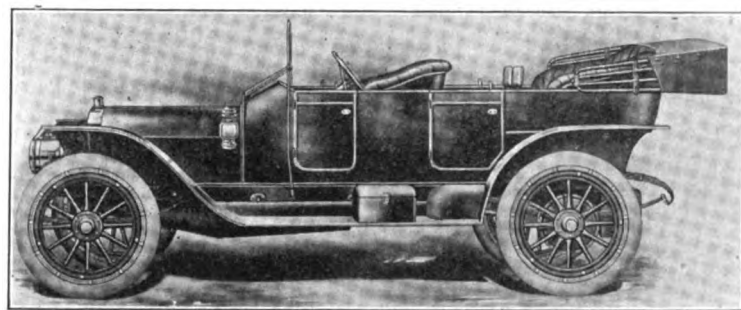
KNOX "S" 6-60 STANDARD TOURING—\$5,000



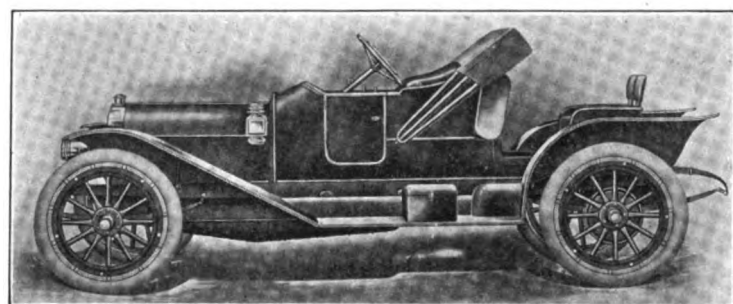
KNOX "S" CLOSE-COUPLED—\$4,900



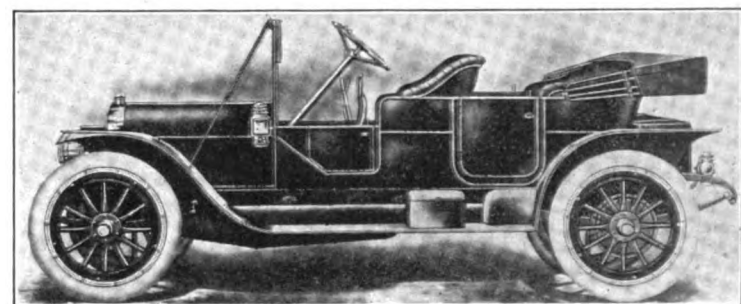
KNOX "R" 4-40 SMALL TONNEAU—\$3,350



KNOX "R" SERIES B TOURING CAR—\$3,500



KNOX "R" SERIES A DOUBLE RUNABOUT—\$3,250



KNOX "R" 4-40 CLOSE-COUPLED—\$3,250

numerals in the designation of models. The few, however, have been increased by the Knox Automobile Co., Springfield, Mass., which, in connection with the announcement of the changes in its line, which will obtain through the remainder of this year and into next, inaugurates the system of designation by means of letters and series. Thus, Models "S" and "R," heretofore produced, will be continued. But to distinguish between the issues of these models which may differ in more or less material respects, they will be known as series "A," "B," etc.

Of the two models now current, few changes have been made in drawing speci-

ings for all front wheels, the Knox company declares that that type better fulfills the requirements of the severe front wheel load than any other type with which it has experimented. In the rear axle, however, Hess-Bright annular ball bearings are used. The axle is of Knox design, full floating in arrangement and contrived to permit the dismounting of the entire differential mechanism if necessary. Torsion rods are to be employed on all models of the four-cylinder chassis, while the use of nickel-steel, wide flanged frames, the use of cast iron magneto idler gears instead of fiber, the use of double annular ball bearings on the rear lay shaft and rear center bearings of

treated, and the pivot bearings are designed to provide adjustment for wear. The frames, which are made exceptionally heavy, are of nickel steel. On all types, excepting the raceabout, the wheels will be 38 inches in diameter, shod with 5½ inch Fisk bolted on and detachable type rim and tire equipment.

Unusual variety is introduced into the new line of body designs. They include five and seven passenger touring cars with torpedo type fronts, five passenger small tonneaus and raceabouts possessing the high-sided front formation, and the regulation torpedo type with its rotund rear portion. All bodies are made with flush



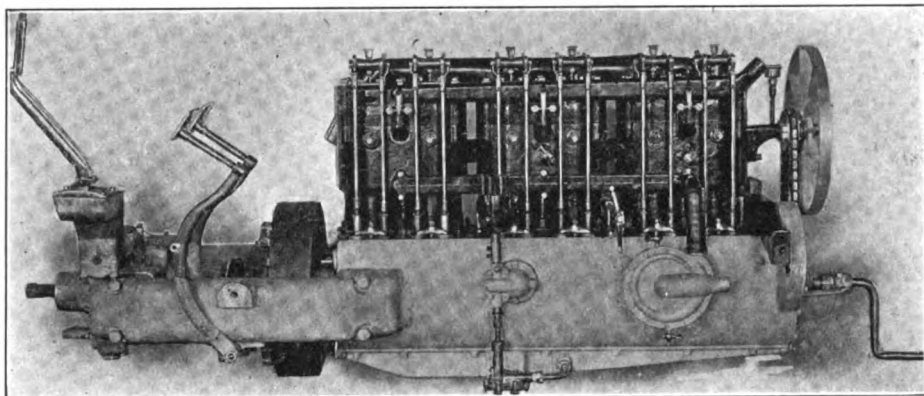
sides except the touring and small tonneau types, which are widened out back of the doors to give additional length for the rear seats. The rear portions of the small tonneau machines, it may be mentioned, are made detachable. There are also two enclosed types, limousines, one for each of the two chassis. All bodies, which are made at the Knox factory, have wood frames with steel and aluminum shells.

In both types of chassis the standard form of unit power plant construction, which has been in use since 1907, is retained. The cylinders are of overhead valve formation, with separate heads, water

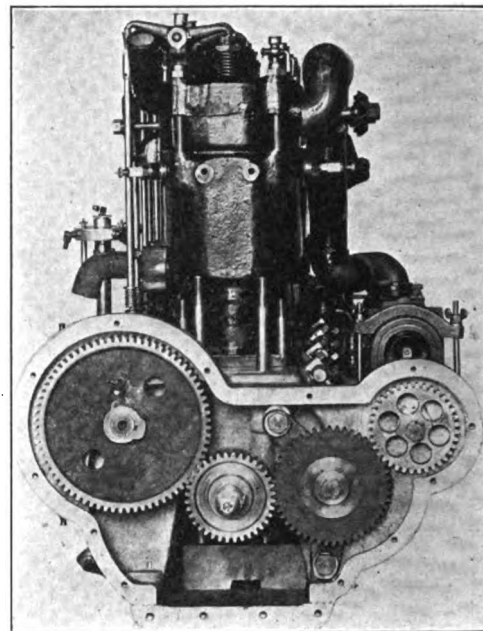
cylinder motor, Bosch magneto equipment is employed in conjunction with the Atwater-Kent single spark battery system.

The change gear system is mounted in a strongly constructed extension to the crank case, which is securely bolted in place to form the rearward portion of the power unit. The gearset is of the selective pattern, embracing unusually short lay shaft and compact arrangement of gears. It affords three forward speeds in addition to the reverse, and has the merit of doing away with the thimble bearing at the rear end of the driving shaft, having instead a short shaft extension mounted on an an-

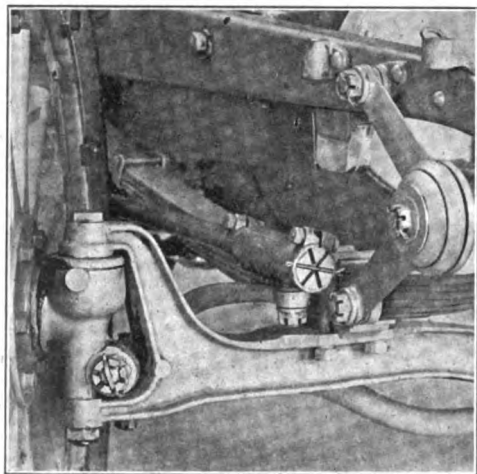
bers being expanded by means of adjustable eccentric cams acting on Raybestos faced shoes. The service contracting brakes are prevented from dragging by means of a special spring device which acts above and below. As in the current models,



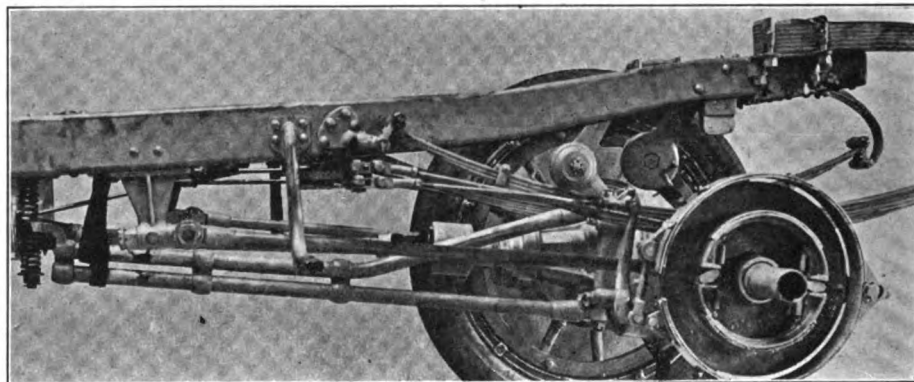
IMPROVED SIX-CYLINDER 60 HORSEPOWER POWER UNIT



ENGINE FRONT AND TIMING GEARS



STEERING KNUCKLE ARRANGEMENT



REAR AXLE ASSEMBLY ON NEW FOUR-CYLINDER MODEL

cooled. The sextuple motor is assembled with cylinders cast in pairs, but the four-cylinder unit is made up of single cylinder castings. The valves are actuated from push rods on the right hand side, while on the left are mounted the magneto and carburetter. Outside the cam housing on the right are carried the large centrifugal water circulating pump, and the auxiliary motion shaft which drives the oil circulating pump for the engine and the vertical timer. The lubricating system is of the constant flow type with feeds to the crank shaft and connecting rod bearings through internal ducts. Ignition on the four-cylinder motor is accomplished by Bosch magneto and Connecticut timer with dry cells, two sets of spark plugs being employed. On the six-

nular ball bearing. The running of the set is considerably improved by the addition of the double annular bearings which are to be found in the newer models only. The master clutch, as hitherto, is of the three-plate type, with cork inserts.

In connection with the spring suspension of the chassis, shock absorbers are used on all models. Semi-elliptical springs are used in front and three-quarter scroll elliptics in the rear. This equipment applies to all but the standard runabout types, which have semi-elliptic equipment in the rear, as befitting the special class of work for which they are intended. On the new model "R" chassis, the upper member of the rear springs has been lengthened out somewhat to afford added resiliency to the suspension.

All brakes are of the double, expanding and contracting type, the emergency mem-

all types are listed at prices inclusive of equipment. The specifications of the equipment include top, glass wind shield, speedometer and clock, baggage rack, Prest-O-Lite tank, combination oil and electric lamps for the dash and rear, tire irons, covers and tools, in addition to the shock absorbers already mentioned.

#### To Guard Against Injury to the Body.

When mounting tire holders on the running board, care should be taken to see that they are firmly attached to some portion of the body or frame which is capable of withstanding the not inconsiderable strain which one or two heavy shoes and the contents of a circular trunk may impose upon them. If they are affixed merely to the unsupported side panel of the body, there is not a little likelihood that in the course of time it may bulge out of shape.



THE superiority of the New Rambler motor is recognized because of its exclusive advantages of efficiency, simplicity and accessibility. Efficient because the Offset Crank-Shaft increases power and enables you to throttle down on high gear no faster than a man usually walks. Simple because of the one-piece crank case and direct-acting overhanging valves. Accessible because the wedge-type main bearing permits adjustment from above, while the crank case opening is at the side. The Straight-Line Drive saves power by avoiding the corner or angle in other driving systems; thirty-six inch wheels increase clearance, improve the appearance and make riding comfortable, while the Spare Wheel obviates tire trouble.

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### Aligning Clutch and Gear Box.

Where a universal joint is interposed between the clutch and gear box it is worth while to examine the parts very carefully, when looking over the mechanism, in order to distinguish any signs of excessive motion of the parts. Theoretically there should be very little movement in this joint; hardly enough, in fact, to leave a trace of wear on the working surfaces. If any wear has taken place, or if there are signs of a considerable range of movement, it is well to line up the parts with a view to correcting the difficulty.

Disalignment may be caused through yielding at some point in the frame, disarrangement of the mechanism or as a result of carelessness in assemblage. To discover the cause and remedy the defect, whatever its origin may be, is doubly important, because, in addition to revealing danger points in the chassis, the motion of the joint is bound to absorb a certain amount of power, reducing the effective output at the rear wheels.

### Why an Engine May Not Slow Down.

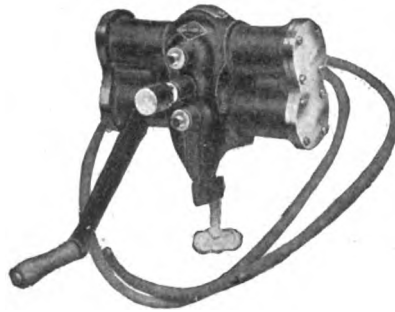
Sometimes the operator is puzzled to find that his engine exhibits a tendency to refuse to slow down to its proper minimum speed in response to the movement of the spark and throttle levers; or again, that it refuses to attain its proper maximum speed. In either event, when the usual means for correcting carburetter and ignition troubles have been exhausted and all adjustments are known to be correct, it is well to look to the connections which lead from the steering column to the auxiliaries. In not a few methods of connection, it is possible for a slipped set screw or a sheared key to cause the connecting levers to assume a false position with relation to the position of the control levers. In a similar way, the loosening of a lock nut on the turn-buckles, which frequently are employed to provide the necessary range of adjustment, may be responsible for the difficulty.

### Determining Fuel Nozzle Sizes.

Certain types of carburetter are made with interchangeable fuel nozzles. In such carburetters it is possible that the nozzle first employed may not suit the engine. To determine whether its orifice is of the proper diameter it is necessary only to observe the adjustment of the auxiliary air valve. If the valve spring adjustment is required to be so slack that the valve is unseated when the engine is running at its slowest possible speed, that fact may be taken as indicating that the nozzle is too large. If, on the other hand, the spring tension necessary to a good running mixture is very great, so that the valve remains closed the greater part of the time, and only opens at very high speeds, it is probable that a larger nozzle can be employed to good advantage.

### Four Cylinders for an Air Pump.

Four cylinders for a tire pump are a feature of one of the more recent mechanical contributions toward making possible the easy inflation of automobile tires. The de-



vice is known as the Hawthorne four-cylinder automobile pump, and after being temporarily clamped to the running board of a car, it is operated by a simple hand crank action, as one would wind a small bucket of water up in a well. As will be seen by the accompanying illustration, the pump has a clamp at the bottom, for attaching it to the running board or to a work bench in a garage. The complete outfit, including the pump, rubber tubing, pressure gauge and a containing box with lid and handle for carrying, sells for \$15, the output being marketed by the Westchester Appliance Co., of New York City.

### Two Forms of Tire Pressure Gauge.

Tire accessories as a class have taken on an added importance by reason of the advances in price which tires themselves are undergoing from time to time and the corresponding concern which is felt about prolonging their service when they are on a car. As a means of determining the proper



inflation for tires, the tire air pressure gauge has become a well established device, but subject to such improvements as may be embodied in the new offerings of the different makers. Among the most recent in the Edelmans tire gauge, which is shown in the accompanying illustration and which is made by E. Edelmans & Co., of Chicago, Ill. The gauge sells for \$2, and it is claimed for it that it is small enough to be carried in the vest pocket and that

the exact pressure in the tire may be learned simply by pressing the lower end of the gauge against the tire valve. It will be seen that the gauge, which is known as the No. 1, carries a scale of proper tire pressures for the various sizes, respectively. The company also makes what it terms the No. 3 Edelmans tire pump gauge, selling for \$3, which may be used while the pump is applied to the tire, the indicator being mounted on a T-connection between the tire valve and the pump connection, which latter has a valve of its own in order that the indicator reading will be that of the tire and not the pump pressure.

### Play in the Steering Connections.

Joints in the steering connections, which are designed to permit of adjustment for wear, require frequent inspection. It is possible that they may become loose as a result of the natural abrasion which may be expected of any rubbing surfaces which are exposed to dust and mud, or they may become loose through the failure of the securing means to hold properly. In either event, excessive play between the parts is a source of danger.

### Three Point Support Precautions.

In overhauling chassis which have the three-point method of support for the power plant, great care should be taken to see that each of the supporting fastenings is in good condition. For the success of the system it is essential that freedom of movement should obtain in each of the joints, while lost motion, weakened brackets, rivets or bolts, or even excessive wear, may lead to serious trouble. Should one of the fastenings give away it is evident that the entire assemblage would fall.

### Secret of Starting "on the Spark."

Motorists who are unsuccessful in attempting to start the motor "on the spark" may have better success if they learn always to open the throttle wide for an instant before shutting off the spark on coming to rest, and also never to throw on the switch while the spark is advanced. The former precaution ensures a fairly rich mixture for the cylinders, while the latter provides a point of ignition suitable for a state of rest.

### What May Cause Clutches to Drag.

In master clutches of the type which is engaged by means of a series of springs arranged around the driving shaft, it is important that the springs should be substantially of uniform tension. Otherwise it is likely that in the course of successive dismantlings of the clutch the weaker members may be placed adjacent to one another, in which event the clutch will not engage uniformly, but will tend to drag when released, and to pick up its load in a jerky and uneven manner.



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## RECENT PATENTS.

958,754. High Frequency Magneto. Theodore M. Mueller, New York, N. Y. Filed Aug. 4, 1908. Serial No. 446,923.

1. The combination of a permanent magnet provided with poles, a magnetic member provided with poles and spaced apart from said permanent magnet, an inductor having a portion adapted to pass successively all of said poles, and a core disposed intermediate said magnet poles and also intermediate said poles of magnetic material.

958,867. Cap for Valve Stems for Pneumatic Tires. George F. Foss, Los Angeles, Cal. Filed Dec. 5, 1908. Serial No. 466,090.

In a valve stem for pneumatic tires, the combination of a valve stem provided with a flat bearing face, of a cover therefor, a spring mounted on the inner face of the cover and projecting therefrom, said spring adapted to contact with the bearing face formed on the stem to maintain the cover in spring tight frictional engagement with the valve stem.

958,897. Carburetter. James W. Snedeker, Adrian, Mich. Filed June 6, 1907. Serial No. 377,532.

1. In a carburetter for explosive engines, the combination of a carburetter chamber, a gasoline feed nozzle extending vertically into said chamber, means for maintaining the gasoline in said nozzle at a uniform level, a hollow, perforated cone through which air may pass, said cone extending into the carburetting chamber free from the wall thereof and around which the air is adapted to pass, said cone surrounding said feed nozzle from the apex of which said nozzle projects and onto which gasoline from the nozzle is adapted to flow, a receptacle at the base of the cone for the surplus gasoline and means for regulating the flow of gasoline through the nozzle.

958,955. Detachable Sprocket Wheel. Otto Curlman, Chicago, Ill. Filed June 8, 1908. Serial No. 437,378.

The combination of a split sleeve, a shaft, a key interposed between the sleeve and the shaft, said sleeve provided with a conical periphery at one end thereof, and with external screw threads at the other end thereof, a sprocket wheel provided with a central hole arranged to fit the conical periphery of the sleeve, a key interposed between the sprocket wheel and the sleeve, a nut provided with internal screw threads arranged to fit the screw threads on the sleeve, and a split pin, said sprocket wheel being provided with holes and said nut arranged to cover the said holes and provided with a flat side arranged to successively uncover said holes as the nut is turned into place, so that when the split pin is in said uncovered hole the nut is locked; substantially as described.

958,963. Combination Roller Bearing. Charles S. Lockwood, Newark, N. J., assignor to Hyatt Roller Bearing Company, Harrison, N. J., a Corporation of New Jersey. Filed Oct. 18, 1909. Serial No. 523,286.

1. In a self-contained roller bearing, the combination, with a hub having oppositely inclined conical seats with a channel between their bases and a ball-race in the channel adjacent to each base with a series of balls therein, of two series of conical rolls fitted to the conical seats on the hub, a casing having tapering seats to embrace the outsides of the two series of rolls, and thrust-rings fitted movably to the inner

ends of the rolls and provided with ball-races to embrace the two series of balls, and means for supporting the adjacent ends of the rings upon one another to resist end-thrust.

958,985. Starting Device for Automobile Engines. Axel M. Walstrom, Minneapolis, Minn. Filed Jan. 6, 1910. Serial No. 536,649.

1. In a starting device for automobile engines, the combination of an automobile having an explosive engine and a starting crank therefor, of a pulley provided near said crank, a flexible connection co-operating with said pulley and having one end attached to the handle of said crank and its other end provided with a handle detachably supported on a suitable bracket near the seat of said automobile.

959,014. Engine Starting Mechanism. Frank D. James, Seattle, Wash. Filed June 9, 1909. Serial No. 501,197.

1. An engine starting appliance comprising in combination with the engine shaft, a rotatably supported member, companion coupling parts secured to said member and shaft, said member being shiftable to couple and uncouple said parts, a slide member having spiral driving connection with said first member, and shifter mechanism connected with said member.

959,047. Drive Chain. Warren J. Belcher, Hartford, Conn., assignor to The Whitney Manufacturing Company, Hartford, Conn., a Corporation of Connecticut. Filed Dec. 16, 1909. Serial No. 533,423.

A drive chain consisting of links comprising oppositely disposed side-plates and non-rotatable pins extending through the side-plates near the ends thereof, and other links comprising oppositely disposed side-plates and non-rotatable bushings extending through the plates near the ends thereof, a pin of one of said links extending through a bushing of the other link to constitute a chain, one of the side-plates having the pins secured therein, being separable from its opposite side-plate, and one of the bushings of the other link being secured to one of the pins in said separable plate whereby the removal of said plate will withdraw one bushing from the chain to permit the separation of the latter.

959,958. Wheel. John L. Jackson, River Forest, Ill. Filed March 11, 1909. Serial No. 482,846.

1. The combination with a wheel having a fixed rim, of a demountable rim comprising a tire-supporting member having tire-retaining flanges, one of said flanges being removably mounted on the outer surface of said supporting member, means fitting between said fixed rim and the supporting member and detachably connected with said supporting member for holding said removable flange in operative position thereon, and means for detachably securing said supporting member on the fixed rim.

959,070. Starting Mechanism for Explosive Engines. Charles E. Reddig, Hartford, Conn. Filed July 31, 1908. Serial No. 446,254.

1. The combination of a driving shaft, a driven shaft, and gearing interposed between the said shafts comprising a two-part casing, one of which parts is connected with the driving shaft, a spring in the casing connected at one end to the other part of the casing, a starting clutch interposed between the other end of the spring and

the first-mentioned part of the casing, a backing ratchet connection between the two parts of the casing, and a main clutch between the last mentioned part of the casing and the driven shaft.

959,087. Controlling mechanism for Motor Vehicles. Lawrence Whitcomb, Brookline, Mass. Filed March 15, 1909. Serial No. 483,470.

1. In a motor vehicle, in combination, a motor of the explosive type, mechanism driven by said motor for propelling the vehicle, means to operatively connect and disconnect said mechanism with and from said motor, a valve to control the supply of explosive medium to said motor, a chamber containing a diaphragm operatively connected with said valve, a liquid pump driven by said mechanism and actuated only when the vehicle is in motion and connected with said chamber to create a pressure upon said diaphragm by a moving body of liquid, and means for regulating the liquid pressure upon said diaphragm to operate said valve and control said motor when the speed of the vehicle reaches a predetermined point, substantially as described.

959,129. Universal Joint. Allen H. Fetter, Galion, Ohio. Filed Jan. 12, 1909. Serial No. 471,939.

1. A device of the character described, comprising complementary semi-globular socket-members, having complementary recesses forming stud-sockets, means for connecting together said socket members, a ball member received by said complementary semi-globular socket members, having slots therethrough, said slots being substantially 8-shaped in general outline, studs forming trunnions, received by said stud sockets, and ring members arranged upon said trunnion forming studs, said trunnion forming studs engaging said 8-shaped slots and having heads upon their ends engaging the outer ends of said sockets and the inner edges of said ring members, respectively.

959,231. Propelling Mechanism for Motor Vehicles. Elie Lacoste and Emile Battmann, Paris, France. Filed Dec. 14, 1909. Serial No. 533,123.

1. A motor mechanism for vehicles composed of a series of separate independent casings each containing its own mechanism, the ends of the casings being provided at the circumference with tongue and groove joints, and having journaled in their ends coaxially with the tongue and groove a series of separate, independent-driving shafts units adapted to engage automatically at their ends in driving relation, the casings when bolted together at their ends forming a continuous rigid straight line connection between the cranking shaft and the back axle-tree.

959,298. Steering Wheel for Automobiles. Roy E. Bowers, Hartville, Ohio, assignor to John A. Bowers, Payette, Idaho. Filed Oct. 30, 1909. Serial No. 525,438.

1. An axle having a terminal eye, a bolt extending vertically therethrough and having a cap nut, and a steering knuckle consisting of a casing having bearings for the lower end of the bolt and for the cap nut at the upper end of said bolt.

959,336. Vehicle Spring. Charles B. Geiger, Manning, S. C. Filed Dec. 18, 1909. Serial No. 533,931.

1. In a shock absorber for vehicles, the

combination with an axle and body spring, of upper and lower plates fixedly secured to said body spring and axle, helical springs interposed between said plates and dished holders arranged on the opposite terminals of said springs and bearing on said plates, and tension rods passing through said springs, plates and dished holders.

959,374. Wind Shield. Emile J. Montigny, New York, N. Y. Filed May 14, 1909. Serial No. 495,966.

1. The combination of a dashboard provided with a panel, a plurality of sashes journaled relatively to said panel and disposed to fold side by side in planes parallel therewith, one of said sashes, having a diagonal measurement greater than the width of said panel, and a side panel journaled relatively to said first-mentioned panel and adapted to fold relatively thereto for the purpose of protecting the edges of said sashes when the latter are folded.

959,394. Differential Gearing. Henry August Hugo Salomo, Melbourne, Victoria, Australia. Filed Nov. 27, 1908. Serial No. 464,589.

1. A speed varying gearing comprising an oscillating wheel, a ball and socket bearing for said wheel, a projecting spindle on said wheel, a crank connected with said spindle for actuating the wheel, said oscillating wheel being provided with a series of teeth a stationary part having a series of teeth thereon of corresponding depth but different in number from the teeth on the wheel, and means on the periphery of the wheel for transmitting its rotary motion.

959,426. Means for Locking Detachable Flanges on Demountable Rims. Alexander Dow, New York, N. Y., assignor to Dow Rim Company, New York, N. Y., a Corporation of New York. Filed Dec. 11, 1909. Serial No. 532,659.

1. In a wheel, a fixed member, a demountable rim therefor, means to secure

the rim to the fixed member, a split ring on the rim, the fixed member having a part to engage the end portions only of the split ring to lock it in position when the rim is secured to the fixed member.

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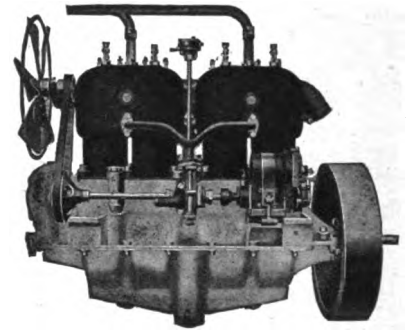
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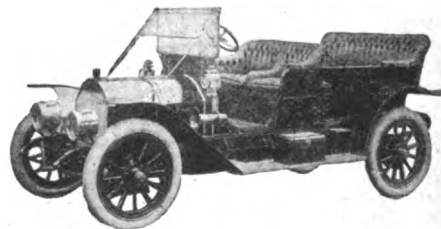
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959,529. Ball Bearing. Henry Hess, Wawi, Pa. Filed Aug. 13, 1908. Serial No. 448,309.

1. In a ball bearing, the combination of the casing rings and the balls, the rings being formed with complementary tracks or ways for the balls which extend about and beyond the transverse diameters thereof, one of the rings being formed with an annular recess to permit the assemblage of the parts and provided with a detachable annular section to fill the said recess and to hold the several parts in assembled position.

959,532. Drive Chain. Henry K. Hilsman, Chicago, Ill., assignor to Independent Harvester Company, a Corporation. Filed July 31, 1908. Serial No. 446,231.

1. A drive chain consisting of overlapped metallic side bars having converging friction-drive bearing surfaces extending in planes parallel to the length of the chain, and rivets, each connecting both the side bars of one link directly to the side bars of the adjacent link, said friction-drive bearing surfaces being outside the planes of the ends of the rivets.

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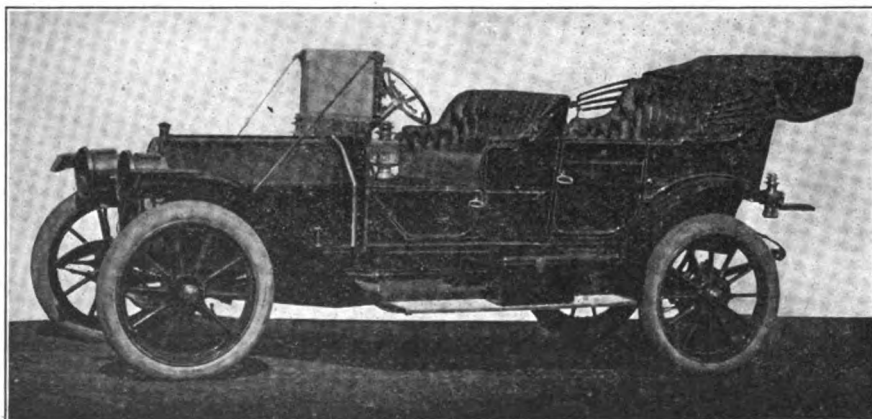
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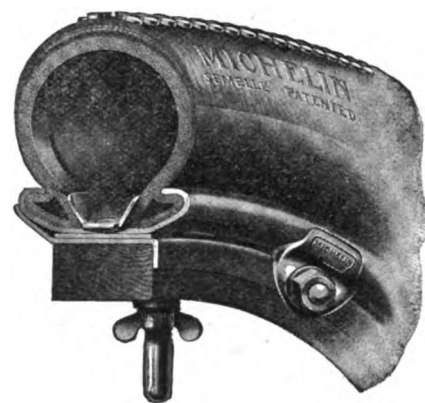
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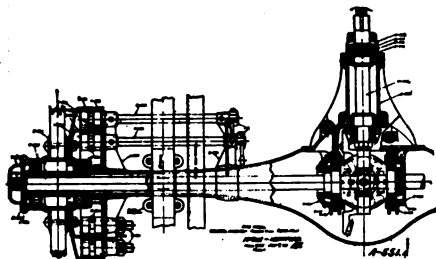
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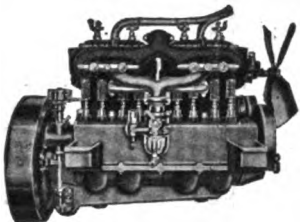
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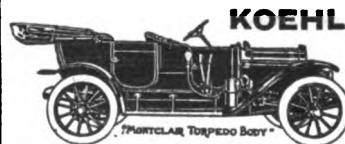
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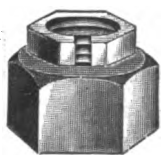


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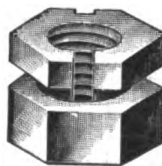
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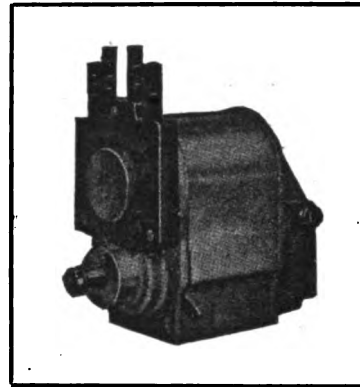
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